#2026-066
290 East Congress Parkway
Preliminary/Final PUD, Comprehensive Land Use Plan Map Amendment, and Rezoning for an Apartment Development
Project Review for Planning and Zoning Commission

Meeting Date: June 17, 2026

Requests:
1) Comprehensive Land Use Plan Amendment from Office to High Density Residential
2) Rezoning from B-2 PUD General Commercial to R-3B PUD Multi-Family Residential
3) Preliminary and Final Planned Unit Development and a maximum density Variation of 11.25 dwelling units/acre for a 24-unit apartment building

Location: 290 East Congress Parkway
(NW corner of Memorial Dr. and E. Congress Pkwy.)

Acreage: Approximately 2.13 acres

Existing Zoning: B-2 PUD General Commercial

Proposed Zoning: R-3B PUD Multi-Family Residential

Surrounding Properties:

North:	B-2 PUD General Commercial
South:	B-2 PUD General Commercial
East:	B-2 PUD General Commercial
West:	B-2 PUD General Commercial

Staff Contact: Darrell Moore (815.356.3612)

Background:

- This property has been zoned for commercial use since the early 1990s.
- It was part of the Crystal Lake Business Center Resubdivision Number 4 in 1993, which was further subdivided to create the lot in question in 2002 as part of the Congress Capital Partners Resubdivision.
- The petitioner is proposing a 24-unit age-restricted multifamily development, which they intend to own and operate. The size and design of the building is very similar to a development proposal from the petitioner, also on East Congress Parkway, that was approved in 2025 but is not yet under construction.

- The site plan includes garages for 25 vehicles and an outdoor gathering area with a pergola and fire pit.
- The petitioner presented a proposal to the Planning and Zoning Commission for conceptual review on February 18, 2026. One site plan suggestion came from the commission, which was to move the garages closer to the building. Ultimately, the commission was split about the introduction of multifamily residential at this vacant commercial location.

Development Analysis:

General

- Requests:
  - Comprehensive Land Use Plan Amendment from Office to High Density Residential
  - Rezoning: The site would be rezoned from B-2 PUD General Commercial to R-3B PUD Multi-Family Residential
  - A Preliminary and Final Planned Unit Development with a maximum density Variation for a 24-unit apartment building
- Zoning/Variation: The site would be rezoned to R-3B PUD Multi-Family. This zoning district has a maximum density of 9 dwelling units per acre, which would limit this 21.3-acre property to 18 units. A variation for a maximum density of 11.25 dwelling units per acre is requested in order to allow 24 units. This is the appropriate zoning for apartments.
- Land Use: The land use map would be changed to High Density Residential. This land use designation would be appropriate for this use.
- Adjacent Properties:
  - The properties to the north, east, and west contain medical physical therapy offices. To the south of the property is the US Post Office and a 60-unit multifamily apartment complex (Congress Parkway Apartments).
- Site Plan:
  - The development is comprised of a three-story 24-unit apartment building fronting East Congress Parkway with garages in the rear.
  - The development will have two access points. The driveway off East Congress Parkway is a shared access with the property to the west as part of an existing access easement. The rear of the property will take access off Memorial Drive.
  - All buildings, garages, and parking lots comply with setback and height standards. The parking lots will be suitably screened. An outdoor gathering area with fire pit and pergola will be behind the apartment building. The garages have been located nearer the building in response to PZC conceptual review comments.
- Parking:
  - The UDO parking requirements are met.
  - The building will have 18 two-bedroom units and 6 one-bedroom units, which, according to UDO parking regulations, requires 52 spaces. The development will have 52 spaces, 25 of which will be enclosed garage spaces.

- Two of the garages will be designed for handicap accessibility.

- Landscape:
  - The UDO landscaping standards are met.
  - Of the 55 trees on the property, most are found along the west property line. The landscape plan proposes to remove 30 trees, which are mostly black cherry, mulberry, and box elder, and will plant 30 new trees that will include redbuds, sugar maples, spruces, and oaks.
  - The landscape plan calls for more than 500 shrubs to be planted, as well as 246 perennials and 199 grasses.
- Architecture/Elevations:
  - The UDO building design standards are sufficiently met.
  - The three-story building features multiple gables and roof-line offsets, second- and third-story balconies, and a variety of materials. Entrances, column bases, and side bump-outs will be clad in stone. The remainder of the building will be a mix of Hardie Board siding profiles.
- Sign:
  - One freestanding sign is proposed at the entrance on East Congress Parkway. Sign details have yet to be provided, but the setback complies with UDO standards.

Findings of Fact:

Preliminary and Final Planned Unit Development/Special Use Permit

The petitioner is requesting approval of a Preliminary and Final Planned Unit Development to allow the construction of a 24-unit apartment building. 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. 1 Additional standards for Planned Unit Developments Residential 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. PUDs 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. The proposed amendment enhances the character of the center and allows for a new and unique design for these tenants.

This flexibility is often in the form of relief from compliance with conventional zoning ordinance site and design requirements which may otherwise require individual requests and applications for zoning variations.

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. Although a formal variation request is not required to be made in conjunction with a Planned Unit Development, Staff identifies those aspects of the Planned Unit Development which effectively result in variations from UDO requirements. If the evidence is not found to justify these variations from the UDO that fact shall be reported to the City Council with a recommendation that the variations from the UDO which are proposed as part of the Planned Development be lessened or denied.

VARIATION
The petitioner is requesting a variation as part of the Planned Unit Development:

- Article 3-200 Maximum Net Density. The maximum density for the R-3B zoning district is nine units per acre. This is a typical zoning density of townhome developments, which was the development type encouraged at the time of writing the UDO. Over the past several years apartment developments have come in which exceed the nine units per acre. The petitioner is requesting 11.25 dwelling units per acre.

Comprehensive Land Use Plan 2030 Vision Summary Review:

The Comprehensive Plan designates the subject property as Office. The Comprehensive Land Use Plan would be changed to High Density Residential, which allows for higher density townhomes and apartment residential buildings. The following goals are applicable to this request:

Land Use – Residential

Goal: Encourage a diversity of high-quality housing in appropriate locations throughout the City that supports a variety of lifestyles and invigorates community character.

Supporting Actions – Encourage a diversity of housing types throughout the City, which satisfy wide-range needs for all persons regardless of age, race, religion, national origin, physical ability and economic level for existing and future City residents.

Success Indicators – Approval of multi-family residential developments.

Supporting Actions – Provide for a reasonable rate of residential growth especially infill growth and mixed-use development which take advantage of City services.

Success Indicators – Number of building permits issued for new construction on infill lots.
Housing – Multi-Family Housing

Goal: Provide an appropriate mix of multi-family housing to add density to appropriate areas and allow for mixed-use development.

Success Indicators – Promote the construction of a variety of multi-family housing products.

Success Indicators – Number of new multi-family housing permits broken into categories for apartments, townhomes, and condominiums.

Supporting Actions – Promote well designed unique multi-family communities.

Success Indicators – Number of new multi-family subdivisions with open space or connected to services or each other.

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

1. Project plans shall be consistent with the information and testimony provided by the petitioner in the hearing, the following documents provided, and any staff and advisory board recommendations, as approved by the City Council:
   A. Application (John Konsor Realty, received 4/10/26)
   B. Architectural Plan (Aspect Design, 5/26/26)
   C. Engineering Plan (Schmit Engineering, 5/8/26)
   D. Landscaping Plan (The Barn Group, 5/28/26)
   E. Stormwater Management Report (Schmitt Engineering, 5/22/26)
   F. Photometrics Plan (KSA, 4/9/26)

2. Work with staff to include a pedestrian connection from the building/parking lot to the sidewalk on East Congress Parkway.

3. The petitioner shall address all of the review comments and requirements of the City Departments of Public Works, Fire Rescue, Engineering, and Community Development, and the City's Stormwater Consultant.

PARCEL IN QUESTION

290 E. Congress Parkway



City of Crystal Lake
Development Application

Application Date: 4/10/2026

Applicant: Sunshine Apartments, LLC (Janusz Konsor)

Application Type: Rezoning / Preliminary and Final Planned Unit Development / Variation / Comprehensive Plan Amendment

Subject Property: 290 East Congress Parkway

Certificate of the Publication

Northwest Herald

Description:CRYSTAL - 290 E CONGRESS
2325823
847-863-8803

MCHENRY COUNTY PREPAID LEGALS
PO BOX 250
CRYSTAL LAKE IL 60014

Shaw Media certifies that it is the publisher of the Northwest Herald. The Northwest Herald is a secular newspaper, has been continuously published daily for more than fifty (50) weeks prior to the first publication of the attached notice, is published in the City of Crystal Lake, County of McHenry, State of Illinois, is of general circulation throughout that county and surrounding area, and is a newspaper as defined by 715 ILCS 5/5.

A notice, a true copy of which is attached, was published one time(s) in the Northwest Herald, namely one time per week for one successive week(s). Publication of the notice was made in the newspaper, dated and published on
06/02/2026

This notice was also placed on a statewide public notice website as required by 715 ILCS 5/2.1.
In witness, Shaw Media has signed this certificate by Jennifer Heintzelman, its Director of Public Notices, at Crystal Lake, Illinois, on
2nd day of June, A.D. 2026

Shaw Media By:

Shaw Media, Director of Public Notices

By: /Jennifer Heintzelman/
its Director of Public Notices

Account Number 10069745

Amount $136.10

NOTICE OF PUBLIC HEARING BEFORE THE PLANNING AND ZONING COMMISSION OF THE CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS

IN THE MATTER OF THE PETITION OF SUNSHINE APARTMENTS, LLC.

Notice is hereby given in compliance 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 upon the application by **John Konsor of Sunshine Apartments, LLC,** on behalf of **USW Holding Company, LLC,** owner, for a **Comprehensive Land Use Plan Amendment, Rezoning, Preliminary and Final Planned Unit Development, and Variations** for the property at the **northwest corner of Congress Parkway and Memorial Drive with the common address of 290 East Congress Parkway, Crystal Lake, Illinois, 60014. (PIN: 19-04-301-024)**

This application is filed for the purpose of seeking a **Comprehensive Land Use Plan Amendment from Office to High-Density Residential, a Rezoning from B-2 PUD General Commercial Planned Unit Development to R-3B PUD Multifamily Residential Planned Unit Development, Preliminary and Final Planned Unit Development approval, and a Variation from the maximum permitted density, as well as any other variations necessary to approve the proposed 24-unit age-restricted apartment building, pursuant to Articles 1, 3, 4, and 9 of the Unified Development Ordinance.**

Plans for this project can be viewed at the City of Crystal Lake Planning and Economic Development Department at City Hall. A public hearing before the Planning and Zoning Commission for this request will be held at 7:00 p.m. on Wednesday, June 17, 2026, at the Crystal Lake City Hall, 100 West Woodstock Street, at which time and place any person determining to be heard may be present.

Jeff Greenman, Chairperson
Planning and Zoning Commission
City of Crystal Lake
(Published Northwest Herald Jun. 2, 2026) 2329179

GENERAL NOTES

ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE TO ALL APPLICABLE LOCAL AND NATIONAL CODES.

2018	INTERNATIONAL BUILDING CODE WITH CITY AMENDMENTS.
2018	INTERNATIONAL MECHANICAL CODE WITH CITY AMENDMENTS.
2014	STATE OF ILLINOIS PLUMBING CODE.
2017	NATIONAL ELECTRIC CODE
2018	INTERNATIONAL FIRE CODE WITH CITY AMENDMENTS.
2018	INTERNATIONAL FUEL GAS CODE WITH CITY AMENDMENTS.
2021	STATE OF ILLINOIS ENERGY CONSERVATION CODE

STRUCTURE TO COMPY WITH ALL DESIGN GUIDELINES OF THE FAIR HOUSING ACT.

ALL COMMON USE AND PUBLIC USE SPACES TO BE ACCESSIBLE PER 2018 I.A.C.

EACH CONTRACTOR SHALL REVIEW AND VERIFY THE PLANS AND FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND THE GENERAL CONTRACTOR. ALL DISCREPANCIES SHALL BE RESOLVED BEFORE THE START OF CONSTRUCTION.

ALL CONTRACTORS SHALL COORDINATE WITH ALL OTHER CONTRACTORS PRIOR TO AND DURING CONSTRUCTION.

DO NOT SCALE DRAWINGS.

ALL MATERIALS, EQUIPMENT, STRUCTURAL ELEMENTS, FINISHES, WINDOWS, DOORS, ETC.., WHETHER PRE-MANUFACTURED OR SITE BUILT SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.

THE CONTRACTOR SHALL NOT ALLOW DEBRIS TO ACCUMULATE ON SITE DURING CONSTRUCTION AND SHALL LEAVE THE WORK AREA "BROOM CLEAN" DAILY. REMOVE WASTE BUILDING MATERIAL WEEKLY.

THE ARCHITECT IS NOT ENGAGED FOR SUPERVISION AND ASSUMES NO SUCH RESPONSIBILITY.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, TECHNIQUES, PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK.

THE OWNER / CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROPRIATE PERMITS AND INSURANCE FOR CONSTRUCTION AND OCCUPANCY.

THE OWNER / GENERAL CONTRACTOR TO CHOOSE FIXTURES, APPLIANCES, FINISHES (PAINT, WALL COVERINGS, TILE, LAMINATES, CABINETRY COLORS, HARDWARE, FURNITURE ETC.. UNLESS NOTED OTHERWISE. SUB - CONTRACTORS TO SUPPLY SAMPLES TO THE OWNER/ GENERAL CONTRACTOR FOR FINAL APPROVAL PRIOR TO START OF CONSTRUCTION.

ALL SURFACES AND CONSTRUCTION SHALL BE ADEQUATELY BRACED AND PROTECTED.

APPROVED NUMBERS OR ADDRESSES SHALL BE PROVIDED FOR ALL NEW BUILDINGS IN SUCH A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.

WHERE THE TERM "APPROVED EQUAL" IS USED IN THE DRAWINGS OR SPECIFICATIONS, IT SHALL BE UNDERSTOOD THAT THE REFERENCE IS MADE TO THE RULING AND JUDGMENT OF THE ARCHITECT AND SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL. SUBMIT ACTUAL SAMPLES AND ANY NECESSARY TECHNICAL DATA OR INFORMATION OF ALL PROPOSED SUBSTITUTIONS.

THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND HIS AGENTS FOR AND AGAINST ALL SUITS, CLAIMS OR LIABILITY ON ACCOUNT OF PERSONAL INJURIES OR PROPERTY DAMAGES ARISING OUT OF NEGLIGENT ACTS OF THE CONTRACTOR IN THE PERFORMANCE OF THE WORK COVERED BY THE CONTRACT.

EACH CONTRACTOR SHALL VISIT THE SITE AND FULLY INFORM HIMSELF OF ALL CONDITIONS AND LIMITATIONS THAT WILL AFFECT HIS WORK AND INCLUDE IN HIS PROPOSAL A SUM TO COVER ALL WORK CALLED FOR OR REASONABLY INFERABLE FROM THE DRAWINGS AND SPECIFICATIONS INCLUDING ALL LABOR, MATERIALS AND MEANS OF CONSTRUCTION NECESSARY FOR A COMPLETE INSTALLATION.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TEMPORARY PROTECTION OF ADJACENT WORK, EQUIPMENT AND OCCUPIED AREA AND SAME SHALL BE SUBJECT TO THE OWNER'S APPROVAL.

SAFETY NOTE:
ALL CONTRACTORS AND THEIR REPRESENTATIVES WORKING ON THIS PROJECT SHALL AT ALL TIMES PRIOR AND DURING THE COURSE OF THEIR ACTIVITY BE RESPONSIBLE FOR THE SAFETY OF THEIR EMPLOYEES AS WELL AS OTHERS AND IN THE CARE OF THE PROPERTY. EACH AS REPRESENTATIVES OF THEIR EMPLOYEES SHALL ASCERTAIN THE CONDITIONS UNDER WHICH THEY WILL BE REQUIRED TO ACCOMPLISH THEIR WORK ARE SAFE WITHIN GOOD SAFETY PRACTICES AND MEET ALL CONCERNED REGULATIONS OF THE OCCUPATIONAL SAFETY AND HAZARD ACT OR OTHER GOVERNING REGULATIONS. THE BEGINNING OF WORK BY A CONTRACTOR SHALL INDICATE SATISFACTION CONCERNING SAFETY AND FULL RESPONSIBILITY FOR ACCIDENTS OR DAMAGE. IF UNSATISFIED, THE CONTRACTOR SHALL INDICATE WHATEVER ACTION IN NECESSARY, OR RENDER SAFETY CONDITIONS FOR LIFE AND PROPERTY AS ARE RELATED TO HIS ACTIVITY. IF THE WORK OF OTHER PARTIES OUTSIDE OF THE ORGANIZATION IS UPON INSPECTION FOUND AT ANY TIME TO BE UNSAFE, HE SHOULD STOP WORK IMMEDIATELY AND NOTIFY THE GENERAL CONTRACTOR, ARCHITECT, OR OWNER. THE BEGINNING OF WORK SHALL INDICATE SATISFACTION WITH CONDITIONS AND ACCEPTANCE OF THESE REQUIREMENTS.

DISCLAIMER NOTE:
THE ARCHITECT IS NOT OVERSEEING THE CONSTRUCTION OF THIS BUILDING. THE USE OF THE DRAWINGS BY ANY CONTRACTOR, SUBCONTRACTOR, BUILDER, TRADESMAN OR WORKER SHALL INSTIGATE A HOLD HARMLESS AGREEMENT BETWEEN THE DRAWING USER AND THE ARCHITECT. THE USER SHALL IN FACT AGREE TO HOLD THE ARCHITECT HARMLESS FOR ANY RESPONSIBILITY IN REGARD TO CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK FURTHER SHALL HOLD THE ARCHITECT HARMLESS FOR COSTS AND PROBLEMS ARISING FROM THE NEGLIGENCE OF CONTRACTOR, SUBCONTRACTOR, TRADESMAN OR WORKMAN. THE USE OF THESE DRAWINGS ALSO IMPLIES THAT THE ARCHITECT SHALL TAKE NO RESPONSIBILITY FOR THE PLAN USER'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE DRAWING OR CONTRACT DOCUMENTS.

SITE WORK
THE CONTRACTOR SHALL VERIFY SITE AND EXISTING CONSTRUCTION CONDITIONS ESPECIALLY UNDERGROUND AND OVERHEAD UTILITY SERVICES.

THE FOOTINGS AND FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON UNDISTURBED SOIL OR APPROVED COMPACTED FILL WITH A MINIMUM BEARING CAPACITY OF 2500 P.S.F. VERIFY SOIL BEARING WITH SOILS ENGINEER.

IF THE EXISTING UNDISTURBED SOIL CONDITIONS ARE DETERMINED, BY THE GENERAL CONTRACTOR OR OWNERS AGENT, TO BE OF INADEQUATE BEARING CAPACITY AT THE DESIGN DEPTH AT THE TIME OF EXCAVATION, THEN AN ILLINOIS LICENSED GEOTECHNICAL ENGINEER SHALL REVIEW THE EXISTING CONDITIONS AND PREPARE A WRITTEN REPORT TO BE SUBMITTED TO THE ARCHITECT AND THE BUILDING DEPARTMENT. THE REPORT SHALL INCLUDE THE DEPTH AND CAPACITY OF THE EXISTING SOIL BEARING CONDITIONS AND INCLUDE RECOMMENDATIONS FOR FOOTING DESIGN. THE REPORT SHALL BE SUBMITTED TO THE ARCHITECT AND BUILDING DEPARTMENT PRIOR TO THE START OF FOOTING FORM WORK.

ALL FOOTINGS SHALL BE PLACED A MINIMUM OF 3'-6" BELOW THE FINISHED FINAL GRADE.

VERIFY FOOTING STEPS WITH FINAL APPROVED FINISH GRADE.

PORCH AND STOOP FOOTINGS SHALL BE PLACED ON UNDISTURBED SOIL.

CONCRETE NOTES
SEE SHEETS A 11 - A 13

METALS NOTES
(NOT APPLICABLE)

CARPENTRY NOTES
ALL INTERIOR PARTITIONS ARE BASED ON 3 1/2" UNLESS OTHERWISE NOTED.

ALL UNSUPPORTED FRAME WALLS 12'-0" OR TALLER SHALL BE FRAMED WITH 2x6 STUDS AT 16" ON CENTER UNLESS NOTED OTHERWISE.

PROVIDE 2 X 6 STUDS IN LIEU OF 2 X 4 FOR FOR FRAME WALLS DRILLED FOR PLUMBING PIPES .

ALL CANTILEVERS TO BE A MINIMUM 2:1 RATIO PER THE CURRENT CODE.

PROVIDE CROSS BRIDGING FOR ALL FLOOR JOISTS SPANNING 15'-0" OR GREATER. MINIMUM 8'-0" ON CENTER OR PER ENGINEERED JOIST MANUFACTURER'S SPECIFICATIONS.

ALL LOAD BEARING HEADERS SHALL BE (2) 2x12 WITH 1/2" PLYWOOD SPACER UNLESS OTHER WISE NOTED. INSTALL DOUBLE CRIPPLES EACH SIDE FOR ALL SPANS OVER 6'-0" OR AS OTHERWISE NOTED ON THE PLANS.

SEE FIREBLOCKING NOTES FOR ALL FIREBLOCKING MATERIALS AND LOCATIONS.

INSTALL SOLID WOOD SQUASH BLOCKING AT ALL JOIST BAYS BELOW CONCENTRATED BEAM AND POST LOADS.

PROVIDE SOLID WOOD BLOCKING IN WALLS FOR ANCHORAGE FOR ALL SHELVING, CABINETRY AND TOILET ACCESSORIES. VERIFY LOCATIONS WITH OWNER.

ALL FLOOR JOISTS FRAMED TO FLUSH HEADERS SHALL BE CONNECTED WITH APPROPRIATE METAL JOIST HANGERS.

ALL ENCLOSED ACCESSIBLE SPACE UNDER STAIRS SHALL HAVE WALLS, UNDER STAIR SURFACE SHALL BE PROTECTED WITH MINIMUM 5/8" DRYWALL.

ALL EXTERIOR DECK FRAMING, DECKING MATERIAL, RAILS, TREADS ETC. SHALL BE APPROVED PRESSURE PRESERVATIVE TREATED.

ALL METAL CONNECTORS, HANGERS, BRACKETS, NAILS, SCREWS, ETC.. IN CONTACT WITH TREATED LUMBER SHALL BE APPROVED TO BE COMPATIBLE WITH THE TREATED LUMBER AND/OR SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. AND COMPLY WITH THE CODE.

PROVIDE CONCEALED GALVANIZED OR ALUMINUM SHEET METAL FLASHING AT ALL WALL/ROOF JUNCTIONS AND AS REQUIRED FOR WATERPROOF CONSTRUCTION.

GENERAL NOTES

DOORS AND WINDOWS
ALL SAFETY GLAZING SHALL BE IN ACCORDANCE WITH THE CODE.

THE OPENING OF AN OPERABLE WINDOWS LOCATED MORE THAN 72" ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24" INCHES ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED, OR THE WINDOW SHALL BE PROVIDED WITH A FIXED WINDOW, HAVE AN OPENING THROUGH WHICH A 4" DIAMETER SPHERE CAN NOT PASS, OR HAVE AN APPROVED FALL PREVENTION DEVICE.

MECHANICAL
MECHANICAL PLANS AND NOTES ARE PROVIDED ON SHEETS M 0.1 - M 2.4

ELECTRICAL
ELECTRICAL PLANS AND NOTES ARE PROVIDED ON SHEETS E 01 - E 2.8

PLUMBING
PLUMBING PLANS AND NOTES ARE PROVIDED ON SHEETS P 0.1 - P 3.3

THERMAL AND MOISTURE PROTECTION
REFER TO THE ENERGY CODE NOTES AND THE TYPICAL WALL SECTIONS FOR R-VALUES.

METAL VALLEY FLASHING TO CONFORM WITH ALL APPLICABLE CODES.

ALL EXTERIOR JOINTS, SEAMS, AND PENETRATIONS IN THE BUILDING ENVELOPE SHALL BE SEALED WITH APPROVED SEALANT, TAPE, GASKETS OR WEATHER STRIPPING TO PREVENT AIR LEAKAGE.

VAPOR RETARDERS WITH A PER RATING OF 1.0 OR LESS SHALL BE INSTALLED IN ALL FRAMED CEILINGS, WALLS, AND FLOORS.

PROVIDE CONCEALED GALVANIZED OR ALUMINUM SHEET METAL FLASHING AT ALL WALL/ROOF JUNCTIONS AND AS REQUIRED FOR WATERPROOF CONSTRUCTION.

ACCESS PANELS TO ATTICS SHALL BE WEATHER-STRIPPED AND INSULATED TO A LEVEL EQUIVALENT TO THE INSULATION ON THE SURROUNDING SURFACES.

SOUND TRANSMISSION RATINGS

MINIMUM STC	- 50 >
MINIMUM IIC	- 50 >

VERIFY ACTUAL WALL AND FLOOR ASSEMBLY SOUND TRANSMISSION RATINGS WITH COMPONENT MANUFACTURER'S PRODUCT SPECIFICATIONS. SEE SHEET A6-3 FOR DETAILS AND SPECIFICATIONS

BUILDING CODE DATA

BUILDING USE GROUP	R-2
CONSTRUCTION TYPE	V-5 (COMBUSTIBLE PROTECTED)
AREA PER FLOOR	9,454.64 SQ. FT.
BUILDING HEIGHT	3 STORIES

ACCESSIBILITY NOTES
SEE FLOOR PLAN SHEETS FOR NOTES AND DETAILS.

ALL COMMON AREAS AND UNITS SHALL COMPLY WITH THE 2018 ILLINOIS ACCESSIBILITY CODE (IAC), THE AMERICANS WITH DISABILITIES ACT (ADA) THE FAIR HOUSING ACT (FHA) THE ACCESSIBILITY STANDARDS OF THE 2018 INTERNATIONAL BUILDING CODE (IBC) AND THE ICC A117, 2017, STANDARDS FOR ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES.

ALL PUBLIC/COMMON AREAS, ENTRANCES, STAIRS, HALLS AND UNIT ENTRIES SHALL BE FULLY ACCESSIBLE.
THE ILLINOIS ACCESSIBLE CODE REQUIRES THAT A MINIMUM OF (5) DWELLING UNITS BE ADAPTABLE, PER THE IAC (20% MINIMUM).

THE INTERNATIONAL BUILDING CODE, HUD, AND FHA, REQUIRES THAT ALL UNITS BE TYPE "B" ADAPTABLE, THUS DESCRIBED:
ADAPTABLE DWELLING UNITS SHALL BE BE DESIGNED AND CONSTRUCTED SO THEY MAY, UPON APPLICATION OF THE OCCUPANT, BE CONVERTED TO ACCESSIBLE UNITS, WITH A MINIMUM OF STRUCTURAL CHANGES, TO MEET THE NEEDS OF INDIVIDUALS. IAC 233.6.5.1 (2018).

ENERGY CODE
THE NEW CONSTRUCTION HAS BEEN DESIGNED TO COMPLY WITH THE PERFORMANCE REQUIREMENTS OF THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE AND THE ILLINOIS ENERGY CONSERVATION CODE FOR COMMERCIAL BUILDINGS, AS FOLLOWS:

WALLS:	R-21 BATT INSULATION.
ATTIC:	R-44 BATT INSULATION WITH VAPOR BARRIER
FLOORS	R-30 BATT INSULATION WITH VAPOR BARRIER
CONCRETE SLAB ON GRADE:	R-10 RIGID FOAM INSULATION AND MIN 4'-0" DEEP AT FOUNDATION WALLS
WINDOWS:	U-0.32 (MINIMUM)
DOORS:	U-0.32 (MINIMUM)
OVERHEAD GARAGE DOORS:	U-0.35 (MINIMUM)

MAXIMUM ALLOWABLE AIR LEAKAGE PER SECTION R402.4.3:
WINDOWS 0.3 CFM PER SQ. FT.
SWING DOORS 0.5 CFM PER SQ. FT.

ALL AIR BARRIERS AND INSULATION SHALL BE INSTALLED IN COMPLIANCE WITH THE CODE.

THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE SHALL BE APPLIED TO THE ENTIRE PROJECT USING CLIMATE ZONE 5-A.

A PERMANENT CERTIFICATE SHALL BE POSTED ON OR IN THE ELECTRICAL DISTRIBUTION PANEL. THE BUILDER OR REGISTERED DESIGN PROFESSIONAL SHALL COMPLETE THE CERTIFICATE. THE CERTIFICATE SHALL LIST ALL PREDOMINANT R VALUES, FENESTRATION U-FACTORS AND THE SOLAR HEAT GAIN COEFFICIENTS. THIS CERTIFICATE SHALL ALSO LIST THE TYPE AND EFFICIENCY RATINGS OF THE HEATING, COOLING AND WATER HEATING EQUIPMENT.

THE MAINTENANCE INSTRUCTIONS AND EQUIPMENT MANUALS SHALL BE FURNISHED WITH ALL MECHANICAL EQUIPMENT OUTLINING REQUIRED REGULAR PREVENTATIVE MAINTENANCE.

INSULATE ALL HOT WATER PIPING IN ACCORDANCE WITH THE CODE.

BUILDING AREA REQUIREMENTS

CONSTRUCTION TYPE	V-A (COMBUSTIBLE PROTECTED)
MAXIMUM ALLOWABLE AREA	12,000.00 SQ. FT.
ALLOWABLE INCREASE - AUTOMATIC SPRINKLERS	36,000.00 SQ. FT.
MAXIMUM ALLOWABLE HEIGHT	50'-0" - 3 STORIES
PROPOSED TOTAL AREA	28,624.47 SQ. FT.
PROPOSED HEIGHT	45'- 2 1/8" - 3 STORIES

ROOF TRUSS SYSTEM NOTE
IT IS THE RESPONSIBILITY OF THE "TRUSS DESIGNER" TO DESIGN AND DETAIL THE ROOF TRUSS SYSTEM. THE ROOF TRUSS SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO A COMPLETE ROOF PLAN INDICATING ALL TRUSS SIZES, LOCATIONS, CONNECTIONS, IMPOSED LOADS AND BEARING REQUIREMENTS. THE ROOF TRUSS SYSTEM SHALL BE DESIGNED TO ACCOMMODATE ALL LIVE, DEAD, SNOW, WIND AND UPLIFT LOADS AS REQUIRED BY ALL APPLICABLE AUTHORITIES. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR DETERMINING THE ROOF TRUSS SYSTEM REQUIREMENTS. THE ROOF TRUSS SYSTEM SHALL CONFORM TO THE DESIGN INTENT OF THE CONSTRUCTION DOCUMENTS AS PREPARED BY THE ARCHITECT. IF MODIFICATIONS TO THESE CONSTRUCTION DOCUMENTS ARE REQUIRED DUE TO THE ROOF TRUSS SYSTEM, THE ARCHITECT SHOULD BE IMMEDIATELY NOTIFIED.

STRUCTURAL DESIGN CRITERIA
STRUCTURAL PLANS AND NOTES ARE PROVIDED ON SHEETS S 01 - S 03.

FIREBLOCKING NOTES
FIREBLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE.
FIRE STOPPING SHALL BE PROVIDED IN WOOD FRAME CONSTRUCTION IN THE FOLLOWING LOCATIONS:

1) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AT THE CEILING AND FLOOR LEVEL.
2) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS THOSE THAT OCCUR AT SOFFITS, DROP CEILINGS, COVE CEILINGS, ETC..
3) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RIM.
4) AT OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, AND FIREPLACES AT CEILING AND FLOOR LEVEL, WITH NON COMBUSTIBLE MATERIALS.
5) ALL FURRING, PARTITIONS, EXTERIOR WALLS AT EACH FLOOR AND CEILING LEVEL, AND AT THE JUNCTURE OF THE ROOF RAFTERS AND WALL.
6) ALL OPEN SOFFIT AREAS SHALL BE PROTECTED ON THE ENCLOSED SIDE WITH MINIMUM 1/2" DRYWALL.

EXCEPT AS PROVIDED IN ITEMS 4 AND 6 ABOVE, FIREBLOCKING SHALL CONSIST OF 2 INCH NOMINAL LUMBER, OR TWO THICKNESSES OF 1 INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS, OR ONE THICKNESS OF 23/32 INCH PLYWOOD WITH JOINTS BACKED BY 23/32 INCH PLYWOOD, OR ONE THICKNESS OF 3/4 INCH TYPE 2-M PARTICLE BOARD WITH JOINTS BACKED BY 3/4 INCH TYPE 2-M PARTICLE BOARD, OR OTHER APPROVED MATERIALS.

THE INTEGRITY OF ALL FIRE STOPS SHALL BE MAINTAINED.

NOTE:
ALL FIREBLOCKING AND DRAFT STOPPING SHALL MEET REQUIREMENTS OF IRC R602.8 AND RELATED SECTIONS AND TABLES AND IRC R502.12 AND RELATED SECTIONS.

PROVIDE 5/8" FIRECODE DRYWALL TO UNDERSIDE OF ALL JOIST FLOOR CONSTRUCTION AND PROVIDE APPROVED DRAFTSTOPPING FOR EVERY 1000 SQ.. FT. OF FLOOR AREA

FIRE SPRINKLERS
PROVIDE AN AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEM DESIGNED AND INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL CODE OR PER NFPA 13D AND SECTION 903.3.1.1 OF THE 2018 INTERNATIONAL BUILDING CODE (ALL FLOORS AND TRUSS ATTIC SPACE.)

FLAME SPREAD NOTES
ALL CONCEALED INSULATING MATERIALS INSTALLED IN THE BUILDINGS SHALL HAVE A FLAME SPREAD OF 25 OR LESS AND A SMOKE-DEVELOPMENT INDEX OF 450 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E84.
FLAME SPREAD AND SMOKE-DEVELOPMENT RATINGS OF INSULATING MATERIALS INSTALLED IN CONCEALED SPACES, ATTICS, CRAWL SPACES IN BUILDINGS OF TYPE V CONSTRUCTION DO NOT APPLY TO FACINGS, PROVIDED THAT THE FACING IS INSTALLED BEHIND AND IN SUBSTANTIAL CONTACT WITH THE UNEXPOSED SURFACE OF THE CEILING, FLOOR OR WALL FINISH.
EXPOSED THERMAL-INSULATING MATERIALS SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE-DEVELOPMENT RATING OF 450 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E84.
THE GENERAL CONTRACTOR IS TO PROVIDE VERIFICATION THAT THE ABOVE FLAME SPREAD AND SMOKE-DEVELOPMENT REQUIREMENTS ARE MET BY THE INSULATION TO BE INSTALLED IN THE BUILDING.

FIRE PROTECTION REQUIREMENTS

R-2 USE GROUP	MULTI-FAMILY RESIDENTIAL
CONSTRUCTION TYPE	V-A (COMBUSTIBLE PROTECTED)
3 STORIES (PROVIDED WITH AUTOMATIC SPRINKLERS)	
24 UNITS	
REQUIRED FIRE RATING	
BEARING WALLS	
INTERIOR	1 HOUR
EXTERIOR	1 HOUR
FLOOR CONSTRUCTION & SUPPORTING WALLS	1 HOUR
ROOF CONSTRUCTION & SUPPORTING WALLS	1 HOUR
SHAFT WALLS	2 HOUR

CONSULTANTS AND ENGINEERS

MEP CONSULTANT
OXFORD ENGINEERING
618 N. MAIN STREET
DUNDEE, IL 60118
(847) 783-0800

STRUCTURAL ENGINEER
RUNDE ENGINEERING
2116 GALENA BLVD.
SUITE 102
AURORA, IL 60506
(630) 966-0250

BUILDER
24-UNIT APARTMENTS, L.L.C.

BUILDING AREAS

FIRST FLOOR	=	9,541.49 SQUARE FEET
SECOND FLOOR	=	9,541.49 SQUARE FEET
THIRD FLOOR	=	9,541.49 SQUARE FEET
TOTAL	=	28,624.47 SQUARE FEET

ABBREVIATIONS
F.P.H.B. - FROST PROOF HOSE BIB
F.F.G.L. - FLOOR FINISH CHANGE LINE
G.F.B. - GUY GREY BOX
W/ - WITH
O.C. - ON CENTER
GFI - GROUND FAULT INTERRUPT
DED. - DEDICATED
WP - WATER PROOF FIXTURE
SD - SMOKE DETECTOR
R - RECESSED CAN
T - TIMER CONTROL
D - DIMMER CONTROL
S - SPEED CONTROL
3 - 3-WAY SWITCH
4 - 4-WAY SWITCH

EGRESS REQUIREMENTS

OCCUPANT LOAD	R-2 MULTI-FAMILY RESIDENTIAL
	200 SQ. FT. PER PERSON GROSS
AREA PER FLOOR	4263.00 SQ. FT.
AREA BUILDING TOTAL	17,052.00 SQ. FT.
OCCUPANT LOAD	4263 / 200 = 22
TOTAL BUILDING	22 X 3 = 66
MINIMUM EGRESS WIDTH BASED ON TOTAL OCCUPANCY	
STAIRWAYS	0.2 X 88 = 17.6"
DOORS	0.15 X 88 = 13.2"
MINIMUM REQUIRED STAIRWAYS	44" PER STAIR
PROVIDED	2 X 44 = 88"
MINIMUM REQUIRED DOORS	36" PER DOOR
PROVIDED	36 X 2 = 72"

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOADS	WIND SPEED (three second gust)	SEISMIC DESIGN CATEGORY	SUBJECT TO			WINTER DESIGN TEMPERATURE	ICE BARRIER UNDER LAYMENT	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP.
			WEATHERING	FROST LINE DEPTH	TERMITE					
30 PSF.	103 MPH	0.17/ b	SEVERE	42" MIN. BELOW GRADE	MODERATE TO HEAVY	-4 DEG. F	REQUIRED	REFER TO FLOOD INSURANCE RATE MAP	1745	51.65 F

24-UNIT APARTMENTS

290 E. CONGRESS PKWY
CRYSTAL LAKE, IL 60014

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REVIEW	02/27/2026
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ARCHITECTS
26575 COMMERCE DR.
SUITE 101
VOLO, IL 60073
MAIN: 847-457-2500
WWW.ASPECTDESIGNINC.COM
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24 UNIT APARTMENTS
TITLE SHEET

A 01

1 OF 22 TOTAL SHEETS

PARKING CALC:

GARAGE SPACES:	25 (2 H.C.)
PARKING SPACES:	27 (2 H.C.)
TOTAL SPACES:	52 SPACES

EXISTING IMPERVIOUS AREA

CONCRETE CURB:	120.00
ASPHALT ENTRANCE:	805.00
TOTAL EX. IMPERVIOUS:	925.00

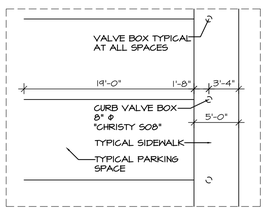
PROPOSED IMPERVIOUS AREA

BUILDING FOOTPRINT:	10,620 S.F.
DETACHED GARAGES:	7,350 S.F.
PERGOLA:	268 S.F.
ASPHALT DRIVEWAY:	26,536 S.F.
CONCRETE SIDEWALK:	5,368 S.F.
CONCRETE CURB:	1,377 S.F.
BUILDING SIGN:	16 S.F.
TOTAL:	51,535 S.F.

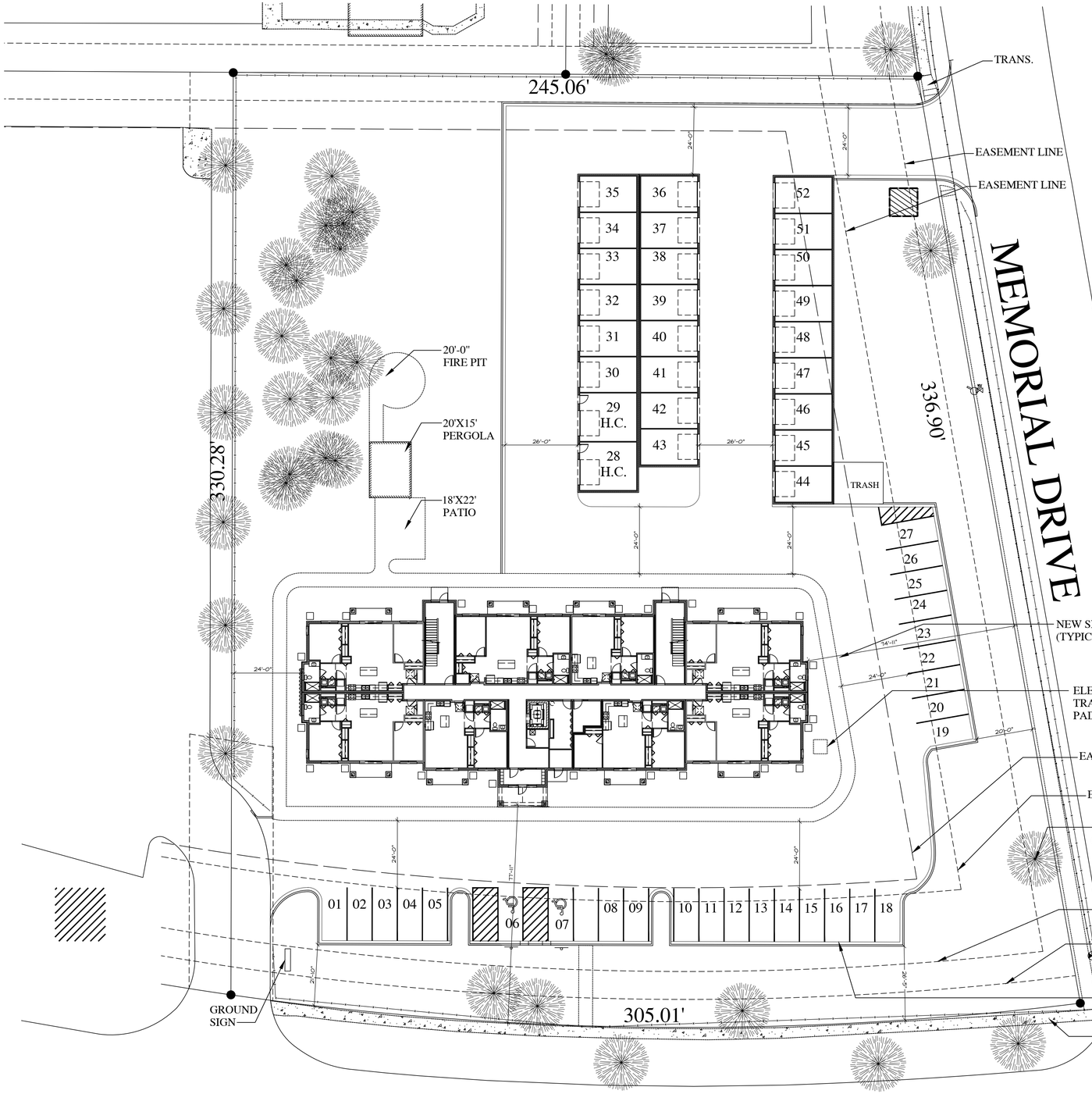
LOT COVERAGE

LOT AREA:	92,905.00 S.F.
MAX. LOT COVERAGE:	
LOT COVERAGE:	55,117 S.F.
LOT COVERAGE %:	59.33%

NOTE:
REFER TO CIVIL ENGINEER'S DRAWINGS FOR GRADING, DRAINAGE, UTILITY LOCATIONS, DRIVEWAY AND CURB DETAILS.



NOTE:
ACCESSIBLE PARKING SIGNS SHALL BE VERTICALLY MOUNTED ON A POST OR WALL AT FRONT CENTER OF THE PARKING SPACE, NO MORE THAN 6 FEET HORIZONTALLY FROM THE FRONT OF THE PARKING SPACE AND SET A MINIMUM OF 5 FEET AND A MAXIMUM OF 9 FEET FROM FINISHED GRADE TO THE BOTTOM OF THE R7-8 SIGN.



CONGRESS PARKWAY

NORTH

1 / A 02 ARCHITECTURAL SITE PLAN

REFERENCE PLAN. ALL SURVEYOR, CIVIL ENGINEERING AND LANDSCAPING BY OTHERS

SCALE: 1"=20'-0"

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REVIEW	11/12/2026
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REVIEW	01/26/2026
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ARCHITECTS
26575 COMMERCE DR.
SUITE 607
VOLO, IL 60073
MAIN: 847-457-2500
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24 UNIT APARTMENTS
SITE PLAN

A 02

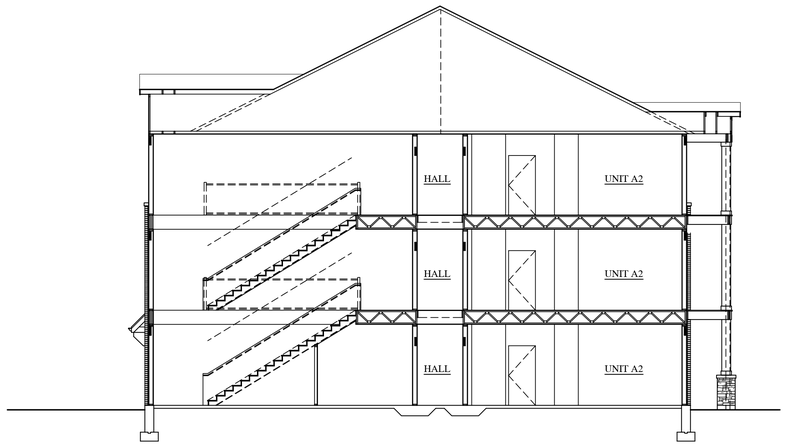
2 OF 22 TOTAL SHEETS



3
A 03

LEFT ELEVATION (WEST)

SCALE:1/8"=1'-0"



2
A 03

BUILDING SECTION

SCALE:1/8"=1'-0"



1
A 03

FRONT ELEVATION (SOUTH - OVERALL)

SCALE:1/8"=1'-0"

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STE. 607
VOLO, IL 60073
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24 UNIT APARTMENTS
EXTERIOR ELEVATIONS

A 03

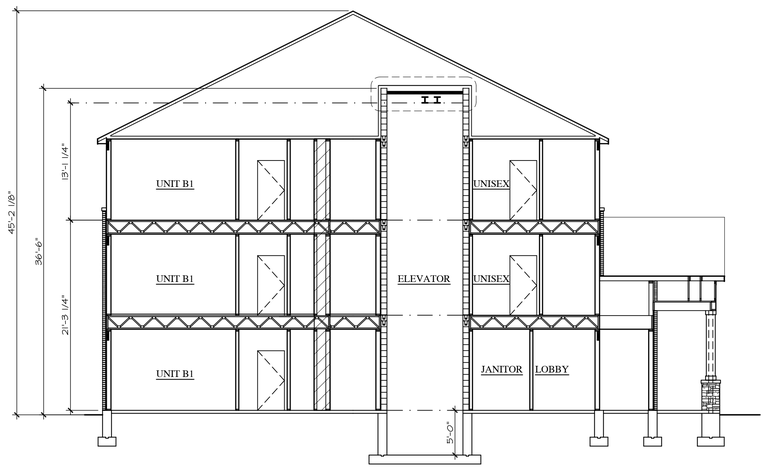
3 OF 22 TOTAL SHEETS



3 A 04

RIGHT ELEVATION (EAST)

SCALE:1/8"=1'-0"



2 A 04

BUILDING SECTION

SCALE:1/8"=1'-0"



1 A 04

REAR ELEVATION (NORTH - OVERALL)

SCALE:1/8"=1'-0"

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24 UNIT APARTMENTS
EXTERIOR ELEVATIONS

A 04



1
A 05

PARTIAL FRONT ELEVATION (SOUTH)

SCALE: 1/4"=1'-0"

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REVIEW	03/04/2026
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ARCHITECTS
26575 COMMERCE DR.
UNIT 607
VOLO, IL 60073
MAIN: 847-457-2500
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24 UNIT APARTMENTS
EXTERIOR ELEVATIONS

A 05

5 OF 22 TOTAL SHEETS



1
A 06

PARTIAL FRONT ELEVATION (SOUTH)

SCALE: 1/4"=1'-0"

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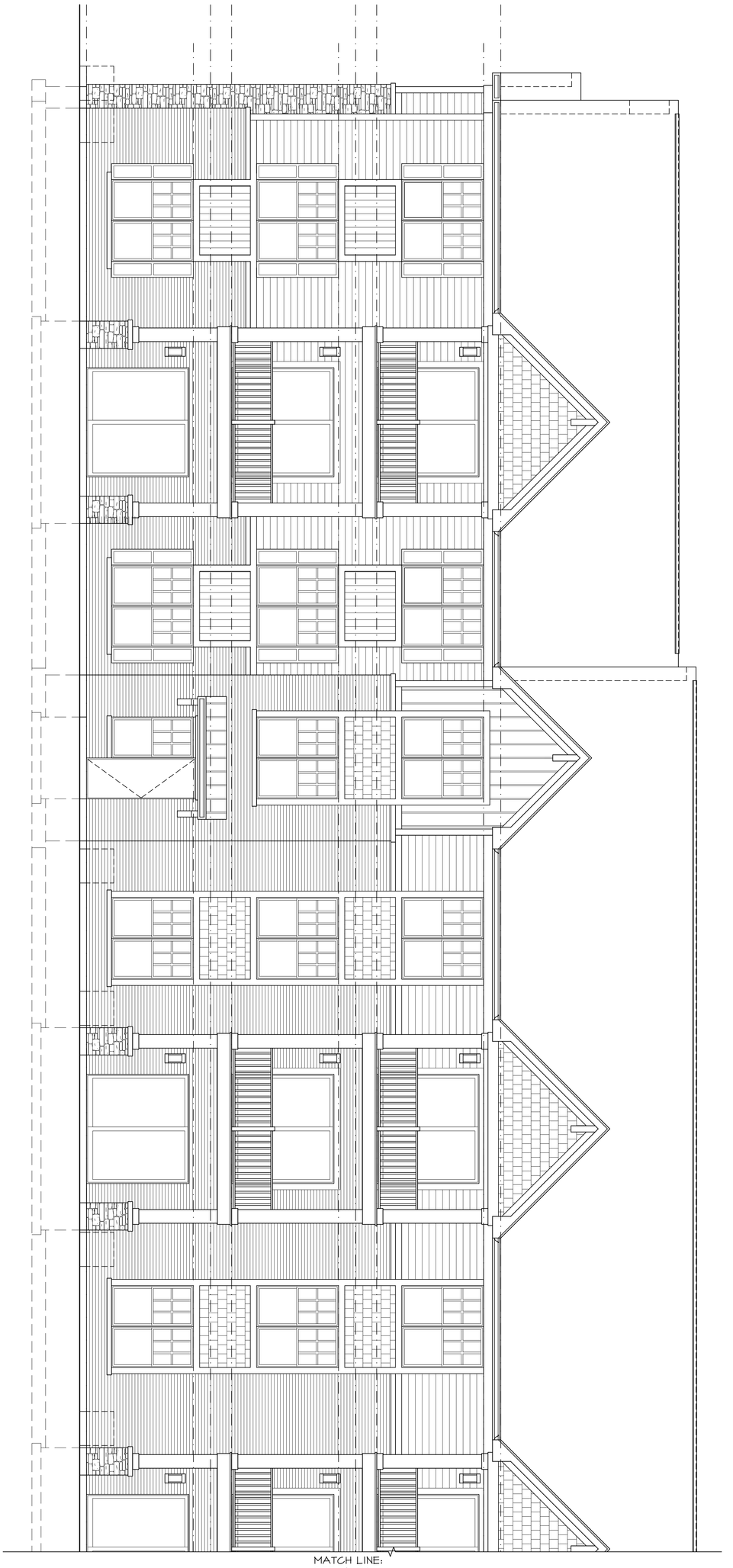
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24 UNIT APARTMENTS EXTERIOR ELEVATIONS	

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REVIEW	03/02/2026
REVIEW	03/04/2026
REVIEW	04/06/2026
REVIEW	04/08/2026
REVIEW	04/10/2026
REVIEW	05/14/2026
REVIEW	05/26/2026

24-UNIT
APARTMENTS

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1
A 07

PARTIAL REAR ELEVATION (NORTH)

SCALE: 1/4"=1'-0"

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24 UNIT APARTMENTS	
EXTERIOR ELEVATIONS	

A 07

7 OF 22 TOTAL SHEETS

REVIEW	11/12/2026
REVIEW	01/23/2026
REVIEW	01/26/2026
REVIEW	02/27/2026
REVIEW	03/02/2026
REVIEW	03/04/2026
REVIEW	04/06/2026
REVIEW	04/08/2026
REVIEW	04/10/2026
REVIEW	05/14/2026
REVIEW	05/26/2026

24-UNIT
APARTMENTS

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1
A 08

PARTIAL REAR ELEVATION (NORTH)

SCALE: 1/4"=1'-0"

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24 UNIT APARTMENTS	
EXTERIOR ELEVATIONS	

A 08

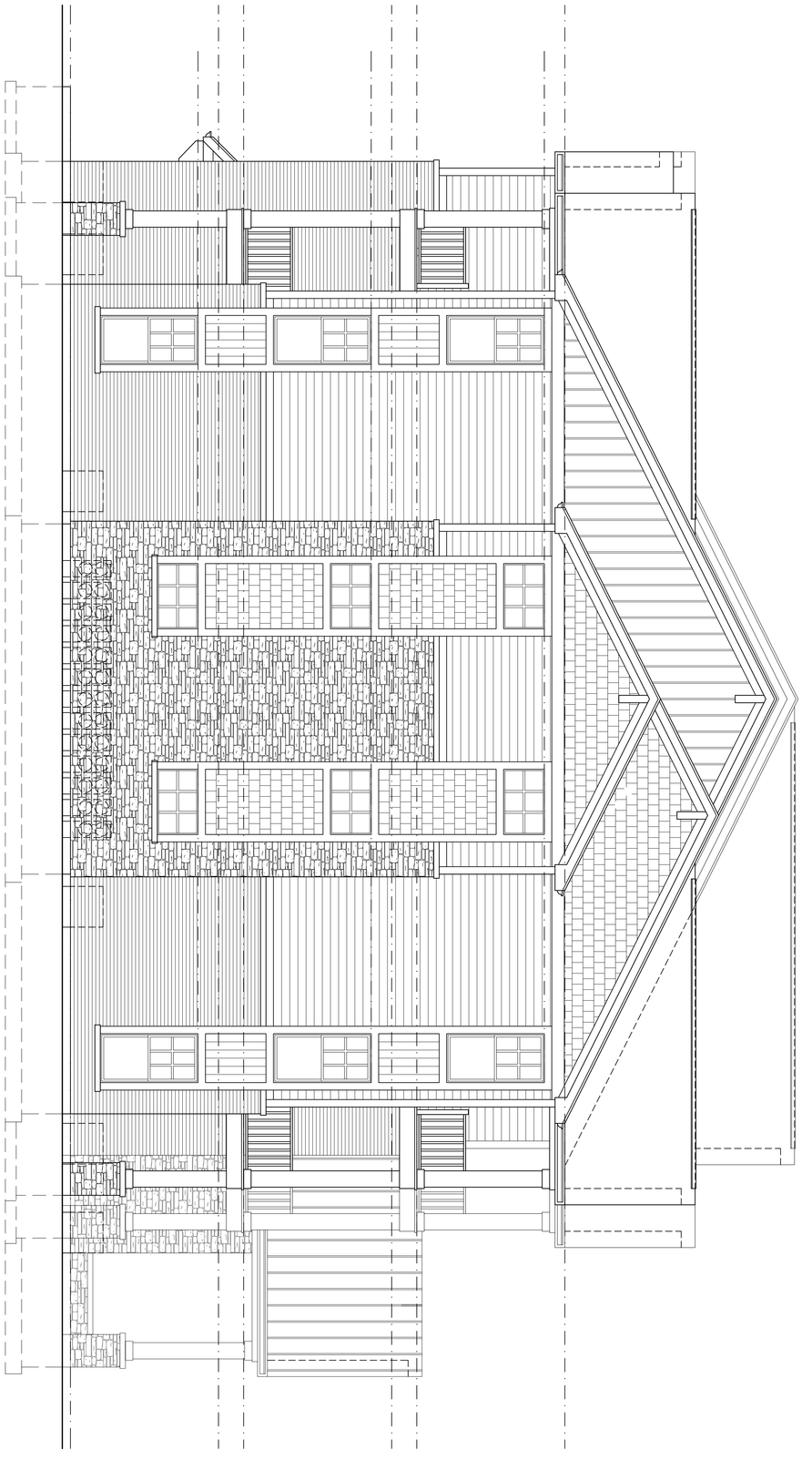
8 OF 22 TOTAL SHEETS

REVIEW	11/12/2026
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REVIEW	01/26/2026
REVIEW	02/27/2026
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REVIEW	03/04/2026
REVIEW	04/06/2026
REVIEW	04/08/2026

REVIEW	04/10/2026
REVIEW	05/14/2026
REVIEW	05/26/2026

24-UNIT
APARTMENTS

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1
A 09

LEFT ELEVATION (WEST)

SCALE: 1/4"=1'-0"

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24 UNIT APARTMENTS
EXTERIOR ELEVATIONS

A 09

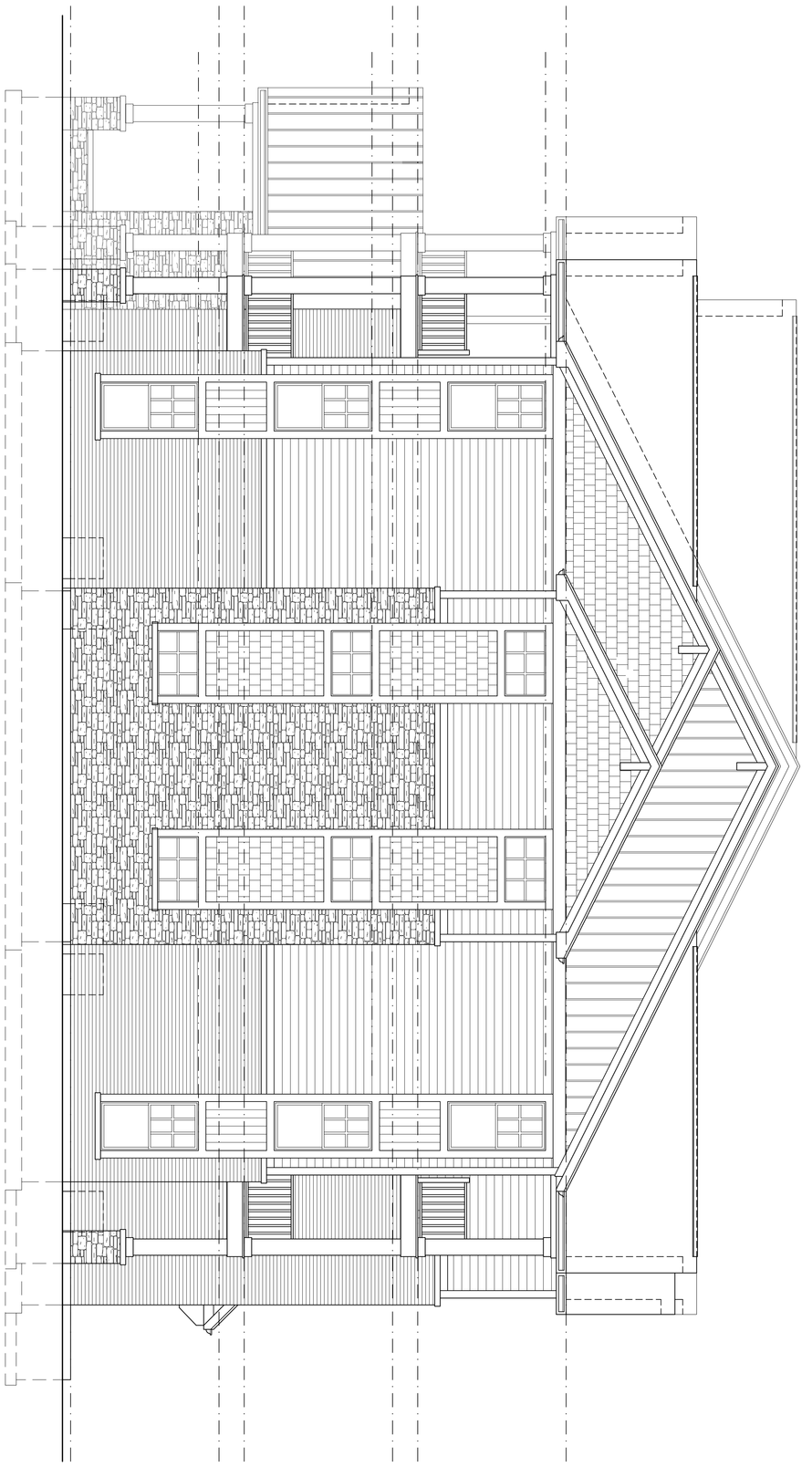
9 OF 22 TOTAL SHEETS

REVIEW	11/12/2026
REVIEW	01/23/2026
REVIEW	01/26/2026
REVIEW	02/27/2026
REVIEW	03/02/2026
REVIEW	03/04/2026
REVIEW	04/06/2026
REVIEW	04/08/2026

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REVIEW	05/14/2026
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24-UNIT
APARTMENTS

CONGRESS PKWY
CRYSTAL LAKE, IL 60014



1
A 10

RIGHT ELEVATION (EAST)

SCALE: 1/4"=1'-0"

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REVIEW	03/04/2026
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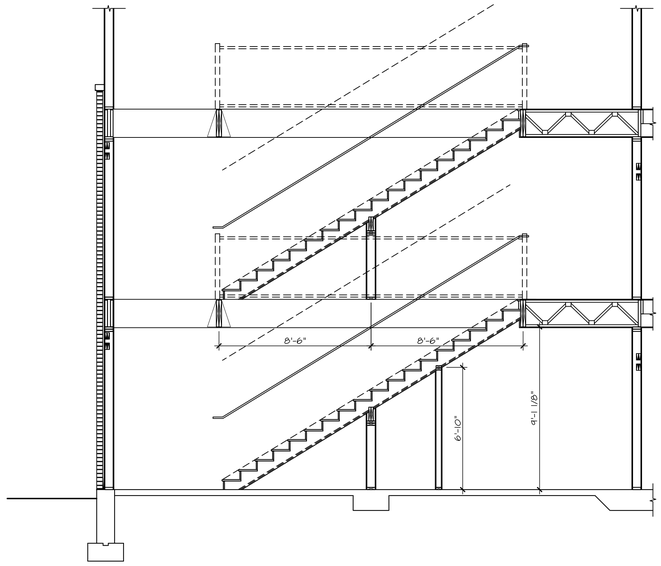
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APARTMENTS

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EXTERIOR ELEVATIONS

A 10

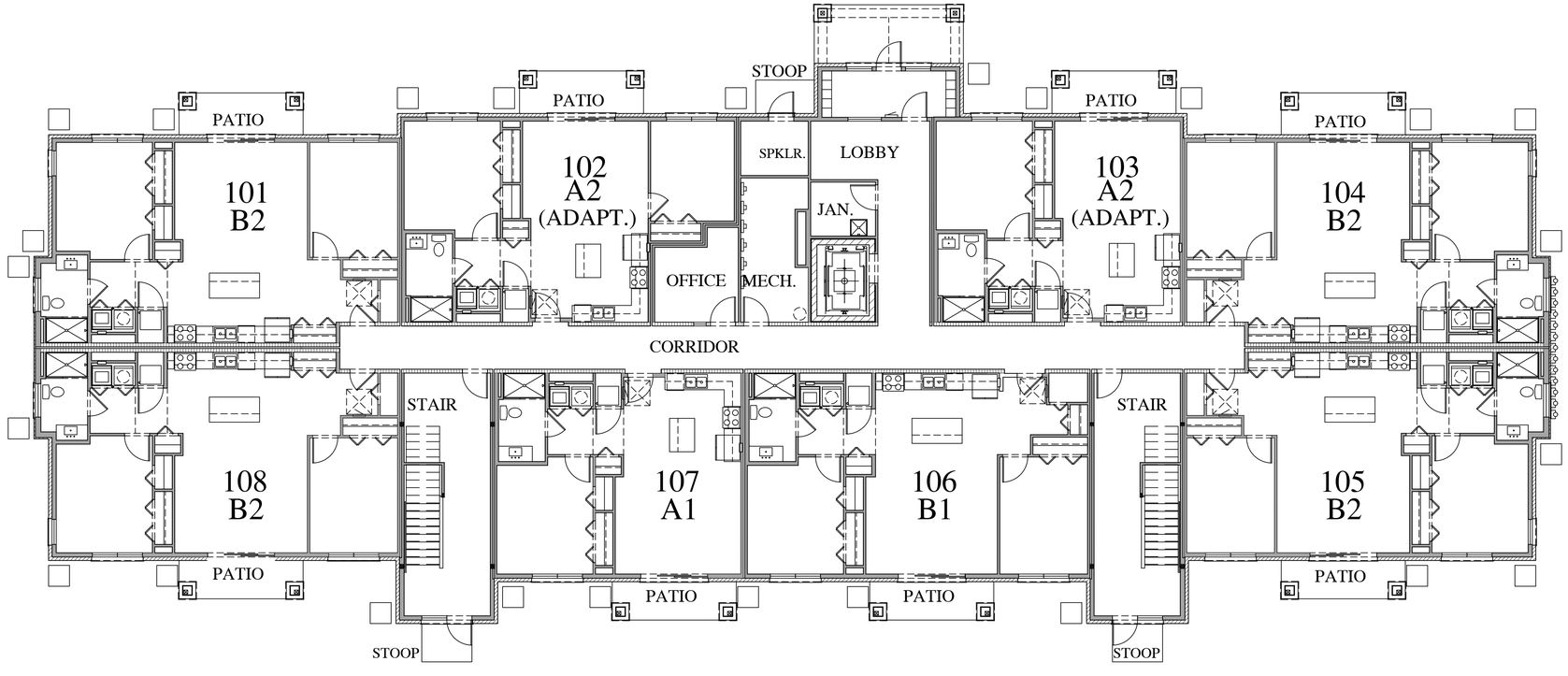
10 OF 22 TOTAL SHEETS



2
A 11

STAIR SECTION

SCALE: 1/4"=1'-0"



1
A 11

FIRST FLOOR PLAN (OVERALL)

NORTH

SCALE: 1/8"=1'-0"

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REVIEW	05/26/2026

REVIEW	11/12/2026
REVIEW	01/23/2026
REVIEW	01/26/2026
REVIEW	02/27/2026
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REVIEW	03/04/2026
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REVIEW	04/08/2026

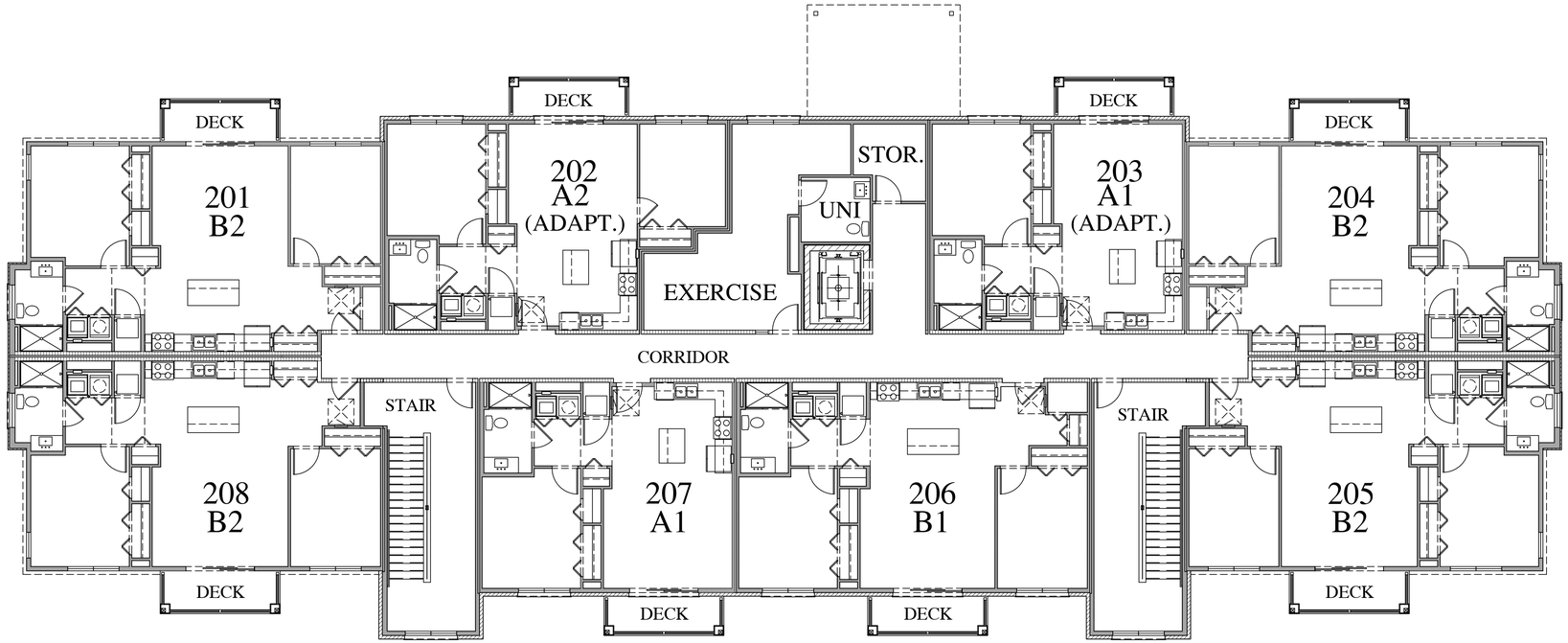
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VOLO, IL 60073
MAIN: 847-457-2500
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PROJECT #	AD26101
DRAWN BY:	DB/ MB

24 UNIT APARTMENTS
FIRST FLOOR PLATE

A 11

11 OF 22 TOTAL SHEETS



1
A 12

SECOND FLOOR PLAN (OVERALL)

NORTH

SCALE: 1/8"=1'-0"

NOTE: ALL SCALE DESIGNATIONS ARE FOR SHEETS PRINTED ON 24" x 36" SIZE PAPER. (ARCH-D)

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24-UNIT APARTMENTS

CONGRESS PKWY
CRYSTAL LAKE, IL 60014

REVIEW	11/12/2026
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REVIEW	03/02/2026
REVIEW	03/04/2026
REVIEW	04/06/2026
REVIEW	04/08/2026

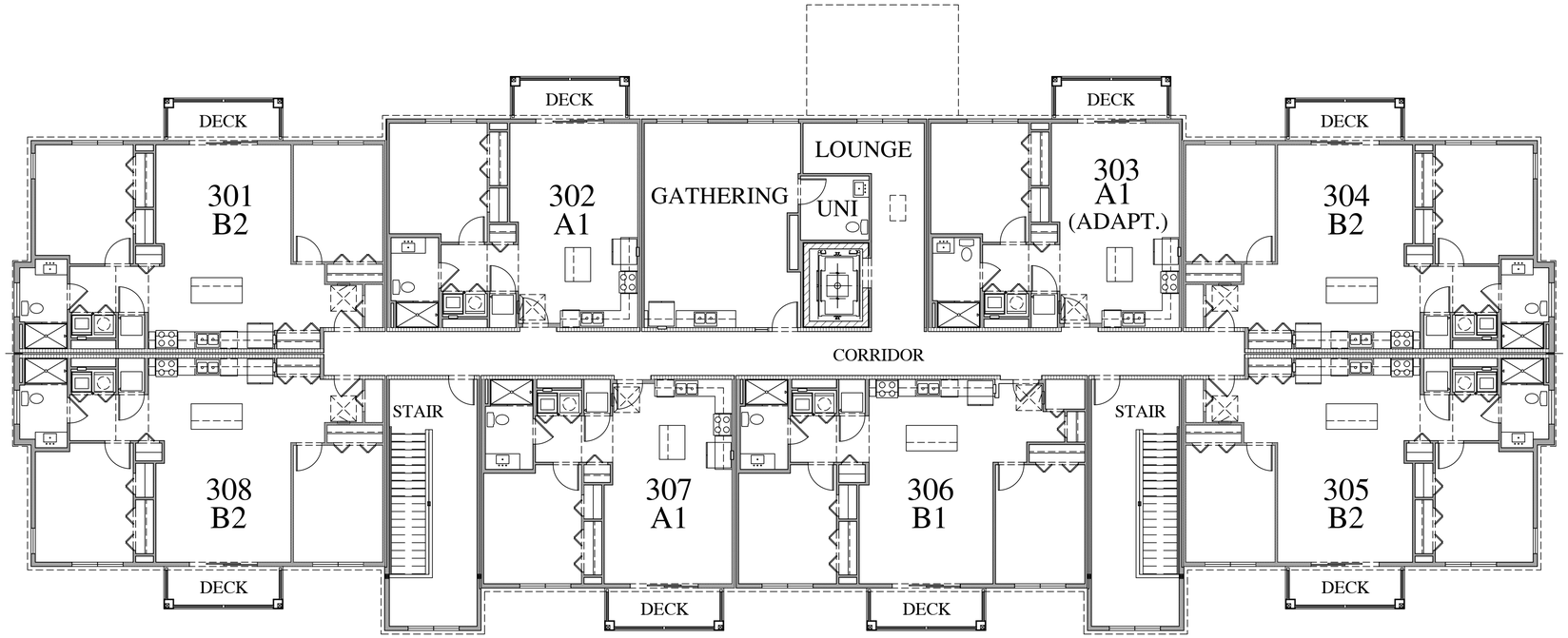
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VOLO, IL 60073
MAIN: 847-457-2500
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PROJECT #	AD26101
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24 UNIT APARTMENTS
SECOND FLOOR PLATE

A 12

12 OF 22 TOTAL SHEETS



1
A 13

THIRD FLOOR PLAN (OVERALL)

NORTH

SCALE: 1/8"=1'-0"

NOTE: ALL SCALE DESIGNATIONS ARE FOR SHEETS PRINTED ON 24" x 36" SIZE PAPER. (ARCH-D)

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24-UNIT
APARTMENTS

CONGRESS PKWY
CRYSTAL LAKE, IL 60014

REVIEW	11/12/2026
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REVIEW	01/26/2026
REVIEW	02/27/2026
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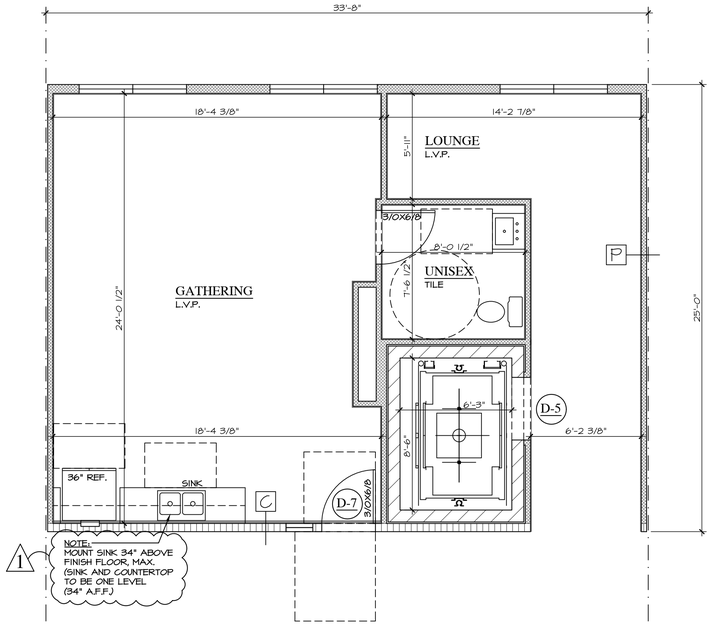
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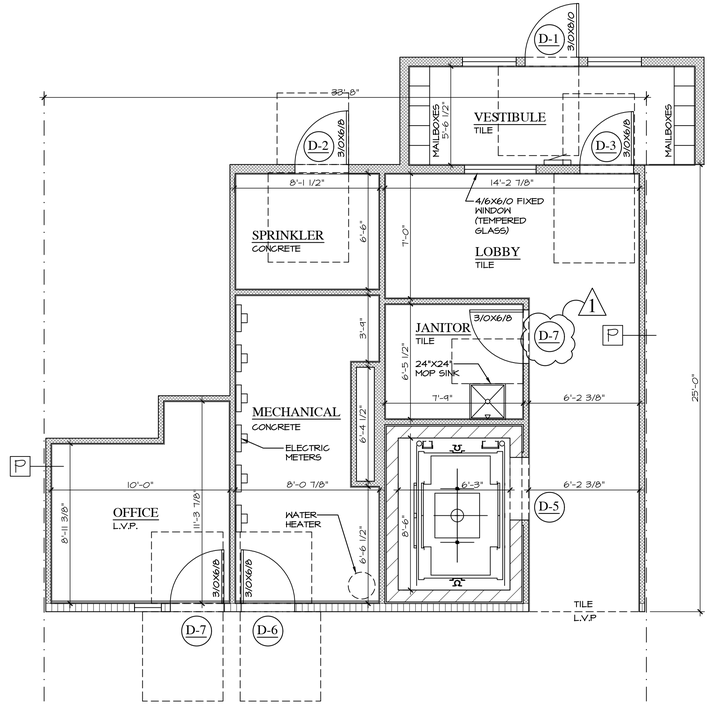
24 UNIT APARTMENTS
THIRD FLOOR PLATE

A 13

13 OF 22 TOTAL SHEETS



6 / A 14 COMMON SPACE (THIRD FLOOR) SCALE:1/4"=1'-0"



4 / A 14 COMMON SPACE (FIRST FLOOR) SCALE:1/4"=1'-0"

DOOR SCHEDULE

MK.	DOOR TYPE	DOOR SIZE	DOOR THK.	DOOR MAT'L.	FRAME JAMB	FRAME HEAD	FRAME SILL	FRAME MAT'L	FIRE RATING	REMARKS
D-1	1	3'-0" x 8'-0"	1-3/4"	INSULATED HOLLOW METAL			A	H.M.		WEATHERSTRIPPING AND SIDE LIGHT
D-2	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			A	H.M.		WEATHERSTRIPPING AND APPROVED SPRINKLER ROOM SIGN
D-3	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			B	H.M.	B-LABEL	WEATHERSTRIPPING
D-4	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			C	H.M.		
D-5	-	-	-	-	-	-	-	-	-	DOOR, JAMB, HARDWARE, CONTROLS, ETC PROVIDED BY O'
D-6	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			B	H.M.	B-LABEL	WEATHERSTRIPPING
D-7	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			B	H.M.	S-LABEL	WEATHERSTRIPPING AND UNIT NUMBER SIGN RATING 'S' LABEL FIRE SMOKE & DRAFT CONTROL UL 1784
D-8	6	6'-0" x 6'-8"		VINYL				VINYL		MINIMUM 32" CLEAR OPENING WIDTH AND APPROVED SAFETY GLAZING
D-9	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		
D-10	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		
D-11	4	5'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		BIFOLD
D-12	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		BIFOLD
D-13	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		COMBUSTION AIR FROM EXTERIOR
D-14	3	4'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		BIFOLD

GENERAL DOOR NOTES:

PROVIDE MINIMUM OF 60% OF ALL PUBLIC ENTRANCES TO BE ACCESSIBLE

ALL SAFETY GLAZING SHALL BE IN ACCORDANCE WITH THE CODE.

ALL WINDOWS SHALL COMPLY WITH THE AIR INFILTRATION REQUIREMENTS PER CODE.

ALL EXTERIOR GLASS DOORS AND WINDOWS SHALL BE IN COMPLIANCE WITH THE CODE FOR TESTING, LABELING AND PERFORMANCE.

MAXIMUM GLAZING U FACTOR FOR ALL EXTERIOR DOORS AND WINDOWS SHALL NOT BE GREATER THAN 0.32 IN COMPLIANCE WITH THE CODE.

AT FINAL INSPECTION LABELS ON ALL WINDOWS AND DOORS SHALL DEMONSTRATE COMPLIANCE WITH THE CODE.

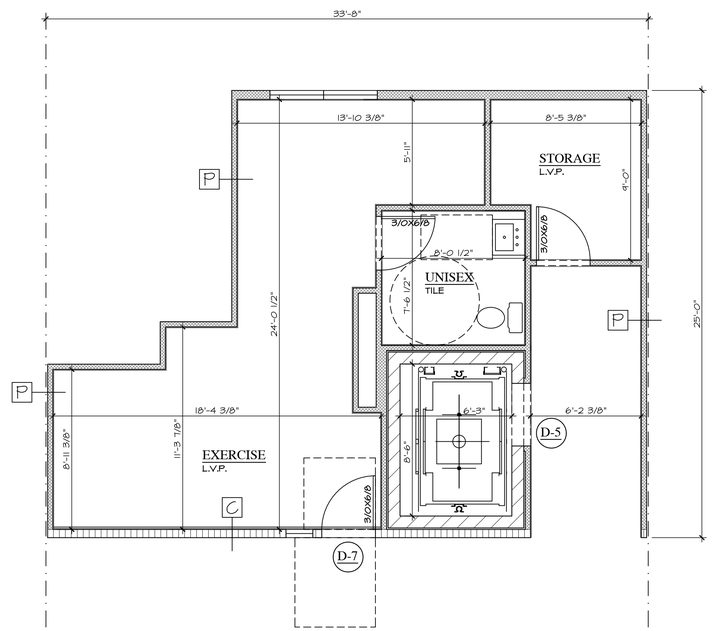
DOOR HARDWARE CLOSERS, HANDLES, ETC. SHALL COMPLY WITH ALL FHA, ADA, ILLINOIS ACCESSIBILITY CODE AND ANSI 117.1 REGULATIONS AND REQUIREMENTS

ALL EGRESS DOORS SHALL OPEN FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT AND A MIN. OF 34" AND A MAX. HGT. OF 48" ABOVE FLOOR.

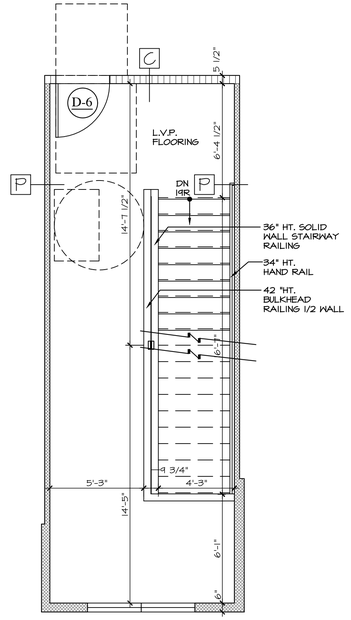
THE MAXIMUM FORCE FOR PUSHING OR PULLING A DOOR SHALL BE:
EXTERIOR HINGED DOORS---- 10 lbf.
INTERIOR HINGED DOORS---- 5 lbf.

THE OPERATING DEVICES SHALL BE CAPABLE OF OPERATION WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE.

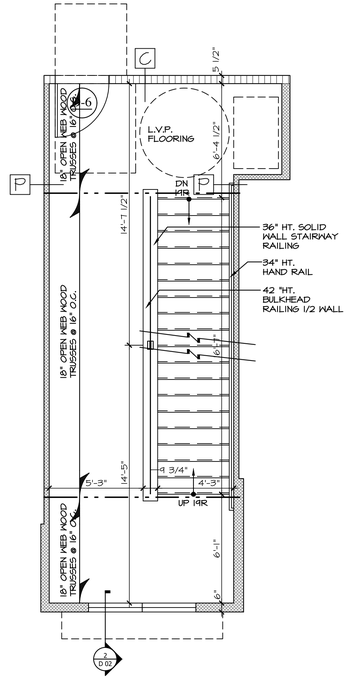
PROVIDE ADA COMPLIANT DOOR LATCH HANDLES AT ALL MAIN ENTRANCE, BEDROOMS, AND BATHROOM DOORS. PROVIDE IN ALL UNITS.



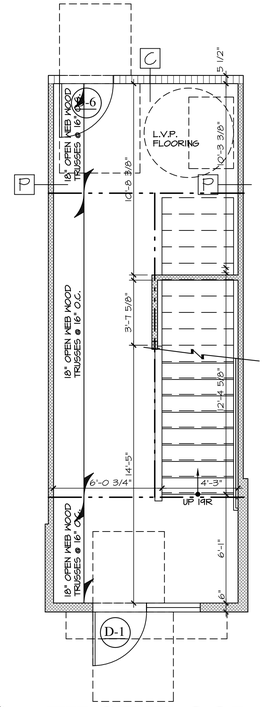
5 / A 14 COMMON SPACE (SECOND FLOOR) SCALE:1/4"=1'-0"



3 / A 14 THIRD FLOOR STAIR SCALE:1/4"=1'-0"



2 / A 14 SECOND FLOOR STAIR SCALE:1/4"=1'-0"



1 / A 14 FIRST FLOOR STAIR SCALE:1/4"=1'-0"

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24-UNIT APARTMENTS

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REVIEW	11/12/2026
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REVIEW	03/02/2026
REVIEW	03/04/2026
REVIEW	04/06/2026
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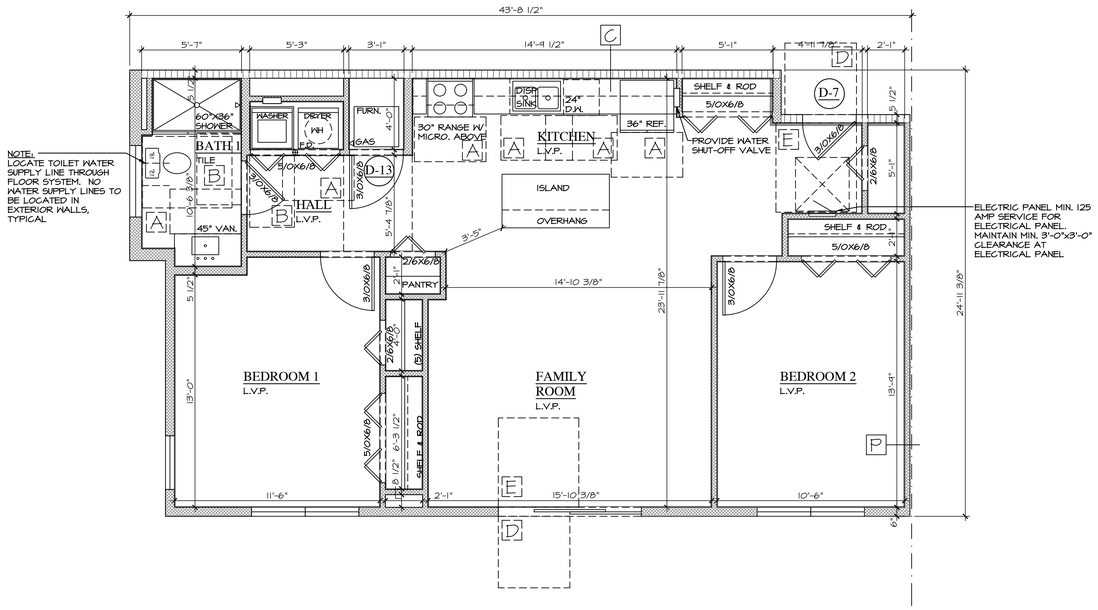
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PROJECT #	AD26101
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24 UNIT APARTMENTS
COMMON SPACE

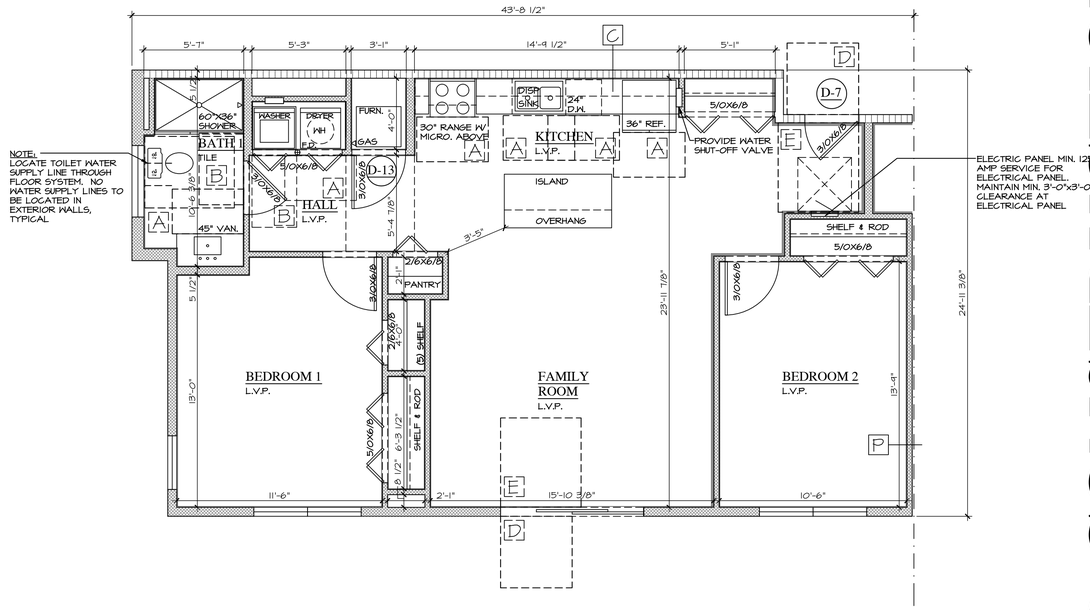
A 14

14 OF 22 TOTAL SHEETS



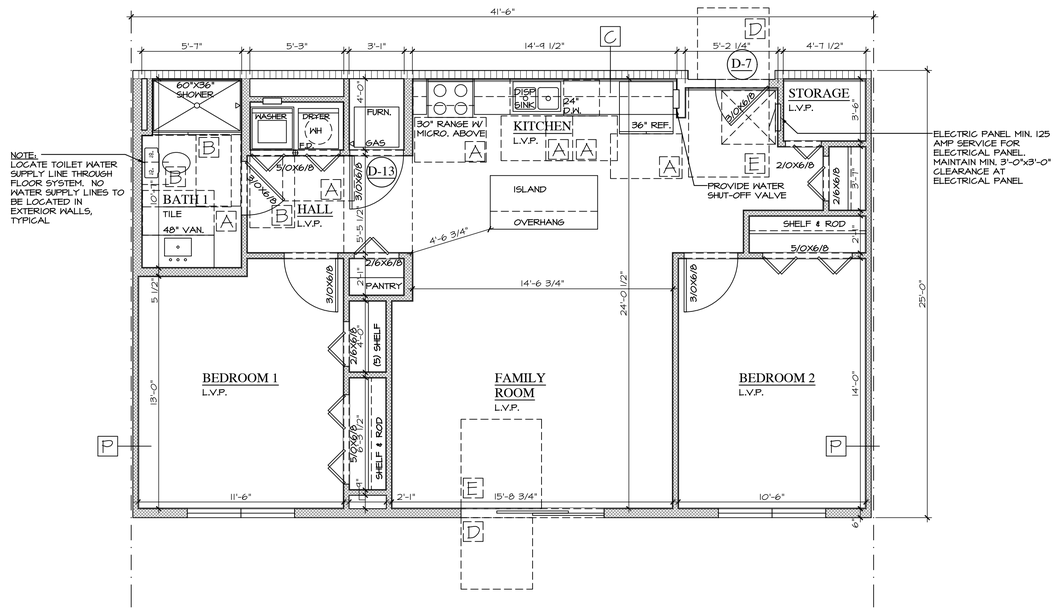
4 / A 15 UNIT B2 (1,035.63 BULK S.F.)
(I.B.C. TYPE B)

SCALE:1/4"=1'-0"



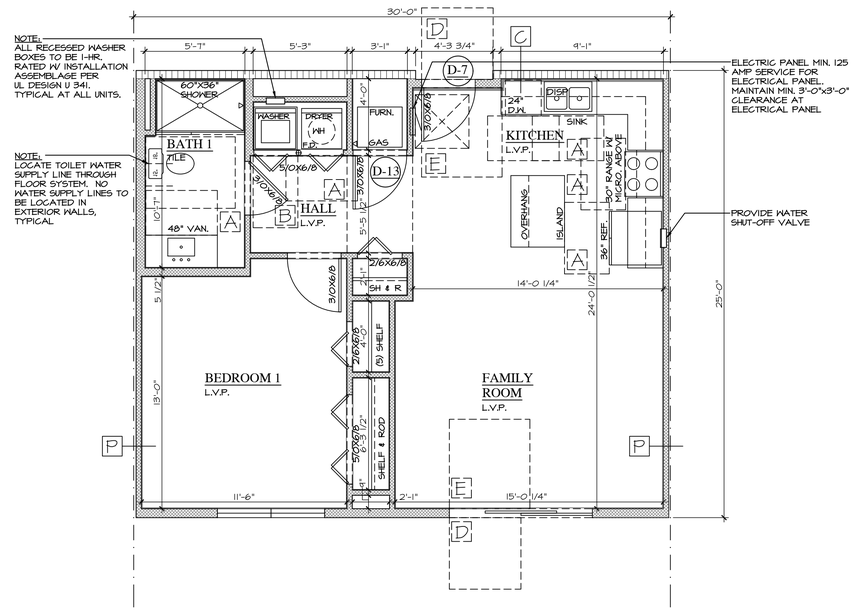
2 / A 15 UNIT B2 (ALT)
(I.B.C. TYPE B)

SCALE:1/4"=1'-0"



3 / A 15 UNIT B1 (1,035.00 BULK S.F.)
(I.B.C. TYPE B)

SCALE:1/4"=1'-0"



1 / A 15 UNIT A (746.98 BULK S.F.)

SCALE:1/4"=1'-0"

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24-UNIT APARTMENTS

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REVIEW	11/12/2026
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REVIEW	03/02/2026
REVIEW	03/04/2026
REVIEW	04/06/2026
REVIEW	04/08/2026

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VOLO, IL 60073
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PROJECT #	AD26101
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24 UNIT APARTMENTS
STANDARD UNIT PLANS

A 15

15 OF 22 TOTAL SHEETS

DOOR SCHEDULE

MK.	DOOR TYPE	DOOR SIZE	DOOR THK.	DOOR MAT'L.	FRAME JAMB	FRAME HEAD	FRAME SILL	FRAME MAT'L	FIRE RATING	REMARKS
D-1	1	3'-0" x 8'-0"	1-3/4"	INSULATED HOLLOW METAL			A	H.M.		WEATHERSTRIPPING AND SIDE LIGHT
D-2	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			A	H.M.		WEATHERSTRIPPING AND APPROVED SPRINKLER ROOM SIGN
D-3	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			B	H.M.	B-LABEL	WEATHERSTRIPPING
D-4	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			C	H.M.		
D-5	-	-	-	-	-	-	-	-	-	DOOR, JAMB, HARDWARE, CONTROLS, ETC PROVIDED BY OTIS ELEVATOR
D-6	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			B	H.M.	B-LABEL	WEATHERSTRIPPING
D-7	2	3'-0" x 6'-8"	1-3/4"	INSULATED HOLLOW METAL			B	H.M.	S-LABEL	WEATHERSTRIPPING AND UNIT NUMBER SIGN RATING 5" LABEL FIRE SMOKE & DRAFT CONTROL UL 1784 MINIMUM 32" CLEAR OPENING WIDTH AND APPROVED SAFETY GLAZING
D-8	6	6'-0" x 6'-8"		VINYL				VINYL		
D-9	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		
D-10	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		
D-11	4	5'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		BIFOLD
D-12	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		BIFOLD
D-13	3	3'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		COMBUSTION AIR FROM EXTERIOR
D-14	3	4'-0" x 6'-8"	1-3/8"	WOOD MASONITE			C	WOOD		BIFOLD

GENERAL DOOR NOTES:

PROVIDE MINIMUM OF 60% OF ALL PUBLIC ENTRANCES TO BE ACCESSIBLE

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ALL WINDOWS SHALL COMPLY WITH THE AIR INFILTRATION REQUIREMENTS PER CODE.

ALL EXTERIOR GLASS DOORS AND WINDOWS SHALL BE IN COMPLIANCE WITH THE CODE FOR TESTING, LABELING AND PERFORMANCE.

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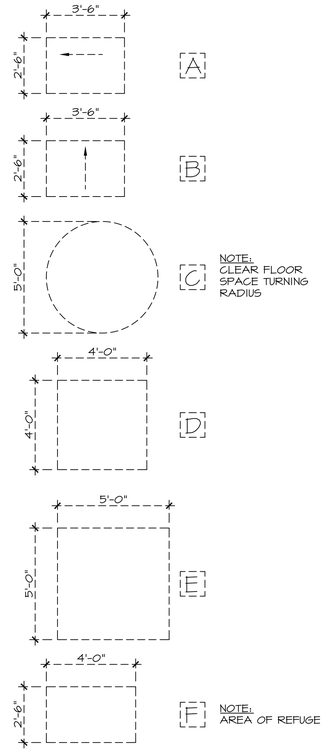
DOOR HARDWARE CLOSERS, HANDLES, ETC. SHALL COMPLY WITH ALL FHA, ADA, ILLINOIS ACCESSIBILITY CODE AND ANSI 117.1 REGULATIONS AND REQUIREMENTS

ALL EGRESS DOORS SHALL OPEN FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT AND A MIN. OF 34" AND A MAX. HGT. OF 48" ABOVE FLOOR.

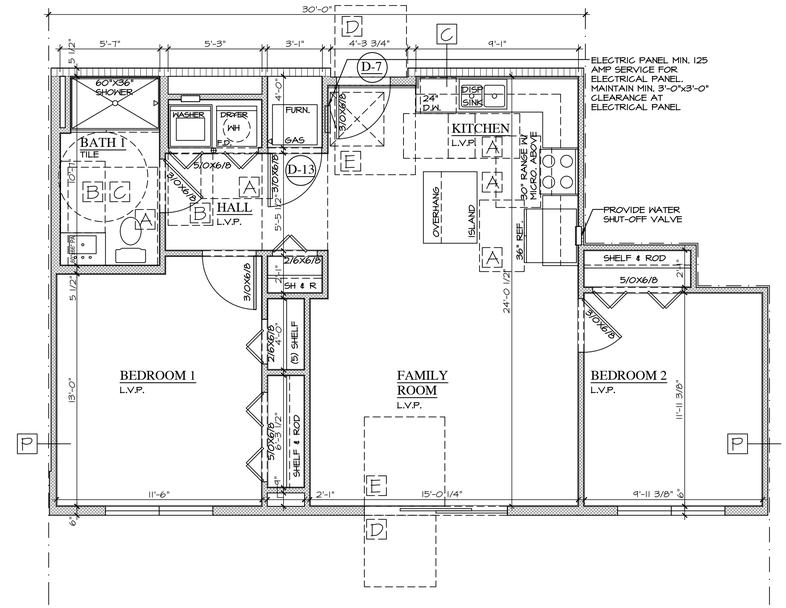
THE MAXIMUM FORCE FOR PUSHING OR PULLING A DOOR SHALL BE:
EXTERIOR HINGED DOORS---- 10 lbf.
INTERIOR HINGED DOORS---- 5 lbf.

THE OPERATING DEVICES SHALL BE CAPABLE OF OPERATION WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE.

PROVIDE ADA COMPLIANT DOOR LATCH HANDLES AT ALL MAIN ENTRANCE, BEDROOMS, AND BATHROOM DOORS. PROVIDE IN ALL UNITS.

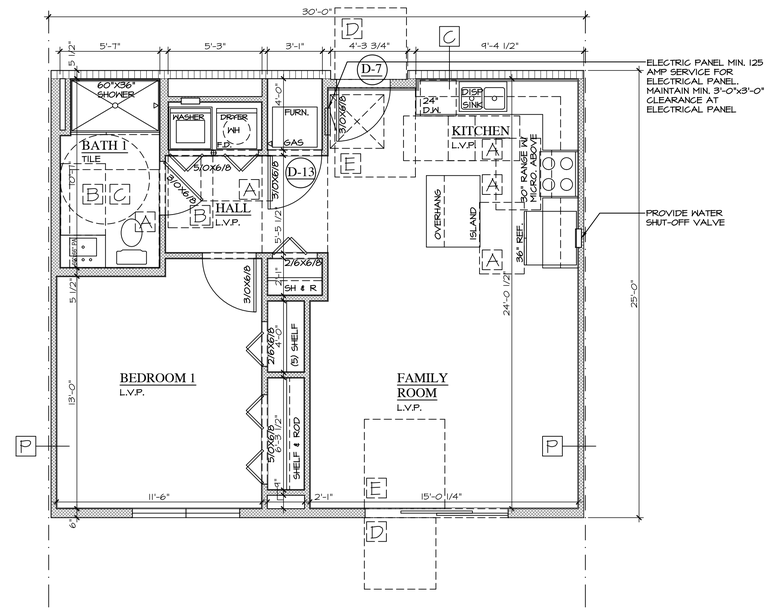


ACCESSIBILITY KEY



2 / A 16 UNIT A2 (894.79 BULK S.F.) (I.A.C. ADAPT.)

SCALE: 1/4"=1'-0"



1 / A 16 UNIT A1 (746.98 BULK S.F.) (I.A.C. ADAPT.)

SCALE: 1/4"=1'-0"

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24-UNIT APARTMENTS

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REVIEW	05/14/2026
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REVIEW	04/08/2026

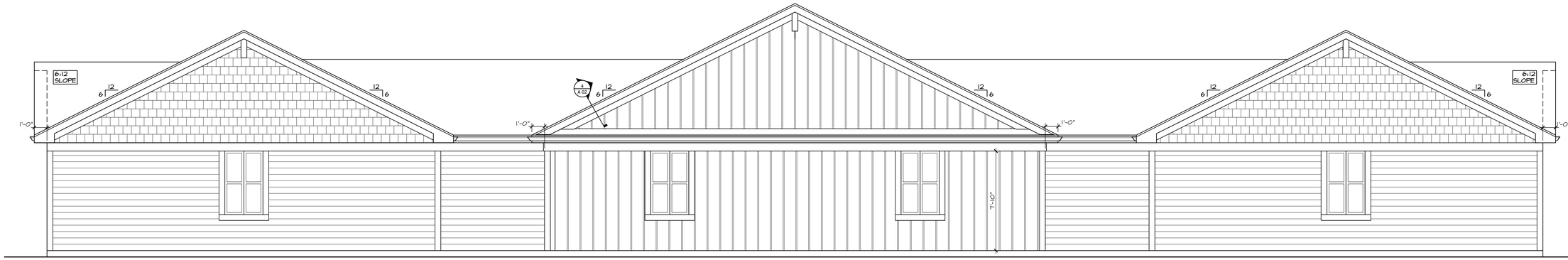
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36575 COMMERCE DR.
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IL LICENSE # 184-004534

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24 UNIT APARTMENTS
ADAPT. UNIT PLANS

A 16

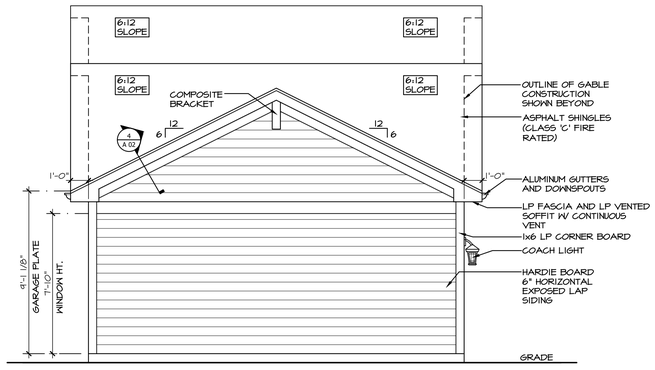
16 OF 22 TOTAL SHEETS



4 / A 17

REAR ELEVATION

9-CAR GARAGE

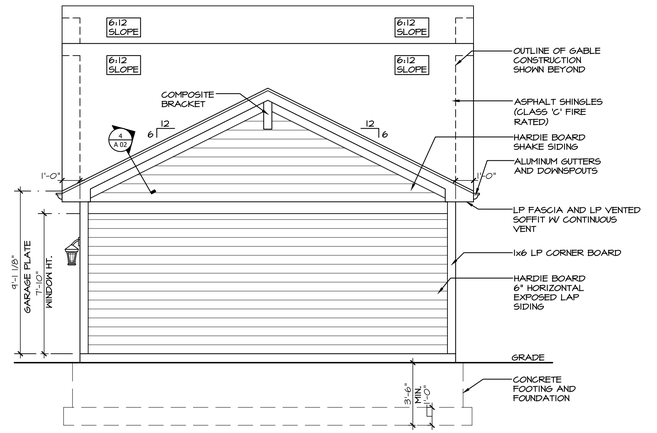


3 / A 17

RIGHT ELEVATION

9-CAR GARAGE SCALE:3/16"=1'-0"

SCALE:3/16"=1'-0"



2 / A 17

LEFT ELEVATION

9-CAR GARAGE SCALE:3/16"=1'-0"



1 / A 17

FRONT ELEVATION

9-CAR GARAGE SCALE:3/16"=1'-0"

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24-UNIT APARTMENTS

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REVIEW	04/06/2026
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UNIT 607
VOLO, IL 60073
MAIN: 847-457-2500
WWW.ASPECTDESIGNINC.COM
IL LICENSE # 184-004354

PROJECT #	AD26101
DRAWN BY:	DB/ MB

24 UNIT APARTMENTS
GARAGE ELEVATIONS

A 17

17 OF 22 TOTAL SHEETS



FLOOR PLAN

9-CAR GARAGE

1 / A 18

SCALE:3/16"=1'-0"

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REVIEW	05/26/2026

24-UNIT APARTMENTS

CONGRESS PKWY
CRYSTAL LAKE, IL 60014

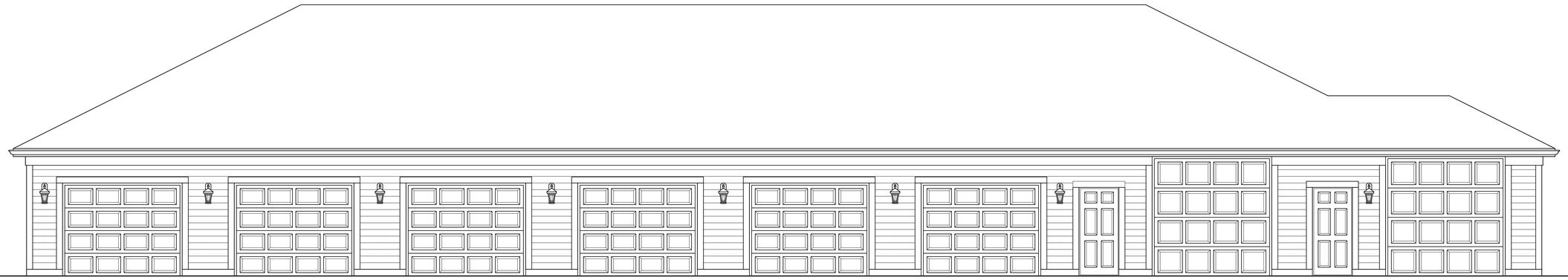
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24 UNIT APARTMENTS
GARAGE PLANS

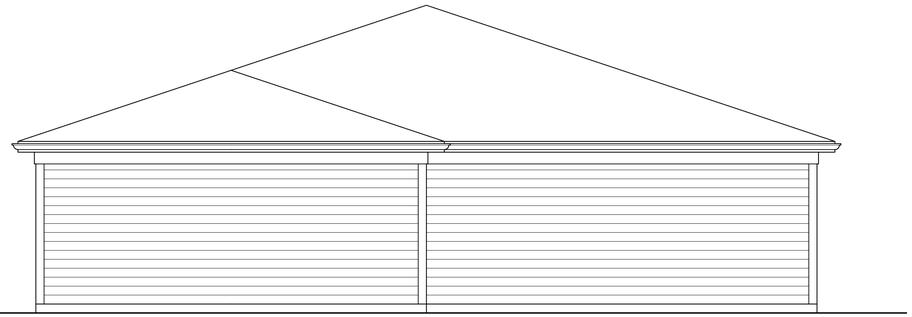
A 18



4 / A 17 — REAR ELEVATION

16-CAR GARAGE

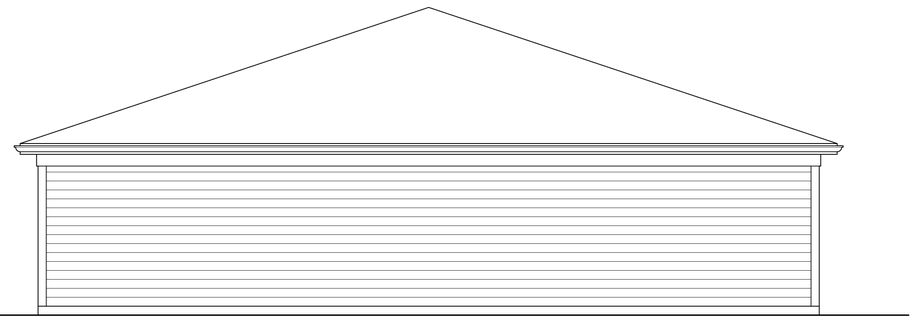
SCALE:3/16"=1'-0"



3 / A 17 — RIGHT ELEVATION

16-CAR GARAGE

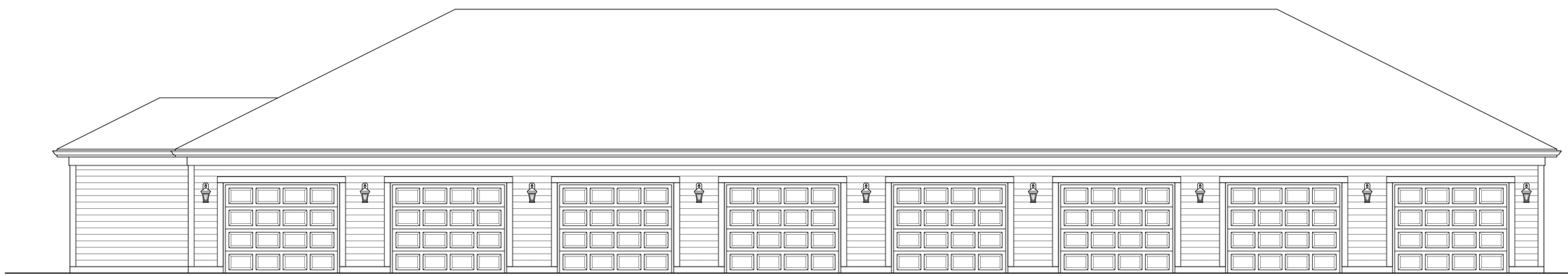
SCALE:3/16"=1'-0"



3 / A 17 — LEFT ELEVATION

16-CAR GARAGE

SCALE:3/16"=1'-0"



1 / A 17 — FRONT ELEVATION

16-CAR GARAGE

SCALE:3/16"=1'-0"

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24-UNIT APARTMENTS

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CRYSTAL LAKE, IL 60014

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REVIEW	01/23/2026
REVIEW	01/26/2026
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REVIEW	03/02/2026
REVIEW	03/04/2026
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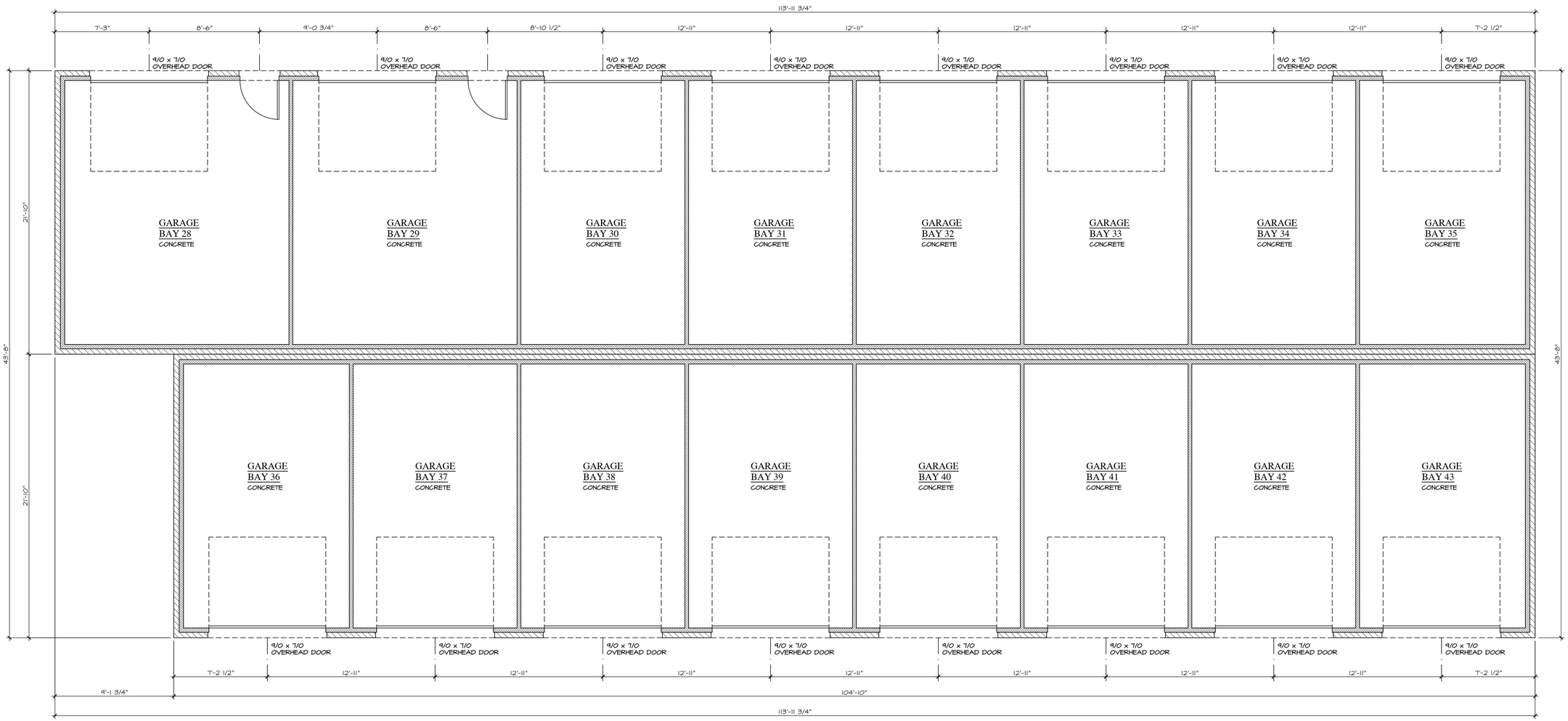
ASPECT DESIGN INC.
ARCHITECTS

PROJECT #	AD26101
DRAWN BY:	DB/ MB

24 UNIT APARTMENTS
GARAGE ELEVATIONS

A 17

17 OF 22 TOTAL SHEETS



1
A 20

FLOOR PLAN

16-CAR GARAGE

SCALE:3/16"=1'-0"

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24-UNIT APARTMENTS

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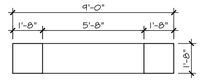
ASPECT DESIGN INC.
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PROJECT #	AD26101
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24 UNIT APARTMENTS
GARAGE PLANS

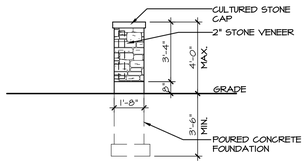
A 20

20 OF 22 TOTAL SHEETS



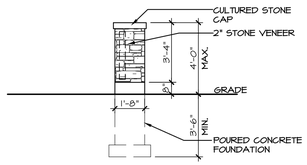
11 / A 21 FLOOR PLAN

GROUND SIGN — SCALE:1/4"=1'-0"



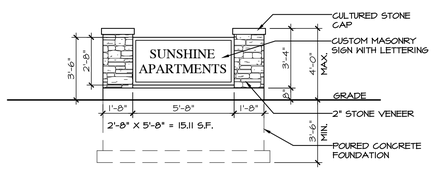
10 / A 21 RIGHT ELEVATION

GROUND SIGN — SCALE:1/4"=1'-0"



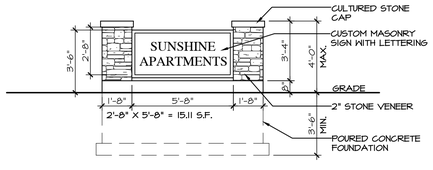
9 / A 21 LEFT ELEVATION

GROUND SIGN — SCALE:1/4"=1'-0"



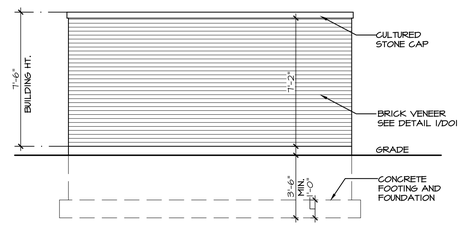
8 / A 21 REAR ELEVATION

GROUND SIGN — SCALE:1/4"=1'-0"



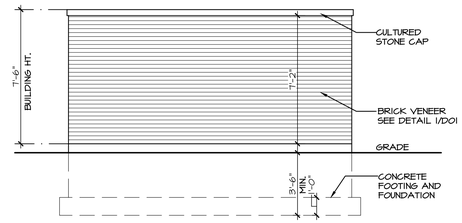
7 / A 21 FRONT ELEVATION

GROUND SIGN — SCALE:1/4"=1'-0"



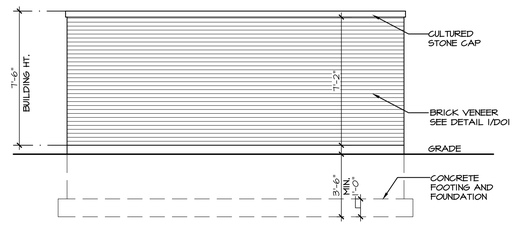
6 / A 21 RIGHT ELEVATION (EAST)

TRASH ENCLOSURE — SCALE:1/4"=1'-0"



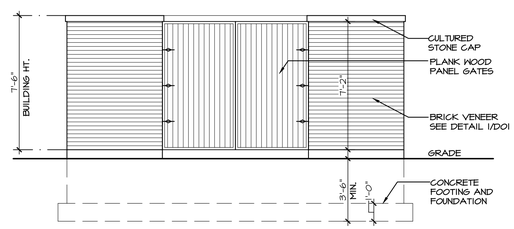
5 / A 21 LEFT ELEVATION (WEST)

TRASH ENCLOSURE — SCALE:1/4"=1'-0"



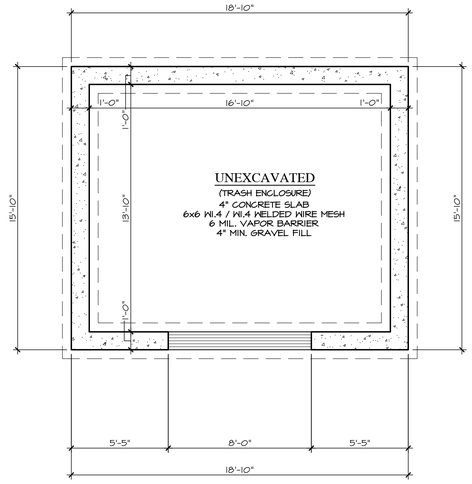
4 / A 21 REAR ELEVATION (NORTH)

TRASH ENCLOSURE — SCALE:1/4"=1'-0"



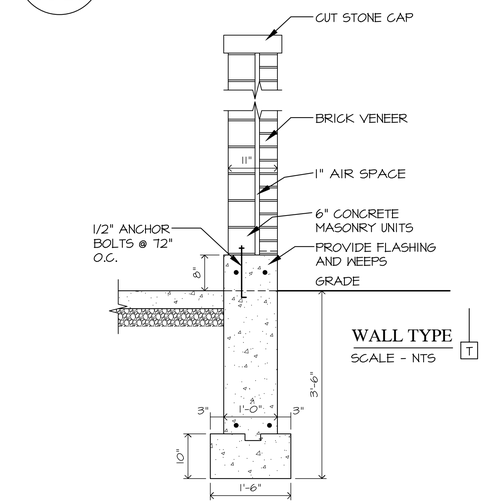
3 / A 21 FRONT ELEVATION (SOUTH)

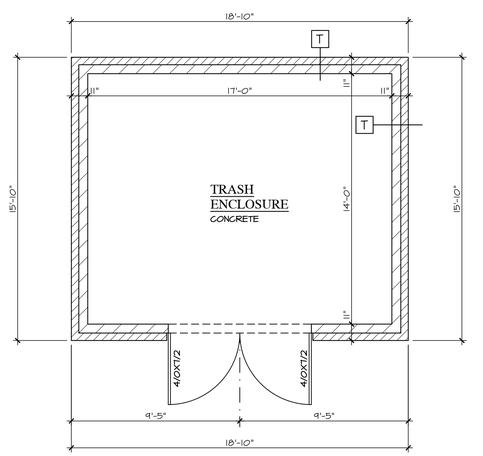
TRASH ENCLOSURE — SCALE:1/4"=1'-0"



2 / A 21 FOUNDATION PLAN

TRASH ENCLOSURE — SCALE:1/4"=1'-0"





1 / A 21 FLOOR PLAN

TRASH ENCLOSURE — SCALE:1/4"=1'-0"

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24-UNIT APARTMENTS

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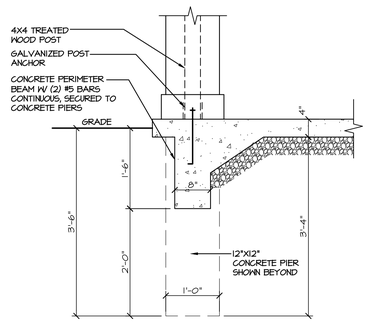
ASPECT DESIGN INC.
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24 UNIT APARTMENTS
ACCESSORY BUILDINGS

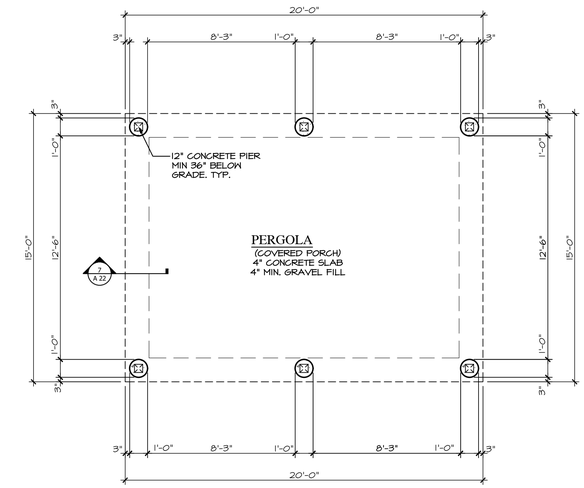
A 21

21 OF 22 TOTAL SHEETS



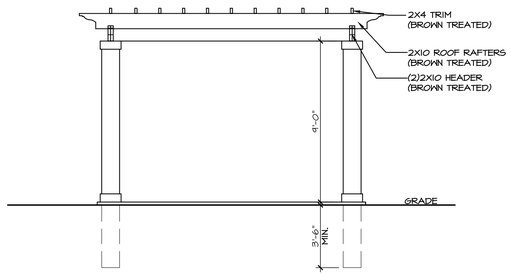
7 / A 22 — FOUNDATION DETAIL

PERGOLA — SCALE: 1/4"=1'-0"



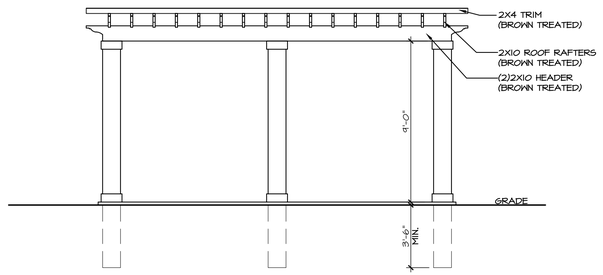
2 / A 22 — FOUNDATION PLAN

PERGOLA — SCALE: 1/4"=1'-0"



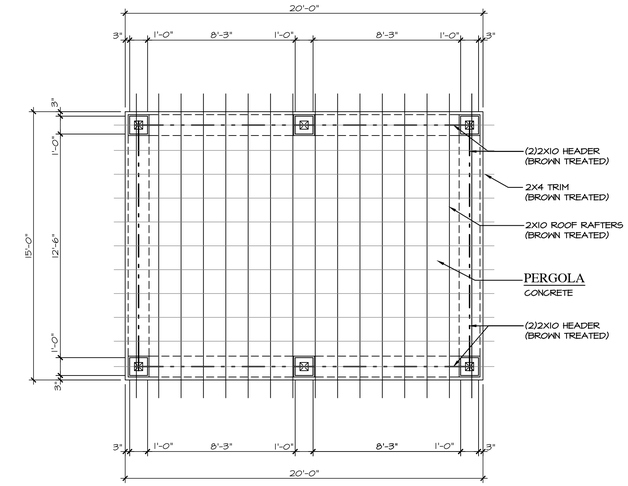
6 / A 22 — RIGHT ELEVATION

PERGOLA — SCALE: 1/4"=1'-0"



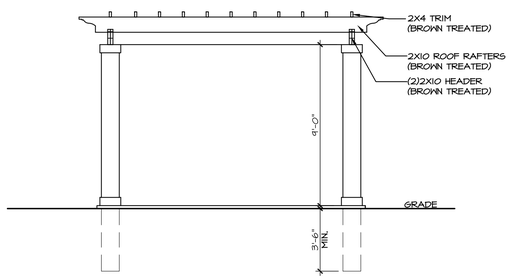
4 / A 22 — REAR ELEVATION

PERGOLA — SCALE: 1/4"=1'-0"



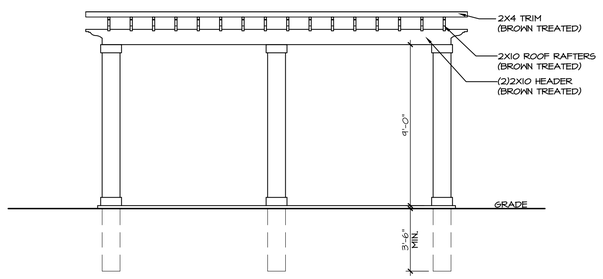
1 / A 22 — FLOOR PLAN

PERGOLA — SCALE: 1/4"=1'-0"



5 / A 22 — LEFT ELEVATION

PERGOLA — SCALE: 1/4"=1'-0"



3 / A 22 — FRONT ELEVATION

PERGOLA — SCALE: 1/4"=1'-0"

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24-UNIT APARTMENTS

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24 UNIT APARTMENTS
ACCESSORY BUILDINGS

A 22

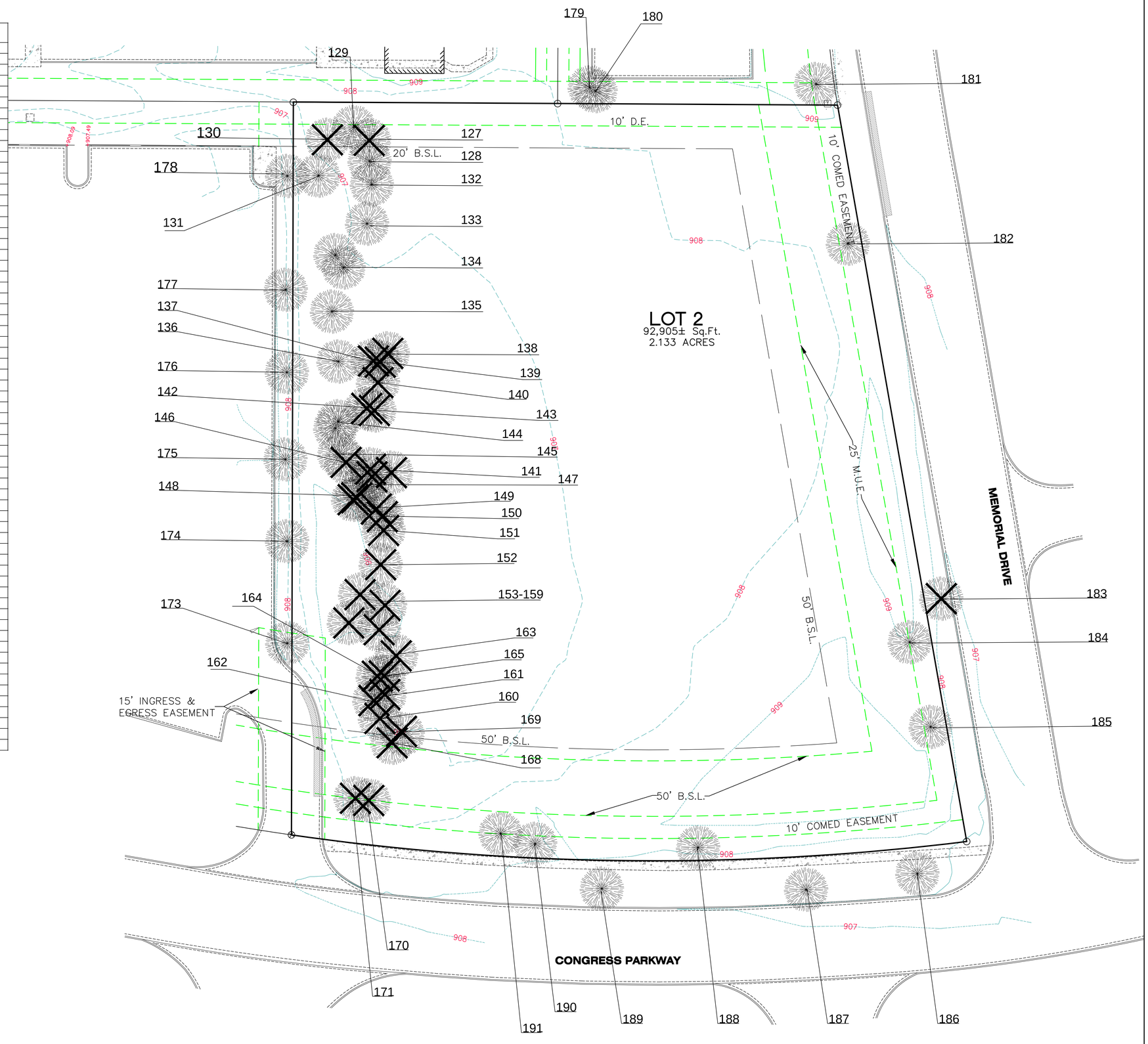
22 OF 22 TOTAL SHEETS

Tree Survey at: Congress Parkway
Completed By: Adam Keppel, Certified Arborist IL-5152A

Tree #	Species	DBH Size (in inches)	Condition	Form	Comments
127	Black Cherry	18	3	3	Remove for Construction
128	Siberian Elm	13	4	4	
129	Siberian Elm	18	3	4	
130	Siberian Elm	15	3	3	Remove for Construction
131	Black Cherry	21	2	3	
132	Mullberry	32	3	3	
133	Black Cherry	24	3	4	
134	Hackberry	12	2	2	
135	Box Elder	26	5	5	
136	Black Cherry	10	3	3	
137	Black Cherry	19	3	3	Remove for Construction
138	Black Cherry	17	3	4	Remove for Construction
139	Black Cherry	17	3	4	Remove for Construction
140	Hackberry	15	2	3	Remove for Construction
141	Black Cherry	14	3	3	Remove for Construction
142	Mullberry	12	4	4	Remove for Construction
143	Black Cherry	7	3	3	Remove for Construction
144	Black Cherry	12	3	4	
145	Black Cherry	16	3	2	Remove for Construction
146	Box Elder	12	4	4	Remove for Construction
147	Box Elder	15	4	4	Remove for Construction
148	Box Elder	10	3	3	Remove for Construction
149	Black Cherry	7	3	3	Remove for Construction
150	Box Elder	13	2	3	Remove for Construction
151	Black Cherry	12	4	4	Remove for Construction
152	Black Cherry	18	4	4	Remove for Construction
153	Box Elder	12	3	3	Remove for Construction
154	Box Elder	10	4	4	Remove for Construction
155	Mullberry	10	4	4	Remove for Construction
156	Box Elder	15	4	4	Remove for Construction
157	Mullberry	12	3	3	Remove for Construction
158	Mullberry	14	4	3	Remove for Construction
159	Black Cherry	8	3	4	Remove for Construction
160	Black Cherry	13	3	4	Remove for Construction
161	Box Elder	24	3	4	Remove for Construction
162	Mullberry	28	2	2	Remove for Construction
163	Box Elder	16	4	4	Remove for Construction
164	Box Elder	30	5	5	Remove for Construction
165	Box Elder	18	3	3	Remove for Construction
166	Mullberry	12	2	2	Remove for Construction
167	Box Elder	28	4	4	Remove for Construction
168	Mullberry	15	3	4	Remove for Construction
169	Black Cherry	18	4	4	Remove for Construction
170	Black Cherry	8	3	3	Remove for Construction
171	Hackberry	18	2	2	Remove for Construction
172	Hackberry	16	2	2	
173	Bradford Pear	12	3	4	
174	Bradford Pear	13	4	4	
175	Bradford Pear	12	4	4	
176	Bradford Pear	12	4	4	
177	Bradford Pear	12	4	4	
178	Bradford Pear	12	4	4	
179	Blue Spruce	23	3	3	
180	Blue Spruce	22	3	3	
181	Austrian Pine	23	3	4	
182	Austrian Pine	15, 17, 15	4	4	
183	Norway Maple	17	3	3	Remove for Construction
184	Norway Maple	16	4	3	
185	Larch	17	1	1	Dead tree ð removal recommended.
186	Norway Maple	13	4	4	
187	Norway Maple	14	3	3	
188	Norway Maple	16	4	4	
189	Norway Maple	15	4	4	
190	Norway Maple	16	4	4	
191	Blue Spruce	18	4	3	

IMPERVIOUS AND DISTURBANCE AREAS DATA:

EXISTING IMPERVIOUS	
RESIDENCES & DETACHED GARAGES:	00.00 SQ.FT.
CURB AND GUTTER:	120.0 SQ.FT.
ASPHALT ENTRANCE:	805.0 SQ.FT.
TOTAL EXISTING IMPERVIOUS=	925.0 SQ.FT.
REMOVAL	
CURB AND GUTTER:	187.5 SQ.FT.
ASPHALT PAVEMENT:	264.0 SQ.FT.
TOTAL IMPERVIOUS REMOVED=	451.5 SQ.FT.
TOTAL LOT SIZE:	92905± SQ.FT. 2.13± ACRES
TOTAL IMPERVIOUS:	925.0 SQ.FT.
TOTAL IMPERVIOUS PERCENT:	0.99%



THE BARN

The Barn Group Inc.
237 West Main St.
Barrington IL. 60010
847.658.3983
www.barnlandscape.com

Designed By: Dinka Petrova
Drawn By: Dinka Petrova
Project Date: 05/28/2026

REVIEW

Client
RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
Project Name
TREE SURVEY

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Scale 1" = 20'

L1.0



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Barrington IL. 60010
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Project Date: 05/28/2026

REVIEW

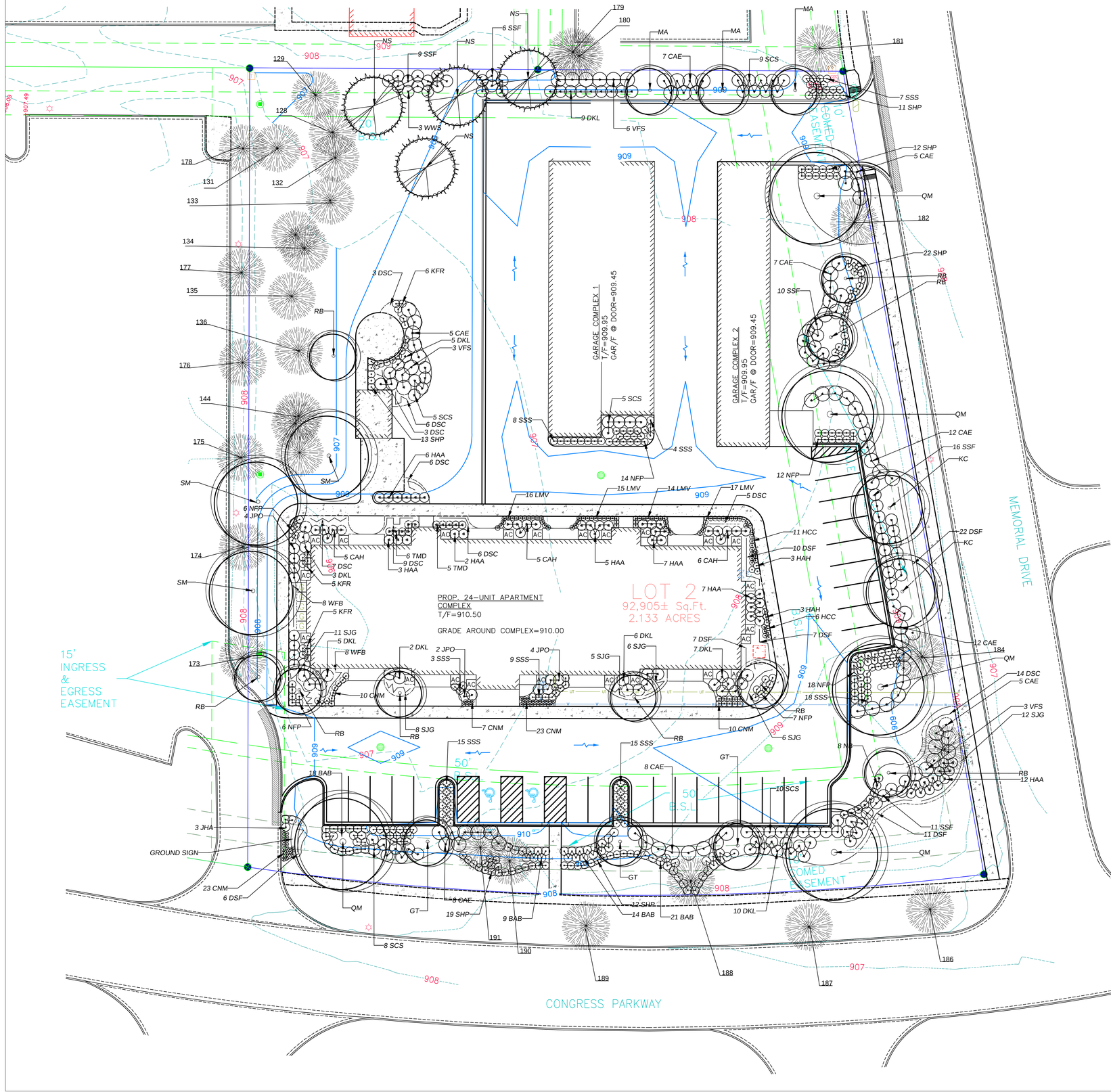
Client
RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014

Project Name
SITUATION

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Scale 1" = 20'

L1.0



Symbol	Botanical Name	Common Name	Size	Quantity
TREES				
SM	ACER SACCHARUM 'BAILSTA'	FALL FIESTA SUGAR MAPLE	2.5"	2
RB	CERCIS CANADENSIS	EASTERN REDBUD	8'	9
GT	GLEDITSIA TRIACANTHOS	HONEYLOCUST	3"	3
KC	GYMNOCLADUS DIOICUS 'ESPRESSO-JFC'	ESPRESSO KENTUCKY COFFEETREE	3"	2
MA	MAACKIA AMURENSIS MAACNIFICENT	AMUR MAACKIA	2.5"	3
NS	PICEA ABIES	NORWAY SPRUCE	6'	4
QM	QUERCUS MACROCARPA	BUR OAK	3"	4
SHRUBS				
CAH	*CLETHRA ALNIFOLIA 'HUMMINGBIRD'*	*HUMMINGBIRD CLETHRA*	#3	22
CAE	CORNUS ALBA 'ELEGANTISSIMA'	VARIEGATED RED TWIG DOGWOOD	36"	69
VFS	COTINUS COGGYGRIA 'SMNCCPP3'	THE VELVET FOG SMOKEBUSH	36"	12
DSC	DIERVILLA SESSILIFOLIA 'LPDC PODARAS'	COOL SPLASH DIERVILLA	#3	59
DSF	DIERVILLA X SPLENDENS	KODIAK FRESH DIERVILLA	#3	63
HAA	HYDRANGEA ARBORESCENS	INCREDIBALL HYRDANGEA	#3	42
SCS	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN CHINESE JUNIPER	36"	37
JHA	*JUNIPERUS HORIZONTALIS*	*CREEPING JUNIPER*	#3	3
JPO	*JUNIPERUS X PFITZERIANA 'OLD GOLD'*	*OLD GOLD JUNIPER*	#3	14
NB	PHYSOCARPUS OPULIFOLIUS	TINY WINE NINEBARK	#3	8
SSF	SORBARIA SORBIFOLIA	URAL FALSESPIREA	36"	52
SJG	SPIRAEA JAPONICA 'GOLDFLAME'	GOLDFLAME SPIREA	#3	48
DKL	SYRINGA MEYERI 'PALIBIN'	DWARF KOREAN LILAC	36"	47
TMD	*TAXUS × MEDIA 'DENSIFORMIS'*	*JAPANESSE YEW*	#3	11
WFB	WEIGELA FLORIDA 'BOKRASPIWI'	SPILLED WINE WEIGELIA	#3	16
WWS	WEIGELA FLORIDA 'SMNWFGC'	WINE & SPIRIT WEIGELIA	36"	3
PERENNIALS				
BAB	*BAPTISIA AUSTRALIS*	BLUE FALSE INDIGO	#1	62
CNM	*CALAMINTHA NEPETA 'MONTROSE WHITE'*	MONTROSE WHITE CALAMINT	#1	73
HCC	*HEUCHERA CARAMEL*	CARAMEL CORAL BELL	#1	17
HAH	*HOSTA × TARDIANA 'HALCYON'*	HOSTA HALCYON	#1	6
LMV	*LIRIOPE MUSCARI 'VARIEGATA'*	*VARIEGATED LILYTURF*	#1	25
NFP	*NEPETA FAASSENII 'PURRSIAN BLUE'*	*PURRSIAN BLUE* CATMINT	#1	63
GRASSES				
KFR	*CALAMAGROSTIS ARUNDINACEA*	KOREAN FEATHER REED GRASS	#1	31
SSS	SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION'	LITTLE BLUESTEM	#1	79
SHP	*SPOROBOLUS HETEROLEPIS*	PRAIRIE DROPSEED	#1	89

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Drawn By: Dinka Petrova
Project Date: 05/28/2026

REVIEW

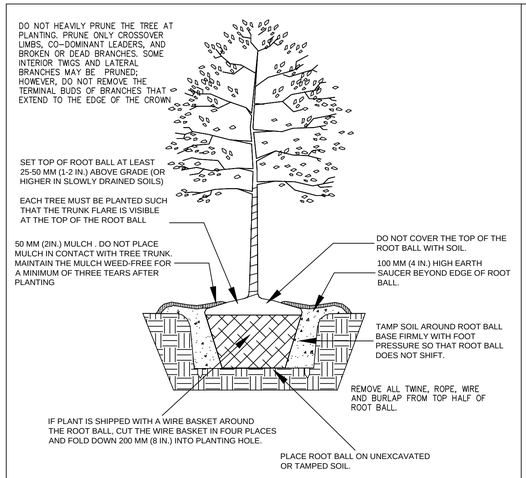
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LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
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CRYSTAL LAKE, IL 60014

Project Name: SITUATION

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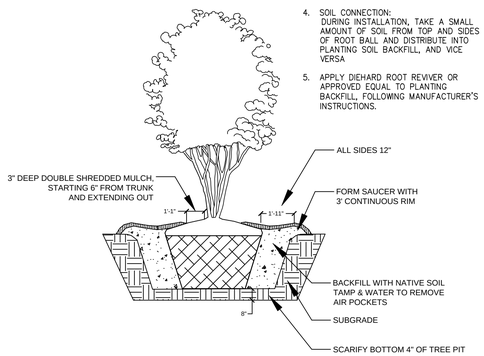
Scale 1" = 20'

L1.0



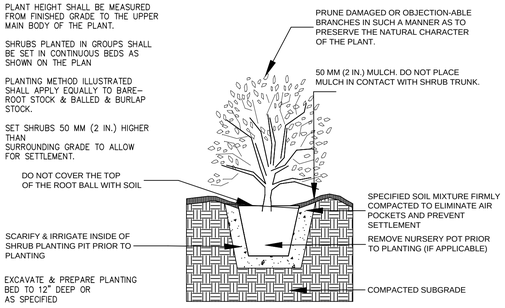
DECIDUOUS TREE PLANTING DETAIL

TYPICAL INSTALLATION – 3" (75 MM) CALIPER OR LESS



ORNAMENTAL TREE

TYPICAL INSTALLATION



SHRUB PLANTING DETAILS

TYPICAL INSTALLATION

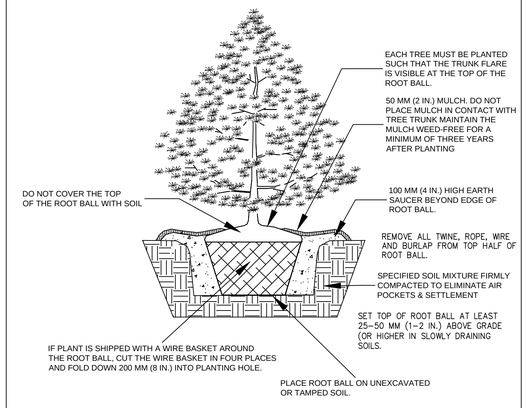
LANDSCAPE NOTES:

LANDSCAPE CONTRACTOR (LC) SHALL FULFILL FOLLOWING SPECIFICATIONS AS PART OF THIS CONTRACT:

1. INFORM CLIENTS AS EACH PHASE OF WORK IS UNDERTAKEN TO ALLOW THE CLIENTS TO BE PRESENT DURING THE WORK.
2. COORDINATE WITH CLIENTS IN FIELD FOR TRANSPLANTS AND REMOVALS.
3. DETERMINE SUBSOIL CONDITIONS AND SUBSURFACE DRAINAGE REQUIREMENTS OF ALL PLANT MATERIALS.
4. AMEND EXISTING SOIL ASSESS QUALITY OF EXISTING SOIL CONDITIONS ON SITE AND RECOMMEND AMENDMENTS TO OWNER. AMEND EXISTING SOIL IN ALL PLANTING BEDS WITH A MINIMUM OF SOIL CONDITIONER. ROTOTILL AMENDMENTS INTO PLANT BEDS.
5. PLANT INSTALLATION. SET PLANT MATERIAL IN THE PLANTING PIT TO PROPER GRADE AND ALIGNMENT. SET PLANTS UPRIGHT, PLUMB, AND FACE TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO EACH OTHER OR ADJACENT STRUCTURE. DO NOT FILL AROUND TRUNKS OR STEMS. DO NOT USE FROZEN OR MUDDY MIXTURE FOR BACKFILLING. SUPPLY A MINIMUM OF 12" OF SOIL MIX ALL SIDES OF ROOTBALLS FOR TREES AND SHRUBS UNLESS OTHERWISE NOTED. PLANT GROUNDCOVER AND PERENNIALS AND TAMP DOWN SOIL AROUND POT SO POT DOES NOT HEAVE IN FROST. WATER IN BEFORE APPLYING MULCH. DO NOT COVER FOLIAGE WITH MULCH. BALLED ROOTS SHELL BE PROTECTED FROM DRYING OUT AND CARE TAKEN TO PREVENT THE BALL FROM FREEZING.
6. MULCH. PROVIDE 3" LOOSE MEASURE OF PREMIUM HARDWOOD BARK MULCH THROUGHOUT ALL SHRUB PLANTING AREAS AND 2" LEAF COMPOST FOR PERENNIAL AND GROUNDCOVER BEDS. HARDWOOD MULCH TO BE 6 MONTH OLD, WELL ROTTED, SHREDDED, PREMIUM HARDWOOD BARK MULCH, NOT LARGER THAN 4" IN LENGTH AND 1/2" IN WIDTH, FREE OF WOOD CHIPS AND SAWDUST.
7. WATER. FREE OF SUBSTANCES HARMFUL TO PLANT GROWTH. HOSES OR OTHER METHODS OF TRANSPORTATION FURNISHED BY CONTRACTOR.
8. SEED. SUPPLY AND INSTALL NEW SEED FOR LAWN AREA, SEED BLEND ON MINIMUM 2" DEPTH ROTOTILLED, FINE GRADED, PULVERIZED TOPSOIL. TOPSOIL TO BE PLACED AND FINAL GRADED BY GENERAL CONTRACTOR. STRAW MAT TO COVER SEED.
9. BED EDGE. SPADE EDGE WHERE BED MEETS LAWN IF NO EDGING IS INSTALLED.
10. GUARANTEE. UPON COMPLETION OF ALL LANDSCAPE WORK, THE LC SHALL NOTIFY THE LANDSCAPE DESIGNER AND OWNER FOR APPROVAL AND ACCEPTANCE. LC SHALL GUARANTEE ALL WORK AND PLANT MATERIAL FOR A MINIMUM OF ONE YEAR, AFTER ACCEPTANCE BY THE LD AND OWNERS, OF COMPLETED LANDSCAPE WORK.
11. TEMPORARY WATERING PLAN. MANUAL WATERING IRRIGATION TO BE IN PLACE FOR 3 YEAR PERIOD. PLANT TO SOAK TREES AND SHRUBS EVERY 5-7 DAYS, WEATHER DEPENDING, AT A SLOW TRICKLE FROM A HOSE FOR 30 MINUTES PER SHRUB, AND 60 MINUTES PER TREE. TAKE CARE NOT TO OVER WATER. DEEP, INFREQUENT WATERING IS BEST.

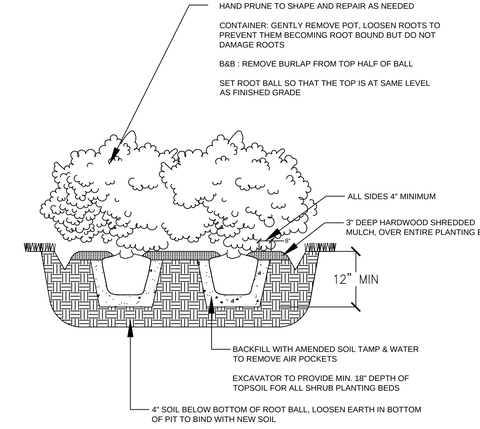
GENERAL CONSTRUCTION NOTES:

1. REQUIRED LANDSCAPE MATERIAL SHALL SATISFY AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND BE STAKED, WRAPPED, WATERED AND MULCHED PER ORDINANCE.
2. BEFORE ANY EXCAVATION ON THE SITE, CALL TO LOCATE ANY EXISTING UTILITIES ON THE SITE. THE CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH THE LOCATIONS OF ALL BURIED UTILITIES IN THE AREAS OF WORK BEFORE STARTING OPERATIONS. THE CONTRACTOR SHALL BE LIABLE FOR THE COST OF REPAIRING OR REPLACING ANY BURIED CONDUITS, CABLES OR PIPING DAMAGED DURING THE INSTALLATION OF THIS WORK.
3. FOUR FOOT HIGH FENCING OR OTHER RIGID MATERIAL IS TO BE ERECTED AROUND THE DRIP-LINE OF ALL TREES TO BE SAVED.
4. A TREE REMOVAL PERMIT MUST BE OBTAINED FROM THE PLANNING OFFICE PRIOR TO ALL TREE REMOVAL ACTIVITY INVOLVING TREES SIX (6) INCHES OR MORE D.B.H. IN ACCORDANCE WITH MONTGOMERY ZONING ORDINANCE.
5. TREES TO BE REMOVED MUST BE MARKED IN THE FIELD WITH RED PAINT OR FLAGS AND INSPECTED BY THE MONTGOMERY FORESTRY OFFICE PRIOR TO ANY TREES BEING REMOVED.
6. IF NECESSARY TO CONDUCT WORK OR DIGGING WITHIN THE ROOT ZONE OF TREES TO REMAIN, THE LANDSCAPE ARCHITECT MUST BE NOTIFIED AND ADDITIONAL PROTECTIVE MEASURES, SUCH AS ROOT PRUNING OR BRIDGING, MUST BE EMPLOYED BY A LICENSED TREE SERVICE.
7. CAREFULLY MAINTAIN PRESENT GRADE AT BASE OF ALL EXISTING TREES TO REMAIN. PREVENT ANY DISTURBANCE OF EXISTING TREES INCLUDING ROOT ZONES. USE TREE PROTECTION BARRICADES WHERE INDICATED. PROTECT EXISTING TREES TO REMAIN AGAINST UNNECESSARY CUTTING, BREAKING OR SKINNING OF ROOTS, BRUISING OF BARK OR SMOTHERING OF TREES. DRIVING, PARKING, DUMPING, STOCKPILING AND/OR STORAGE OF VEHICLES, EQUIPMENT, SUPPLIES, MATERIALS OR DEBRIS ON TOP THE ROOT ZONES AND/OR WITHIN THE DRIPLINE OF EXISTING TREES OR OTHER PLANT MATERIAL TO REMAIN IS STRICTLY PROHIBITED.
8. PLANT QUANTITIES ON PLANT LIST INTENDED TO BE A GUIDE. ALL QUANTITIES SHALL BE CHECKED AND VERIFIED ON PLANTING PLAN. ANY DISCREPANCIES SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT.
9. ANY DEVIATIONS FROM OR MODIFICATIONS TO THIS PLAN SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
10. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT UPON DELIVERY OF PLANT MATERIAL TO THE SITE. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL THAT DOESN'T MEET STANDARDS OR SPECIFICATIONS OF THE PROJECT.
11. ALL PLANT MATERIAL TO BE INSTALLED PER THE PLANTING DETAILS PROVIDED ON THIS PLAN SET.
12. ALL BED EDGES TO BE WELL SHAPED, SPADE CUT, WITH LINES AND CURVES AS SHOWN ON THIS PLAN SET.
13. ALL PLANTING BEDS TO BE PREPARED WITH PLANTING MIX: 50% TOPSOIL, 50% SOIL AMENDMENTS (3 PARTS PEATMOSS, 1 PART COMPOST, 1 PART SAND).
14. ALL PARKING LOT ISLANDS SHALL BE BACKFILLED WITH THE FOLLOWING: 2' OF BLENDED GARDEN SOIL MIX (60% TOPSOIL, 30% COMPOST, 10% SAND) OR 6" OF ONE STEP BY MIDWEST TRADING, TOP DRESSED AND TILLED INTO 18" OF TOPSOIL.
15. ALL PARKING LOT ISLANDS SHALL BE BACKFILLED WITH THE FOLLOWING: 2' OF BLENDED GARDEN SOIL MIX (60% TOPSOIL, 30% COMPOST, 10% SAND) OR 6" OF ONE STEP BY MIDWEST TRADING, TOP DRESSED AND TILLED INTO 18" OF TOPSOIL.
16. ALL PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE FROM SUBSTANTIAL COMPLETION AS DETERMINED BY THE LANDSCAPE ARCHITECT, AND SHALL BE REPLACED SHOULD IT DIE WITHIN THAT PERIOD.
17. PROTECT STRUCTURES, SIDEWALKS, PAVEMENTS AND UTILITIES TO REMAIN FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUTS AND OTHER HAZARDS CAUSED BY SITE IMPROVEMENT OPERATIONS.
18. ALL LAWN AREAS TO BE SEEDED WITH STANDARD TURF GRASS SEED AND COVERED WITH EROSION CONTROL BLANKET. UNLESS OTHERWISE SPECIFIED ON THE PLAN.
19. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, EXCLUDING SHRUB BEDS, TO BE RESTORED WITH TURF GRASS SEED AND COVERED WITH AN EROSION CONTROL BLANKET.
20. THE CONTRACTOR AT ALL TIMES SHALL KEEP THE PREMISES ON WHICH WORK IS BEING DONE, CLEAR OF RUBBISH AND DEBRIS. ALL PAVEMENT AND DEBRIS REMOVED FROM THE SITE SHALL BE DISPOSED OF LEGALLY.
21. ALL WORK AND OPERATIONS SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.



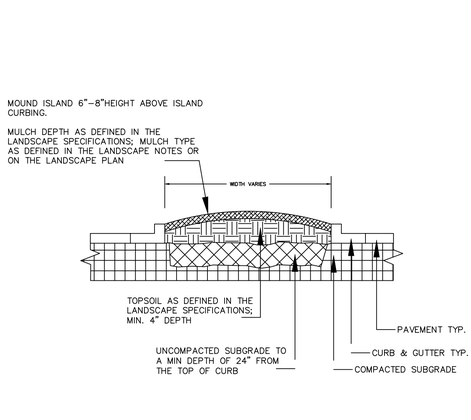
CONIFEROUS TREE PLANTING DETAILS

TYPICAL INSTALLATION – 6' 6" (200 CM) OR LESS



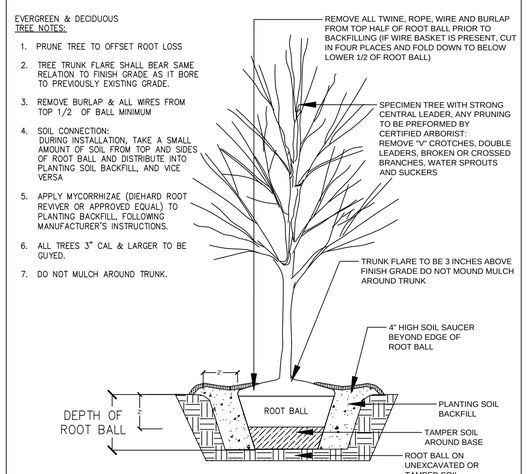
SHRUB AND PLANTING DETAIL

TYPICAL INSTALLATION



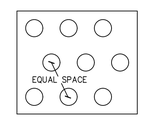
PARKING ISLAND DETAIL

SCALE: NO SCALE



SHADE TREE

TYPICAL INSTALLATION – 3" (75 MM) CALIPER OR LESS



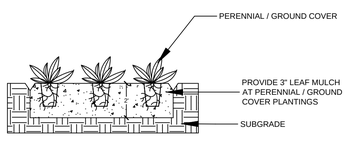
NOTE:
ALL GROUND COVER / PERENNIALS / ANNUAL FLOWERS SHELL BE PLANT USING TRIANGULAR SPACING (STAGGERED ROWS). SEE PLANTING LIST FOR SPECIFIC PLANT SPACING FOR EACH PLANT TYPE.

THE SPACING BETWEEN ADJACENT PLANTS WITH DIFFERENT ON CENTER SPACING REQUIREMENTS WILL BE THE SUM OF HALF THE ON CENTER DISTANCE FOR BOTH PLANTS.

TYPICAL SPACING:
GROUND COVER: 6"-12" ON CENTER
PERENNIALS: 12" -18" ON CENTER
ANNUAL FLOWERS: 6"- 12" ON CENTER

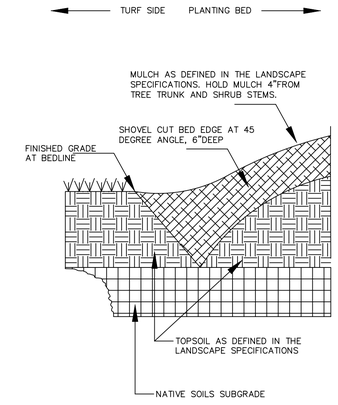
DETAILS TRIANGULAR SPACING

TYPICAL INSTALLATION



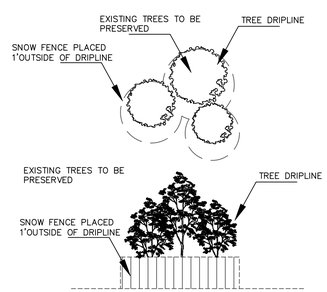
PERENNIAL PLANTING DETAILS

TYPICAL INSTALLATION



SPADED PLANTING BED EDGE DETAIL

SCALE: NO SCALE



TREE FENCING DETAIL

SCALE: NO SCALE

THE BARN
The Barn Group Inc.
237 West Main St.
Barrington IL. 60010
847.658.3883
www.barnlandscape.com

Designed By: Dinka Petrova
Drawn By: Dinka Petrova
Project Date: 05/28/2026
REVIEW

Client: RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
Project Name: SITUATION

© 2026 The Barn Group Inc.

L1.0















ENGINEERING PLANS FOR
LOT 2 OF THE CRYSTAL LAKE BUSINESS CENTER
CRYSTAL LAKE, ILLINOIS

INDEX OF SHEETS:

1. COVER SHEET
2. GENERAL NOTES
3. STORM WATER PREVENTION PROTECTION PLAN (S.W.P.P.P.)
4. EXISTING CONDITIONS & REMOVAL PLAN
5. OVERALL SITE PLAN
6. UTILITY PLAN
7. GRADING PLAN
8. CONSTRUCTION DETAILS (1 OF 3)
9. CONSTRUCTION DETAILS (2 OF 3)
10. CONSTRUCTION DETAILS (3 OF 3)

CONTRACTORS NOTES:

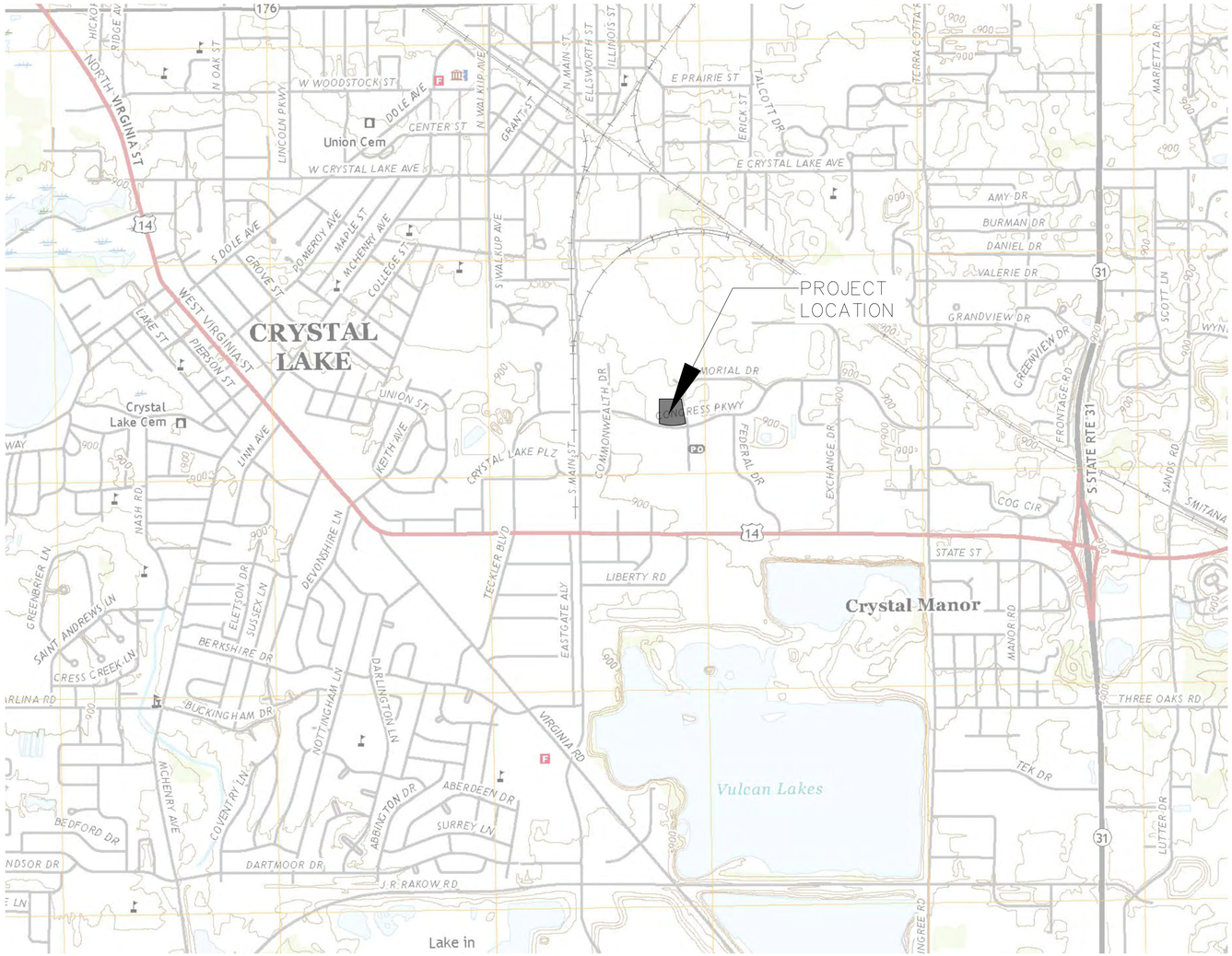
THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES.

EXISTING UTILITIES TO BE UNCOVERED AND VERIFIED FOR DEPTH PRIOR TO ANY TRENCHING, SETTING OF GRADES OR DRILLING TO AVOID DAMAGE TO EXISTING PIPES.

SCHMITT ENGINEERING AND ASSOC. INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITIES, OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT THE EXPRESSED WRITTEN CONSENT OF SCHMITT ENGINEERING & ASSOC. INC.

IDOT TRAFFIC CONTROL STANDARD = 701011-04



GENERAL LEGEND	
○	MONUMENT
⟿	PROPOSED FLOW DIRECTION
+885.52	EXISTING GRADE
+885.8	PROPOSED GRADE
○□	LIGHT POLE
●—	UTILITY POLE
UE	EXISTING UNDERGROUND ELECTRIC UTILITY
UE	PROPOSED UNDERGROUND ELECTRIC UTILITY
OE	EXISTING OVERHEAD ELECTRIC UTILITY
OE	PROPOSED OVERHEAD ELECTRIC UTILITY
◑	DOWNGUY
UT	EXISTING FIBER UTILITY
UT	PROPOSED FIBER UTILITY
T	TELECOMMUNICATION CONNECTION
AC	AIR CONDITIONING UNIT
GV	GAS VALVE
GAS	EXISTING GAS UTILITY
GAS	PROPOSED GAS UTILITY
◁	FLARED END SECTION
●	STORM INLET
▭	STORM INLET
◉	STORM MANHOLE
	EXISTING STORM SEWER UTILITY
	PROPOSED STORM SEWER UTILITY
◉	SANITARY MANHOLE
	EXISTING SANITARY SEWER UTILITY
	PROPOSED SANITARY SEWER UTILITY
WS	WATER SERVICE BOX
WV	WATER VALVE
W	EXISTING WATER UTILITY
W	PROPOSED WATER UTILITY
	FIRE HYDRANT
	EXISTING FIRE HYDRANT
W	WATER CONNECTION
X	EXISTING FENCE
X	PROPOSED FENCE
DS	DOWNSPOUT
GEN	GENERATOR
M.U.E.	MUNICIPAL UTILITY EASEMENT
B.S.L.	BUILDING SETBACK LINE
D.E.	DRAINAGE EASEMENT
V.I.F.	VERIFY IN FIELD

UTILITIES AND MUNICIPAL CONTRACTS:

CITY OF CRYSTAL LAKE PUBLIC WORKS – CRYSTALLAKE.ORG
PHONE: (815) 356 – 3614
AT&T – WWW.ATT.COM
CUSTOMER SERVICE PHONE: (800) 288–2020
REPAIR: (888) 611–4466

COMCAST – WWW.COMCAST.COM
PHONE: 800–COMCAST

COMED – WWW.EXELONCORP.COM
PHONE: 800–EDISON–1

NICOR – WWW.NICOR.COM
EMERGENCY PHONE: (888) 642–6748

CALL "J.U.L.I.E." @ 1(800) 892–0123 BEFORE DIGGING

SURVEY BENCHMARK:

LOCAL BENCHMARK
MCHENRY COUNTY DESIGNATION (NH0146) CRYSTAL AZ MK
USGS QUAD CRYSTAL LAKE, LOCATED ON STATE ROUTE 47 JUST SOUTH OF FREEMAN ROAD
LAT: 42°13'54"N LONG: 88°18'55"W
ELEVATION: 909.41 (NAVD88)

SITE BENCHMARK
ARROW BOLT ON FIRE HYDRANT ALONG MEMORIAL DRIVE
ELEVATION: 910.98 (NAVD88)

TOPOGRAPHY
TOPOGRAPHY TAKE FROM ELEVATIONS SHOT BY VANDERSTAPPEN LAND SURVEYING ON 02/26/2026

STORMWATER CONTROL STATEMENT:

I, ALBERT M. SCHMITT, OWNER OF SCHMITT ENGINEERING & ASSOCIATES, INC., LIC. NO. 062-046261, PROFESSIONAL ENGINEER OF THE STATE OF ILLINOIS, DO HEREBY CERTIFY THAT TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY CONSTRUCTION OF THIS PROJECT OR ANY PART THEREOF, OR, IF SUCH SURFACE WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR COLLECTION AND DIVERSION OF SURFACE WATERS INTO PUBLIC AREAS, OR DRAINS WHICH THE PROJECT OWNER HAS A RIGHT TO USE, AND THAT SUCH SURFACE WATERS WILL BE PLANNED FOR IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES SO AS TO REDUCE THE LIKELIHOOD OF DAMAGE TO THE ADJOINING PROPERTY BECAUSE OF THE CONSTRUCTION OF THE PROJECT. THE DETENTION BASIN AND BERM DO NOT MEET THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES OFFICE OF WATER RESOURCES (IDNR-OWR) DEFINITION OF A DAM. FURTHERMORE, THESE DEVELOPMENT PLANS HAVE MET THE MINIMUM REQUIREMENTS OF THE STORM WATER MANAGEMENT ORDINANCE OF McHENRY COUNTY WITH LATEST AMENDMENTS SEPTEMBER 15, 2020.

CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8603

REVISIONS

NO.	
05/20/2026	CURSORY P.U.D. REVIEW COMMENTS-05/08/2026

LICENSED PROFESSIONAL ENGINEER
ALBERT M SCHMITT
062-046261
ILLINOIS
EXPIRES 11-30-2027

RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

COVER SHEET

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7610 Fax (815) 337-7612
www.schmittengineering.com

Designed By	ACT
Checked By	AMS
Scale	1" = 1000 ft.
Date	04/10/2026
Job Number	250907
Sheet Number	1 of 10

Y:\PLATS\2025\250907-290 E Congress John Konsor_1-\250907.dwg-COVER--1-2/11/2026 3:04 PM

GE-02a

GENERAL SITE-WORK:

1. 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 Community Development Department at 815-356-3605).
2. 24-hour Emergency contact numbers shall be provided to City Staff at the Pre-Construction meeting.
3. 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 written permission from the City Engineer. The owner is responsible for the City Inspector cost of overtime inspection beyond the normal eight (8) hour day, including weekends and holidays.
4. 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.
5. J.U.L.I.E. shall be contacted for utility locations on-site and in the adjacent rights-of-way.
6. 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.
7. Maintain access to adjacent streets during construction. No closing of streets unless approval is first obtained from the agency with jurisdiction (City of Crystal Lake, McHenry County Department of Transportation, Illinois Department of Transportation, etc).
8. 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 City Engineer.
9. 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.
10. The Contractor shall be responsible for obtaining all required permits for construction prior to commencement 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.

GRADING:

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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 compaction reports from a geotechnical engineer and as-built plans to the Engineering Division for any borrow pit area.
7. Backfill shall be monitored by a geotechnical engineer on-site with compaction reports forwarded to the Engineering Division for review.
8. 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.
9. 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 (815-356-3614). Only the City of Crystal Lake Water Division may operate valves and hydrants.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02a	City of Crystal Lake Illinois
2.		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

GE-02b

TOPSOIL STOCKPILING:

1. Location of any on-site topsoil stockpiles shall be identified on the approved plans with silt fence installed around the perimeter of the stockpile.
2. Topsoil stockpiled for future use shall be relatively free from large roots, sticks, weeds, brush, stones larger than one (1) inch diameter, or other litter and waste products including other extraneous materials not conducive to plant growth.
3. 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.
4. If a stockpile is to remain in place for more than (14) calendar days, it is required that the stockpile meet the requirements as outlined in section 595 of the City Code.

UNDERGROUND UTILITY:

1. The Contractor shall coordinate water main, water service, sanitary and storm sewer inspections and testing with the Community Development at least 24 hours in advance.
2. All main line sanitary shall be cleaned and televised (provide DVD to the City's Engineering Division).
3. All manhole or valve covers shall be imprinted "City of Crystal Lake Sanitary", or "City of Crystal Lake Storm", or "City of Crystal Lake Water" as directed by the City.
4. Reference the latest edition of the Standard Specifications for Water and Sewer Main Construction in Illinois.
5. Existing manholes to be circular cored and booted.

EROSION CONTROL:

1. 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.
2. All slopes 4:1 or steeper shall be sodded or blankated immediately after mass earthwork.
3. All overland flow routes to be stabilized by sod or blanket.
4. Erosion control measures to be inspected and approved by City Engineering Division prior to additional work on site.
5. Continuous monitoring of erosion control measures is required. Maintain records of weekly reports per the City of Crystal Lake Stormwater Ordinance.
6. 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.
7. All storm sewer catch basins, sumps and/or retention basins provided 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.
8. Rip-rap material RR 2 (6") - RR4 (16") shall be in accordance with Article 281
9. Projects of 1 Acre or greater must obtain an NPDES permit prior to commencement of any construction activity.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02b	City of Crystal Lake Illinois
2. 02/25/2020		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

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GE-02c

SANITARY SEWER:

1. 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 Sewer-Tap and hub-wye or hub-tee saddle.
2. 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.
3. 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 26.
4. 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.
5. A thicker walled pipe such as SDR 18 may be specified by the engineer depending on design and/or field conditions.
6. PVC plastic sewer pipe and fittings of sizes 18-inch through 36-inch shall conform to the latest revised specification requirements of ASTM F679 or polyvinyl chloride (PVC) large diameter ribbed gravity sewer pipe and fittings, with integral bell gasketed joints and elastomeric gaskets to form a watertight seal conforming to the latest revised specification requirements of ASTM F477 or ASTM D3212.
7. 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 between manholes.
8. The handling and installation of pipe, assembly or joints, and manhole connections shall be in accordance with the manufacturer's recommendations.
9. Gasket-type waterstop collars consist of a neoprene collar and a stainless steel band or other approved manhole waterstop shall be installed wherever the pipe passes through the manhole walls to provide a watertight joint to prohibit infiltration into the sewer system.
10. PVC pipe shall be installed in accordance with the latest revised specification requirements of ASTM D2321 using either compacted class I or class II granular embedment 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 of the pipe's original internal diameter.
11. 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 embedment and backfill material, and retest for deflection.
12. The Contractor shall subject all sanitary sewers, including service lines, to an air test. Air testing shall be performed in accordance with the latest Standard Specifications for Water and Sewer.
13. The Contractor shall subject all newly constructed sanitary manholes to the Negative Pressure (Vacuum) Test in accordance with ASTM C 1244.The Contractor shall also televise all public sanitary sewers. Televising of sanitary sewer, cost for televising, and testing shall be the responsibility of the Contractor.
14. Cast Iron Soil Pipe: service weight cast iron soil pipe and fittings conforming C.I.S.P.I. Specification HS-67 with compression type rubber gasket joints conforming to ASTM specification C564, or other suitable materials approved by the City Engineer.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02c	City of Crystal Lake Illinois
2. 01/25/2021 KL Vacuum Test Note 13		Date: 01/30/15	
3.		Drawn DD / Checked AW	
4.			

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GE-02d

WATER MAIN:

1. Water main shall be Ductile Iron.
   a) Ductile Iron water main shall be Class 52 conforming to ANSI/AWWA C151/A21.51-09.
   b) Ductile iron fittings shall conform to ANSI/AWWA C153/A21.53 with mechanical joint gaskets.
2. All bolted connections shall be torqued to the manufacturer's specification. The Contractor shall verify the manufacturer's specification with an approved torque wrench.
3. Thrust blocking or Mega-Lugs with Mega-Bond coating or pre-approved equal shall be installed on water mains at all bends, tees, elbows, etc. except as noted below.
4. Thrust blocks not permitted with 45 degree vertical bends in water main (these shall be restrained with Mega-Lug or pre-approved equal.
5. Ductile iron pipe shall be encased in polyethylene and shall conform with ANSI/AWWA C105/A21.10 - 10 and ASTM A674-10.
6. Minimum cover from finished grade to top of water main shall be six (6) feet; Maximum cover shall be eight (8) feet.
7. Water Main Taps: An Illinois licensed plumber is required for any water main tap.
8. All water mains shall be subjected to a 2 hour pressure and leakage test by the Contractor in accordance with City Detail UW-09A and UW-09B. Water mains shall be chlorinated in accordance with City Detail UW-09A.
9. 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 drawing.
10. For repairs to existing PVC watermains, see details UW-12 and UW-13

PAVING:

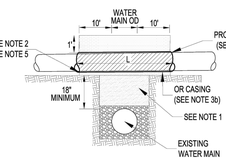
1. All subgrades and bases shall be proof-rolled and approved by the Engineering Division prior to base or binder installation.
2. Subgrade and proposed pavements shall be finished by the Excavation Contractor to within 0.1 foot plus or minus, of plan elevation.
3. The Paving Contractor shall ensure that the subgrade has been properly prepared and that the finished top of subgrade elevation has been graded within the tolerances 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.
4. 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 walks or pedestrian paths intersect curb lines at street intersections and other locations as directed.
5. ¾ inch thick premolded fiber expansion joints with two (2) No. 4 plain round steel dowel bars 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.
6. ¾ inch thick fiber expansion joints shall be used in every case where the sidewalk coincides with the curb and gutter. Contraction 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.
7. 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.
8. Sidewalks (where required) shall be of the thickness and dimensions as shown in the construction plans. All sidewalk concrete shall be a minimum of 6.1 bag mix (or IDOT class SI concrete) and shall develop a minimum of 3,500 psi compressive strength at fourteen (14) days. Contraction joints shall be set at five (5) foot centers, and one-half inch (½ inch) premolded fiber expansion joints at fifty (50) 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).

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD NOTES AND SPECIFICATIONS	GE-02d	City of Crystal Lake Illinois
2. KL 01/25/2021 Torque Specification		Date: 01/30/15	
3. 02/06/2023 JRG - Update Water Main Note 8		Drawn DD / Checked AW	
4. 07/14/2023 JRG - Update Water Main Notes 1, 5, 10			

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UG-04a

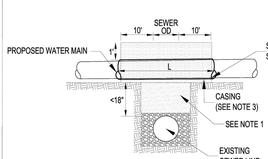
PROPOSED SEWER LINE ABOVE EXISTING WATER MAIN WITH 18" MINIMUM SEPARATION.



NOTES

1. IF THE SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
2. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF THE WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".
3a. CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR
3b. USE CASING LENGTH "L" FOR PROPOSED SEWER AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
5. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

PROPOSED WATER MAIN ABOVE EXISTING SEWER LINE WITH LESS THAN 18" SEPARATION.



NOTES

1. IF THE SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
2. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF THE WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".
3. USE A CASING PIPE FOR PROPOSED WATER MAIN AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS.
4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
5. PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT OF WATER MAIN TRENCH.

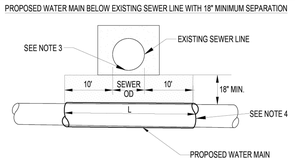
ADDITIONAL NOTES:
"THE REQUIREMENTS ON THIS DETAIL ARE TAKEN FROM THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, CURRENT EDITION
CLASS IV MATERIAL TO BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY
OUTER DIAMETER = OD

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	WATER AND SEWER SEPARATION REQUIREMENTS	UG-04a	City of Crystal Lake Illinois
2. 8/18/2023 JRG - SEWER AND WATER 2014 UPDATE		Date: 04/15/2007	
3.		Drawn EM / Checked AW	
4.			

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UG-04b

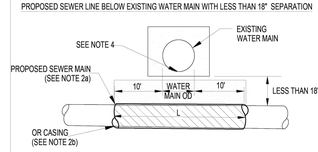
PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH 18" MINIMUM SEPARATION



NOTES

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER THE TOP OF PROPOSED WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".
2. IF THE SELECT GRANULAR BACKFILL EXISTS; REMOVE WITHIN WIDTH OF PROPOSED SEWER TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
3. PROVIDE ADEQUATE SUPPORT FOR EXISTING SEWER LINE TO PREVENT DAMAGE DUE TO SETTLEMENT.
4. USE A CASING PIPE LENGTH "L" FOR PROPOSED WATER MAIN AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS.

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH LESS THAN 18" SEPARATION



NOTES

1. OMIT SELECT GRANULAR CRADLE AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF PROPOSED SEWER LINE AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT OVER LENGTH "L".
2a. CONSTRUCT "L" FEET OF PROPOSED SEWER OF WATER MAIN MATERIAL AND PRESSURE TEST, OR
2b. CONSTRUCT "L" FEET OF CASING FOR PROPOSED SEWER AND SEAL ENDS OF CASING. SEE UW-14 FOR CASING DETAILS OR
3. POINT LOADS SHALL NOT BE ALLOWED BETWEEN SEWER OR SEWER CASING AND WATER MAIN.
4. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

ADDITIONAL NOTES

"THE REQUIREMENTS ON THIS DETAIL ARE TAKEN FROM THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (SEE PAGES 160-173)

CLASS IV MATERIALS SHALL BE COMPACTED TO 95% OF STANDARDS PROCTOR DENSITY.

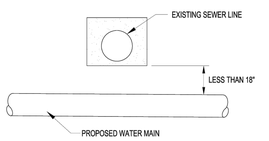
OD = OUTSIDE DIAMETER

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	WATER AND SEWER SEPARATION REQUIREMENTS	UG-04b	City of Crystal Lake Illinois
2. 8/30/2021 KL - SEWER AND WATER 2014 UPDATE		Date: 04/15/2007	
3.		Drawn EM / Checked AW	
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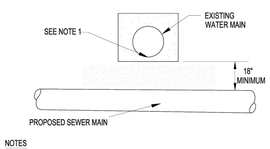
UG-04c

PROPOSED WATER MAIN BELOW EXISTING SEWER LINE WITH < 18" MIN. SEPARATION



NOT ALLOWED: MUST MAINTAIN 18" VERTICAL SEPARATION

PROPOSED SEWER LINE BELOW EXISTING WATER MAIN WITH 18" MINIMUM SEPARATION



NOTES

1. PROVIDE ADEQUATE SUPPORT FOR EXISTING WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT OF SEWER TRENCH.

ADDITIONAL NOTES:

"THE REQUIREMENTS ON THIS DETAIL ARE TAKEN FROM THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (SEE PAGES 160-173)

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	WATER AND SEWER SEPARATION REQUIREMENTS	UG-04c	City of Crystal Lake Illinois
2. 8/18/2023 JRG - SEWER AND WATER 2014 UPDATE		Date: 04/15/2007	
3.		Drawn EM / Checked AW	
4.			

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UW-09A

WATERMAIN TESTING AND CHLORINATION PROCEDURE

STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS (LATEST EDITION) AND AWWA STANDARD C600-17 SHALL APPLY ALONG WITH THE FOLLOWING:

2 HOUR PRESSURE AND LEAKAGE TEST

1. PRETEST: THE CONTRACTOR SHALL PROVIDE A MAP OF THE FACILITIES (WATER MAINS, HYDRANTS, VALVES, ETC.) TO BE INCLUDED DURING THE TEST TO THE ENGINEER. SEE UW-09B WORKSHEET. ALL FIRE HYDRANT AUXILIARY VALVES SHALL BE OPENED SO TESTING IS PERFORMED AGAINST FIRE HYDRANTS. THE ENGINEER WILL COORDINATE WITH THE WATER DEPARTMENT TO SCHEDULE OPENING OF CITY VALVES AND FILLING OF NEW WATER MAIN A MINIMUM OF 48 HOURS IN ADVANCE OF THE TEST. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES ON EXISTING CITY WATER MAIN WITHOUT WRITTEN PERMISSION.
2. HYDROSTATIC PRESSURE TESTING: ALL TESTING EQUIPMENT AND LABOR NECESSARY TO SETUP AND RUN THE TEST SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE:
   A) PRESSURE GAUGE LOCATED AT HIGHEST POINT OF ELEVATION OF THE WATER MAIN
   B) PUMP
   C) TANK
   D) FITTINGS FOR TESTING EQUIPMENT TO BE CONNECTED TO WATER MAIN
   E) ACCURATE WATER VOLUME MEASURING DEVICE (CALIBRATED VOLUMETRIC METER OR 1 GALLON GRADUATED CYLINDER IN OUNCES)
3. AIR REMOVAL: AFTER FILLING THE WATERMAIN, AIR SHALL BE EXPELLED BY FLUSHING WATER OUT OF THE MAIN AT FIRE HYDRANTS OR CORPORATION STOPS LOCATED AT HIGH POINTS ALONG THE WATER MAIN.
4. PRESSURIZATION: AFTER ALL AIR HAS BEEN REMOVED, THE MAIN SHOULD BE PRESSURIZED TO MINIMUM 150 PSI BY PUMPING ADDITIONAL WATER INTO THE WATER MAIN.
5. TWO HOUR TEST: ONCE TESTING PRESSURE IS OBTAINED, THE PUMP SHOULD BE SHUT OFF AND TIMING STARTED. THE PRESSURE GAUGE SHOULD BE CHECKED INTERMITTENTLY AND THE PRESSURE READING RECORDED AFTER TWO HOURS. IF THE PRESSURE READING VARIES MORE THAN +/- 5 PSI FROM THE INITIAL PRESSURE, THE TEST FAILS. THE LEAK SHALL BE FOUND AND ADDRESSED PRIOR TO RETESTING.
6. MAKE UP VOLUME: IF THE PRESSURE IS MAINTAINED WITHIN +/- 5 PSI FOR THE TWO HOUR TEST, THE MAKE-UP VOLUME SHALL BE DETERMINED BY PUMPING WATER BACK INTO THE WATER MAIN TO REACH THE INITIAL TEST PRESSURE. THIS WILL NORMALLY BE DONE BY EXCEEDING THE TEST PRESSURE, AND USING THE BLEED OFF VALVE TO DROP THE PRESSURE TO THE INITIAL TEST PRESSURE. ONCE THE INITIAL TEST PRESSURE HAS BEEN REACHED, THE BLEED OFF VALVE SHALL BE OPENED AND WATER THAT LEAVES THE SYSTEM SHALL BE COLLECTED IN THE VOLUME MEASURING DEVICE. ONCE THE GAUGE REACHES THE FINAL TWO HOUR TEST PRESSURE, THE VOLUME OF WATER COLLECTED SHALL BE MEASURED.
7. ALLOWABLE MAKE-UP VOLUME: THE MEASURED VOLUME OF "MAKE UP" WATER SHALL BE COMPARED TO THE ALLOWABLE LEAKAGE. THE ALLOWABLE LEAKAGE SHALL BE CALCULATED BY THE ENGINEER USING THE FORMULA ABOVE. IF THE WATER COLLECTED IS LESS THAN THE ALLOWABLE MAKE UP VOLUME, THE TEST PASSES. IF THE WATER COLLECTED IS MORE THAN THE ALLOWABLE MAKE UP VOLUME, THE TEST FAILS. THE LEAK SHALL BE FOUND AND ADDRESSED PRIOR TO RETESTING.
8. FINAL VALVE CHECK: PRIOR TO BLEEDING OFF THE PRESSURE, ALL HYDRANTS ON THE TESTING MAP SHALL BE SLOWLY OPENED TO ENSURE THAT THEY HAD PRESSURE AGAINST THEM DURING TESTING. THE PRESSURE GAUGE SHOULD DROP AS THE HYDRANTS ARE OPENED ENSURING THAT ALL VALVES IN THE SYSTEM WERE PROPERLY OPENED/CLOSED DURING TESTING.
9. IF THE WATER MAIN HAS PASSED THE PRESSURE TEST, THE PRESSURE SHALL BE REDUCED TO THE CITY'S SYSTEM PRESSURE.

CHLORINATION

1. PRE-CHLORINATION: THE ENGINEER WILL COORDINATE WITH THE WATER DEPARTMENT TO SCHEDULE OPENING OF CITY VALVES FOR CHLORINATION A MINIMUM OF 48 HOURS IN ADVANCE OF THE CHLORINATION. THE FOLLOWING METHODS OF CHLORINE APPLICATION ARE APPROVED BY THE CITY
   A) LIQUID CHLORINE WITH CHLORINATION DEVICE AND BACKFLOW PREVENTER
   B) CHLORINE BEARING COMPOUNDS IN WATER
   C) TABLET DISINFECTION
2. SAMPLING LOCATIONS: THE ENGINEER SHALL DETERMINE THE LOCATION AND QUANTITY OF SAMPLING LOCATIONS. MAXIMUM SPACING BETWEEN SAMPLES SHALL BE 1,200 FEET. THE CHLORINE SOURCE AND ALL DEAD ENDS SHALL BE SAMPLED. SEE UW-09B WORKSHEET.
3. CHLORINATION: THE INITIAL CHLORINE CONCENTRATION SHALL BE 50 mg/L WITH A MINIMUM 24 HOUR RESIDUAL OF 25 mg/L. ALL NEW VALVES AND HYDRANTS SHALL BE OPERATED WHILE THE LINE IS BEING CHLORINATED. THE FINAL FLUSHING RESIDUAL IN THE NEW CHLORINATED LINES SHALL BE BETWEEN 0.2-2.0 mg/L.
4. TESTING: ALL WATER SAMPLES SHALL BE COLLECTED ON TWO CONSECUTIVE DAYS AND PASS BACTERIOLOGICAL TEST RESULTS FROM A CERTIFIED LABORATORY. TEST RESULTS SHALL BE EMAILED TO THE CITY OF CRYSTAL LAKE SO THE IEPA PERMIT APPLICATION CAN BE SUBMITTED. IN THE EVENT THAT THE FIRST SET OF SAMPLES TAKEN TWO CONSECUTIVE DAYS APART FAIL TO PASS, ANOTHER SET OF SAMPLES ME BE TAKEN TWO DAYS APART. IF THE SECONDS SET FAILS TO PASS TESTING, THE PROCEDURE MUST BE REPEATED WITH THE WATER MAIN BEING RECHLORINATED, REFLUSHED AND RESAMPLED.
5. MAINTAIN PRESSURE: IMMEDIATELY AFTER THE SECOND DAY SAMPLE HAS BEEN TAKEN, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A CERTIFIED WATER VALVE JUMPER (SEE UW-09) TO MAINTAIN PRESSURE ON THE NEW WATER MAIN UNTIL THE IEPA PERMIT IS RECEIVED. AFTER RECEIVING THE IEPA OPERATING PERMIT, THE CITY OF CRYSTAL LAKE SHALL OPEN THE VALVE BETWEEN THE NEW AND EXISTING WATERMAIN AND THE WATER VALVE JUMPER MAY BE REMOVED. WATER VALVE JUMPERS ARE AVAILABLE FOR RENT AT THE CITY OF CRYSTAL LAKE WATER DEPARTMENT. IF WATER IN EXCESS OF THE ALLOWABLE LEAKAGE ENTERS THE NEW WATER MAIN THROUGH THE WATER VALVE JUMPER ,THE CONTRACTOR SHALL LOCATE THE LEAK. IF THE NEW WATER MAIN MUST BE DEPRESSURIZED TO FIX A LEAK, THE SYSTEM SHALL BE RETESTED, RECHLORINATED, REFLUSHED, AND RESAMPLED.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	WATER MAIN PRESSURE TEST AND CHLORINATION PROCEDURE	UW-09A	City of Crystal Lake Illinois
2. 8/18/2023 - JRG Leakage formula, procedure, delete 24 hour test		Date: 09/20/2012	
3.		Drawn DD / Checked VR	
4.			

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UW-08

CITY OF CRYSTAL LAKE WATER MAIN CHLORINATION SPECIFICATIONS:

1. DISINFECTION OF WATER MAINS SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION, CURRENT EDITION
2. THE CITY ENGINEERING DIVISION AND WATER DIVISION SHALL BE NOTIFIED 48 HOURS IN ADVANCE FOR SCHEDULING OF ANY TESTING, CHLORINATING, FLUSHING, OR SAMPLING.
3. ONLY CITY WATER DIVISION PERSONNEL MAY OPERATE WATER VALVES ON LIVE MAINS.
4. A WATER VALVE JUMPER IS REQUIRED TO MAINTAIN PRESSURE ON THE CHLORINATED LINES DURING THE SAMPLING PROCEDURE. FOR PROPER INSTALLATION AND REQUIREMENTS SEE THE STANDARD WATER VALVE JUMPER DETAIL UW-05.
5. WATER MAINS SHALL BE FLUSHED WITH A MINIMUM VELOCITY OF 2.5 FPS.
6. THE INITIAL CHLORINE CONCENTRATION SHALL BE 50 mg/L WITH A MINIMUM 24 HOUR RESIDUAL OF 25 mg/L.
7. THE METHOD OF CHLORINE APPLICATION SHALL BE APPROVED BY THE CITY:
   a. LIQUID CHLORINE W/CHLORINATING DEVICE WITH BACKFLOW PREVENTER.
   b. CHLORINE BEARING COMPOUNDS IN WATER.
   c. TABLET DISINFECTION.
8. ALL NEW VALVES AND HYDRANTS SHALL BE OPERATED WHILE LINE IS BEING CHLORINATED.
9. THE CITY ENGINEERING DIVISION SHALL DETERMINE LOCATION AND QUANTITY OF CORPORATION STOPS FOR FLUSHING AND CHLORINATING. MAXIMUM SPACING BETWEEN SAMPLES SHALL BE 1,200 FEET. THE CHLORINE SOURCE AND ALL DEAD ENDS SHALL BE SAMPLED.
10. THE FINAL FLUSHING RESIDUAL IN THE NEW CHLORINATED LINES SHALL BE BETWEEN 0.2 AND 2.0 mg/L.
11. ALL WATER SAMPLES SHALL BE COLLECTED ON TWO (2) CONSECUTIVE DAYS AND PASS BACTERIOLOGICAL TEST RESULTS. IN THE EVENT THAT THE FIRST SET OF SAMPLES TAKEN TWO (2) CONSECUTIVE DAYS APART FAIL TO PASS, ANOTHER SET OF SAMPLES MAY BE TAKEN TWO (2) DAYS APART. (PER STATE SPECS). IF THE SECOND SET FAILS TO PASS TESTING, THEN THE PROCEDURE MUST BE REPEATED WITH THE MAIN BEING RECHLORINATED, REFLUSHED, AND RESAMPLED.
12. IF THE WATER MAIN FALLS BELOW 20 PSI AFTER CHLORINATION, THE LINE SHALL BE RESAMPLED ON TWO (2) CONSECUTIVE DAYS AND PASS BACTERIOLOGICAL TEST RESULTS.
13. STATE CERTIFIED LAB MUST BE USED FOR SAMPLES.

CHLORINE REQUIREMENTS TO PRODUCE 50 mg/L CONCENTRATION IN 100 FEET OF PIPE-BY DIAMETER

PIPE SIZE IN INCHES	100% CHLORINE, LB	1% CHLORINE SOLUTION, GAL'S
4	0.027	0.33
6	0.061	0.73
8	0.109	1.30
10	0.170	2.04
12	0.240	2.88

NUMBER OF 5-GRAIN HYPOCHLORITE TABLETS REQUIRED FOR A DOSAGE OF 50mg/L PER LENGTH OF PIPE SECTION

LENGTH OF PIPE SECTION IN FEET

PIPE SIZE IN INCHES	UP TO 13	18	20	30	40
2	1	1	1	1	1
4	1	1	2	2	2
6	2	2	3	3	4
8	2	3	5	5	6
10	3	5	7	7	9
12	5	6	10	10	14

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	CHLORINATION SPECIFICATIONS	UW-08	City of Crystal Lake

EROSION CONTROL SPECIFICATIONS & NOTES:

This plan has been prepared to comply with the provisions of the NPDES Permit, which is issued by the Illinois Environmental Protection Agency for Storm water Discharges from Construction Site Activities.

SITE DESCRIPTION

a. The following is a description of the construction activity, which is the subject of this plan:

The proposed development consists of constructing a 24–unit apartment complex with detached garages, an asphalt driveway with curb and gutter, and a storm water management system. The construction activities include: grading, soil erosion and sedimentation control measures.

b. The following is a description of the intended sequence of major activities, which will disturb soils for major portions of the construction site such as site clearing, excavation and grading.

The sequence of the construction activities may be as follows:

1. Install silt (barrier filter) fence and stabilized construction entrance
2. Site clearing
3. Mass grading
4. Storm sewer, sanitary sewer and water main construction
5. Fine grade swales and place seed disturbed areas
6. Remove sediment from silt fences and traps as necessary
7. Stabilize erosion areas with seeding & silt fence as necessary

The soil erosion and sedimentation control items will be constructed as needed during the above construction activities.

c. The site contains approximately 2.13 acres. 2.00 acres of this site will be disturbed by construction activities.

d. The existing site is comprised of a one vacant lot. A residential house boarders the western property line. Commercial business parks border both the northern and western property lines. Memorial Drive is to the east and Congress Parkway is to the south.

e. This property is within the Poplar Creek Sub–Watershed and the Fox River Watershed.

2. CONTROLS

This plan addresses the various controls that will be implemented for each of the major construction activities described in 1b above. For each measure discussed, the contractors will be responsible for its implementation as indicated. The general contractor has signed the required certification on forms, which are attached to, and are a part of, this plan.

a) Erosion and Sediment Controls

I. STABILIZATION PRACTICES

Provided below is a description of interim and permanent stabilization practices, including site–specific scheduling of the implementation of the practices. Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized. Except as provided in 2.a (I) (A) and 2.b. stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 10 days after the construction activity in that portions of the site where construction activity will not occur for a period of 21 or more calendar days.

A. Where the initiation of stabilization measures by the 10th day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable thereafter.

The following interim and permanent stabilization practices, as a minimum will be implemented to stabilize the disturbed area of the site:
1. Permanent seeding
2. Temporary seeding, mulch, erosion mat, etc
3. Temporary Soil Stockpile – IUM–627
4. Temporary Concrete Washout – IUM–654BW
5. Temporary Construction Entrance – IUM–630A&B

EROSION CONTROL SPECIFICATIONS & NOTES (CONTINUED):

B. Erosion control structures must be inspected weekly and after every rainstorm of one–half inch of rainfall or greater. Any repairs or replacements needed to ensure adequate erosion control must be made immediately. Items D–I will be repeated for each phase.

Construction shall be scheduled in the following order:

1. Install construction access entrances and silt fencing as located on plan
2. Grade Site
3. Seed topsoil stockpiles
4. Rough grade roadways
5. Rough grade building pads and yards
6. Final grade areas that will not be disturbed by building construction. These areas will then be covered with topsoil, seeded and stabilized with excelsior blanket where directed on erosion control plan sheet.
7. Temporary seed any areas that cannot be permanently seeded, including building pads that will not commence foundation construction for more than 21 days.
8. Install storm sewers including filter fabric between frame and grate, and riprap at the downstream end of flared end sections
9. Building construction
10. Finalize roadway grading
11. Finalize grading around buildings, re–spread topsoil, spread seed, and put excelsior blanket down.
12. Proof roll road sub–base
13. Construct gravel road sub–base and base surface course
14. Place topsoil in all disturbed areas along the right–of–way and seed

Any situation of conduits, structures, or ditches shall be cleaned and maintained by the Contractor on a weekly basis, until the seeding has taken hold. All washouts, gullies, etc. will be re–graded and reseeded by the contractor, at the Contractor's expense. Sediment on public roads from the site shall not be flushed off with water.

The Contractor's responsibility for erosion control shall extend throughout the construction process. The Contractor shall be responsible for cleanup of paved surfaces within and adjacent to the project.

All erosion control practices shall be in compliance with the latest revision of the "Standard Specifications for Road and Bridge Construction", by the Illinois Department of Transportation and with the Illinois Environmental Protection Agency's "Illinois Urban Manual".

II. STRUCTURAL PRACTICES.

Provided below is a description of structural practices that will be implemented, to the degree attainable, to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed area of the site. The installation of these devices may be subject to Section 404 of the Clean Water Act.

1. Storm sewer system
2. Inlet protection using IUM Standard IUM–561C
3. Silt filter fence – M288–00

b. Stormwater Management

I. Provided below is a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.

The practices selected for implantation were determined on the basis of the technical guidance contained in IEPA's Standard Specifications for Soil Erosion and Sedimentation Control, and other ordinances listed in the Specifications. The stormwater pollutant control measures shall include:

1. Silt filter fence
2. Storm sewers
3. Inlet protection – IUM–561C

II. Velocity dissipation devices will be placed at discharge locations and along the length of any outfall channel as necessary to provide a non–erosive velocity flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions, such as the hydro period and hydrodynamics present prior to the initiation of construction activities).

Stormwater Management Control includes:

1. Inlet protection using IUM Standard IUM–561C

EROSION CONTROL SPECIFICATIONS & NOTES (CONTINUED):

c. Other Controls

I. Waste Disposal. The solid waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and disposed off–site by the contractor. The contractor is responsible to acquire any permit required for such disposal. Burning on the site will not be permitted. No solid materials, including building Materials, shall be discharged into Waters of the State, except as authorized by a Section 404 permit.

II. The provision of this plan shall ensure and demonstrate compliance with applicable State and/or local waste disposal, sanitary sewer or septic system regulations.

d. Approved State or Local Plans

The management practices, controls and other provisions contained in this plan are at least as protective as the requirements contained in the Illinois Environmental Protection Agency's Illinois Urban Manual, use latest version. Requirements specified in sediment and erosion control site plans or site permits or stormwater management or surface water resources are, upon submittal of an NOI to be authorized to discharge under this permit, incorporated by reference and are enforceable under this permit even if they are not specifically included in the plan.

3. MAINTENANCE

The following is a description of procedures that will be used to maintain, in good and effective operating conditions, vegetation, erosion and sediment control measures and other protective measures identified in this plan and Standard Specifications.

Vegetative or erosion control measures: The vegetative growth or temporary and permanent seeding, sodding, vegetative channels, vegetative filter, etc. shall be maintained periodically and supply adequate watering. The vegetative cover shall be reseeded as necessary.

Sedimentation basins/traps: The sediments shall be removed when the sediment occupies 40–50 percent of the total original capa/Village. In no case shall the sediment be built up to within 1 foot of the crest elevation. At this stage, the basin shall be cleaned out to restore its original volume. Sediment Basins shall be removed at end of construction; at the time the final surface course has been placed.

Silt filter fence: The damaged silt filter fence shall be restored to meet the Original Design Standards. Removed and replaced as needed.

Straw bale barrier filters: The straw bale barrier filter shall be inspected frequently and shall be repaired or removed and replaced as needed.

Riprap outlet protection: It shall be inspected after high flows for any scour beneath the riprap or for stones that have been dislodged. It shall be repaired immediately.

4. INSPECTIONS

Qualified personnel shall inspect disturbed areas of the construction site that have not been finally stabilized, structural control measures, and locations where vehicles enter or exit the site at least once every seven calendar days and within 24 hours of the end of a storm that is 0.50 inches or greater or equivalent snowfall.

a. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

b. Based on the results of the inspection, the description of potential pollutant sources identified in accordance with the Site Description of this permit and pollution prevention measures identified in the plan shall be revised as appropriate as soon as practicable after such inspection. Such modifications shall provide for timely implementation of any change to the plan within 7 calendar days following the inspection.

c. A report summarizing the scope of the inspection, the name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph b above shall be made and retained as part of the storm water pollution prevention plan for at lease 3 years after the date of inspection. The report shall be signed in accordance with Signatory Requirements of this permit.

d. The permitee shall complete and submit within 5 days an "Incidence of noncompliance" (ION) report for any violation of the storm water pollution prevention plan observed during an inspection conducted, including those not required by the Plan. Submission shall be on forms provided by the Agency and include specific information of the cause of noncompliance, actions which were taken to prevent any further causes of noncompliance, and a statement detailing any environment impact, which may have resulted from the noncompliance.

e. All reports of noncompliance shall be signed by a responsible authority as defined in General Permit ILR10, Part VI, G (Signatory Requirements).

f. All reports of noncompliance shall be mailed to the Agency at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand East
PO Box 19276
Springfield, IL 62794–9276

5. NON-STORMWATER DISCHARGES

Except for flows from fire fighting activities, sources of non–stormwater that may be combined with stormwater discharges associated with the construction activity address in this plan are described below:

a. Watering for dust control
b. Irrigation drainage for vegetative growth for seeding, etc.

The pollution prevention measures, as described below, will be implemented for non–stormwater components of the discharge.

The erosion due to irrigation of seeding shall be considered minor.

Contractor to provide the above non–stormwater discharges control to the standard specification required by the Village or the approved equal.

c. End of construction season/winter construction:

The grading contractor shall submit to the inspecting engineer, between September 1 and September 15, a 8 1/2" x 11" (or 11" x 17") reduced size grading sheet (unmarked sheet to be provided by the design engineer) marked to show areas to be disturbed and stabilized through the remainder of the year. This will include proposed schedule dates for grading activities and for placement of topsoil, seed, and excelsior blanket. The contractor shall not propose to disturb new areas that cannot be reasonably expected to be stabilized before the end of the year. This plan shall be updated and resubmitted the first week of each month as long as grading continues up to and including February. Each update will account for weather conditions, work completed, and available manpower.

In general, unless altered by unseasonably warm or cold conditions, no seeding shall be placed between October 15 and November 15. Dormant seeding shall be placed on any un–stabilized areas remaining after November 15 (where active grading has ceased). Dormant seeding shall be of the appropriate mixture for temporary or permanent seeding, but shall be placed at 150% of the normal rate. Dormant seeding shall also be covered with excelsior mat (where specified on the erosion control sheet) or with straw mulch at a rate of 2 ton/acre. If straw is placed, it shall be crimped into the soil by running over it with a tractor/bulldozer or similar tracked machine. All unfinished areas should be so stabilized before the first measurable and lasting snowfall. Any areas not stabilized shall be stabilized as soon as the snow melts.

Underground utility work may continue at the contractor's discretion. After November 15, once a portion of a trench is backfilled, it shall immediately be treated with dormant seeding as described above. Any grading that continues past December 15 shall be phased to minimize the amount of area being actively disturbed. Ongoing grading and stockpiles shall be surrounded with silt fence on the downhill edge and along curbs until grass is established.

Standard Soil Erosion and Sediment Control Notes
1. Control measures shall meet the minimum standards and specifications of the Illinois Urban Manual (www.siswcd.org/IUM) unless stated otherwise.
2. Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be disturbed shall be protected from construction traffic or other disturbance until final stabilization is achieved.
3. Soil stabilization measures shall consider the time of year, development site conditions and the use of temporary or permanent measures.
4. Stabilization by seeding shall include topsoil placement and fertilization, as necessary.
5. Native seed mixtures shall include rapid–growing annual grasses or small grains to provide initial, temporary soil stabilization.
6. Offsite property shall be protected from erosion and sedimentation. VeloVillage dissipation devices shall be placed at concentrated discharge locations and along the length of any outfall channel, as necessary to prevent erosion.
7. Sediment control measures shall be installed prior to the disturbance of tributary areas.

MEASURE GROUP	CONTROL MEASURE	APPL.	CONTROL MEASURE CHARACTERISTICS X	TEMP.	PRMNNT.
VEGETATIVE SOIL COVER	TEMPORARY SEEDING		PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING IS NOT DESIRED OR TIME OF YEAR IS INAPPROPRIATE.	X	
	PERMANENT SEEDING		PROVIDES PERMANENT VEGETATIVE COVER TO CONTROL EROSION, FILTERS SEDIMENT FROM WATER. MAY BE PART OF FINAL LANDSCAPE PLAN.		X
	DORMANT SEEDING		SAME AS PERMANENT SEEDING EXCEPT IS DONE DURING DORMANT SEASON. HIGHER RATES OF SEED APPLICATION ARE REQUIRED.		
	SODDING		QUICK PERMANENT COVER TO CONTROL EROSION. QUICK WAY TO ESTABLISH VEGETATION FILTER STRIP. CAN BE USED ON STEEP SLOPES OR IN DRAINAGEWAYS WHERE SEEDING MAY BE DIFFICULT.		
	GROUND COVER		PROVIDES GROUND COVER, SHRUBS AND TREES IN ADDITION TO PERMANENT VEGETATION. MAY BE USED AS PART OF A FINAL LANDSCAPE PLAN ALONG WITH SHRUBS AND TREES.		
NON VEGETATIVE SOIL COVER	MULCHING		ADDED INSURANCE OF A SUCCESSFUL TEMPORARY OR PERMANENT SEEDING. CONTROLS UNWANTED VEGETATION AND PRESERVES MOISTURE. PROVIDES COVER WHERE VEGETATION CANNOT BE ESTABLISHED		
	AGGREGATE COVER		PROVIDES SOIL COVER ON ROADS AND PARKING LOTS AND AREAS WHERE VEGETATION CANNOT BE ESTABLISHED. PREVENTS MUD FROM BEING PICKED UP AND TRANSPORTED OFF–SITE.		
	PAVING		PROVIDES PERMANENT COVER ON PARKING LOTS AND ROADS OR OTHER AREAS WHERE VEGETATION CANNOT BE ESTABLISHED.		X
	EROSION BLANKET		PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING TIME OF YEAR IS INAPPROPRIATE AND IN SLOPED AREAS.	X	
DIVERSIONS	RIDGE DIVERSION		TYPICALLY USED ABOVE SLOPES. USED WHERE AN EXCESS OF SOIL IS AVAILABLE.		
	CHANNEL DIVERSION		TYPICALLY USED AT TOP OR BASE OF SLOPES. USED WHEN EXCESS SOIL IS NOT AVAILABLE.		
	COMBINATION DIVERSION		TYPICALLY USED ANYWHERE ON A SLOPE. SOIL TAKEN OUT OF CHANNEL IS USED TO BUILD THE RIDGE.		
	CURB AND GUTTER		SPECIAL CASE OF DIVERSION USED IN CONJUNCTION WITH A STREET TO DIVERT WATER FROM AN AREA NEEDING PROTECTION.		
	BENCHES		SPECIAL CASE OF DIVERSION CONSTRUCTED WHEN WORKING ON CUT SLOPES TO SHORTEN LENGTH OF SLOPE AND ADD SLOPE STABILITY.		
SEDIMENT BASINS	BARE CHANNEL		PROVIDES MEANS OF CONVEYING RUNOFF TO DESIRED LOCATION. MAY BE USED TO DRAIN DEPRESSIONAL AREAS. ONLY APPLICABLE WHEN VELOCITY OF FLOW IS VERY LOW.		
	VEGETATIVE CHANNEL		PROVIDES ADDED STABILITY TO CHANNEL. USED WHEN VELOCITY OF FLOW IS NOT EXTREMELY FAST.		X
	SEDIMENTATION POND		A WET OR DRY DETENTION BASIN SIZED FOR THE POST DEVELOPMENT 100 YEAR STORM TEMPORARILY MODIFIED TO ENHANCE SEDIMENT REMOVAL DURING CONSTRUCTION.		
SEDIMENT FILTERS	BARRIER FILTER		USED FOR SINGLE LOTS OR DRAINAGE AREAS LESS THAN 1/2 ACRE TO FILTER SEDIMENT FROM RUNOFF.		
	VEGETATIVE FILTER		USED ALONG DRAINAGEWAYS OR PROPERTY LINES TO FILTER SEDIMENT FROM RUNOFF. SIZE MUST BE INCREASED IN PROPORTION TO DRAINAGE AREA.		X
	FILTER FABRIC		USED FOR FILTERING SEDIMENT WITHIN THE ROADWAY BEFORE ENTERING THE STORM SEWER.	X	
	INLET PROTECTION		USED FOR FILTERING SEDIMENT WITHIN GRASS AREAS BEFORE WATER ENTERS THE STORM SEWER.	X	
MUD AND DUST CONTROL	CONST. ENTRANCE		PREVENT MUD FROM BEING PICKED UP AND CARRIED OFF–SITE. (SEDIMENT ON PUBLIC ROADS IS NOT TO BE FLUSHED OFF WITH WATER).	X	
	DUST AND TRAFFIC CONTROL		PREVENTS DUST FROM LEAVING CONSTRUCTION SITE.		

CONTRACTOR CERTIFICATION STATEMENT

"I certify under the penalty of law that I understand this storm water pollution prevention plan and the terms of the National Pollutant Discharge Elimination System (NPDES) permit (ILR10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification"

Date

Signature

Title

Name of Firm

Address

City State Zip Code

Phone Number

OWNER CERTIFICATION STATEMENT

"I certify under the penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Date

Signature

Title

Name of Firm

Address

STABILIZATION TYPE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG	SEPT.	OCT.	NOV.
PERMANENT SEEDING			A,B,C, D			•	•				
SODDING				G**							
TEMPORARY SEEDING				E							
DORMANT SEEDING											

STANDARD LAWN MIXTURE
A (1) KENTUCKY BLUEGRASS 50 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE AND CREEPING RED FESCUE 20 LBS/ACRE

SALT TOLERANT MIXTURE B
(1A) BLUE GRASS 30 LBS/ACRE PERENNIAL RYEGRASS 10 LBS/ACRE DAWSONS RED FESCUE 10 LBS ACRE SCALDIS HARD FESCUE 10 LBS/ACRE FULTS SALT GRASS 30 LBS/ACRE

LOW PROFILE NATIVE GRASS MIXTURE
C ANDROPOGON SCOPARIUS (LITTLE BLUE STEM) 5 LBS/ACRE BOUTELOVA CURTIPENDULA (SIDE OATS GRAMA) 5 LBS/ACRE ELYMUS CANADENENSIS (WILD RYE) 1 LBS/ACRE SPOROBOLUS HETEROLEPSIS (PRAIRIE DROPSEED) 0.5 LBS/ACRE ANNUAL RYE GRASS 25 LBS/ACRE OATS, SPRING 25 LBS/ACRE PERENNAL RYE GRASS 15 LBS/ACRE

WETLAND GRASS AND SEDGE MIXTURE.
D (4B) ANNUAL RYE GRASS 25 LBS/ACRE OATS, SPRING 25 LBS/ACRE
(E) CEREAL RYE 90 LBS/ACRE, OR WHEAT 90 LBS/ACRE, OR PERENNIAL RYEGRASS 25 LBS/ACRE
(G) SOD
(*) IRRIGATION NEEDED DURING JUNE AND JULY
(**) IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER APPLYING SOD.
( ) IDOT STANDARD

PROJECT SEEDING SCHEME:
1. ALL AREAS WITH IN 10' TO PAVEMENT AND EXISTING ROADWAYS
   1.1. SALT TOLERANT MIXTURE B

EROSION CONTROL SPECIFICATIONS & NOTES (CONTINUED):

12. If dewatering services are used, discharges shall be routed through an effective sediment control measure (e.g., sediment trap or an equivalent control measure). The Enforcement Officer shall be notified prior to the commencement of dewatering activities.
13. All temporary soil erosion and sediment control measures shall be removed within 30 days after final stabilization of the development site is achieved or after the temporary measures are no longer necessary. Trapped sediment shall be removed and disturbed areas shall be permanently stabilized.
14. Stockpiled soil and materials shall be removed from flood hazard areas at the end of each work day. Soil and materials stockpiled in IWMC or buffer areas shall be placed on timber mats, or an equivalent control measure.
15. Effective control measures shall be utilized to minimize the discharge of pollutants from the development site. At a minimum, control measures shall be implemented in order to:
a. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash water; and
b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, vehicle fluids, sanitary waste, and other materials present on the development site to precipitation and to stormwater.

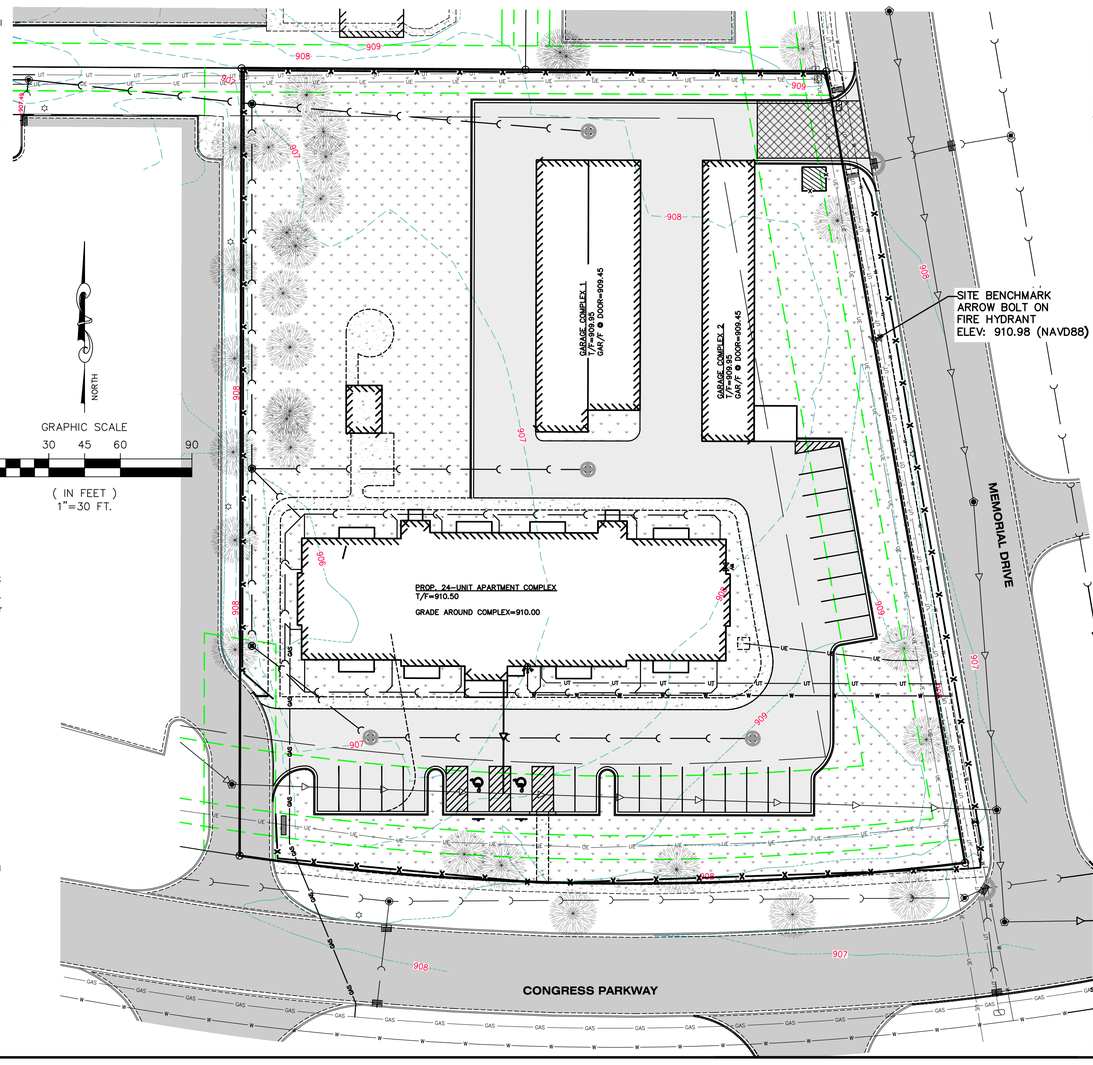
EROSION CONTROL SPECIFICATIONS & NOTES (CONTINUED):

16. Adequate receptacles shall be provided for the depositing of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, or discharging of construction material debris upon or into any development site, channel, or IWMC. The development site shall be maintained free of construction material debris.
17. The Enforcement Officer may require additional or alternate soil erosion and sediment control measures, based on development site specific considerations and the effectiveness of the installed control measures.

Standard Drain Tile Notes
1. Drain tiles disturbed during regulated development shall be reconnected by those responsible for their disturbance, unless the development plans specify abandonment of the drain tiles.
2. All abandoned drain tiles within disturbed areas shall be removed in their entirety.
3. Drain tiles within the disturbed area of a development site shall be replaced, bypassed around the development site or intercepted and connected to the stormwater management system for the development site. The size of the replaced or bypassed drain tile shall be equivalent to the existing drain tile.

LEGEND

	100–YR OVERFLOW ROUTE
	PROPOSED CONCRETE WASHOUT LOCATION
X	PROPOSED SILT FENCE – 1,130 FT.
	PROPOSED INLET PROTECTION – IUM 561C
	PROPOSED CULVERT PROTECTION – IUM 562
	24' X 45' CONSTRUCTION ENTRANCE – IL 630
	SEEDING AND EROSION CONTROL BLANKET



CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8803

REVISIONS

NO.	
05/20/2026	CURSORY P.U.D. REVIEW COMMENTS–05/08/2026

RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

LICENSED PROFESSIONAL ENGINEER
ALBERT M. SCHMITT
062-060261
ILLINOIS
EXPIRES 11-30-2027

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.schmittengineering.com

Designed By: ACT
Checked By: AMS
Scale: 1' = 30 ft.
Date: 04/10/2026
Job Number: 250907
Sheet Number: **3 of 10**

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EXISTING SITE AND REMOVAL TAGS

1. EXISTING TV AND FIBER PEDESTAL, TYPICAL
2. EXISTING ELECTRICAL PEDESTAL, TYPICAL
3. EXISTING HAND HOLE, TYPICAL
4. CURB CUT AND 2.5-FT WIDTH PAVEMENT PATCH – 57 FT.
5. CURB CUT AND 2.5-FT WITH PAVEMENT PATCH – 68 FT.
6. TREES TO BE REMOVED, TYPICAL
7. EXISTING LIGHT POLE, TYPICAL
8. EXISTING HAND HOLE TO BE MOVED

EXISTING STORM SEWER TAGS

1. EXISTING CURB CATCH BASIN
   RIM: 908.07 (FLOW LINE)
   INV: 905.10 (12" RCP, E)
2. EXISTING CURB CATCH BASIN
   RIM: 906.10 (FLOW LINE)
   INV: 903.70 (12" RCP, W)
3. EXISTING STORM MANHOLE
   RIM: 906.79
   INV: 903.40 (12" RCP, E-W)
4. EXISTING STORM MANHOLE
   RIM: 908.23
   INV: 904.40 (12" RCP, S)
   INV: 903.90 (12" RCP, E-W)
5. EXISTING CURB CATCH BASIN
   RIM: 907.44 (FLOW LINE)
   INV: 904.50 (12" RCP, N-S)
6. EXISTING STORM MANHOLE
   RIM: 905.34
   INV: 902.33 (12" RCP, S)
   INV: 902.14 (12" RCP, E-W)

EXISTING WATER MAIN TAGS

1. EXISTING 8" DUCTILE IRON PIPE (D.I.P.) WATER MAIN
2. EXISTING FIRE HYDRANT AND VALVE BOX
3. EXISTING VALVE VAULT
   RIM: 907.20
   TOP OF PIPE: 900.70

EXISTING SANITARY SEWER TAGS

1. EXISTING SANITARY MANHOLE
   RIM: 908.71
   INV: 903.40 (6" PVC, N-S)
2. EXISTING SANITARY MANHOLE
   RIM: 907.62
   INV: 902.30 (6" PVC, N-S)
3. EXISTING SANITARY MANHOLE
   RIM: 906.70
   INV: 901.80 (6" PVC, N-S)
   INV: 902.00 (10" PVC, W)
4. EXISTING SANITARY MANHOLE
   RIM: 906.90
   INV: 901.60 (6" PVC, N-E)
5. EXISTING SANITARY MANHOLE
   RIM: 908.21
   INV: 903.20 (10" PVC, NW-E)

LEGEND	
+885.52	EXISTING GRADE
B.S.L.	BUILDING SETBACK LINE
D.E.	DRAINAGE EASEMENT
M.U.E.	MUNICIPAL UTILITY EASEMENT
	SANITARY MANHOLE
	EXISTING SANITARY SEWER UTILITY
	STORM INLET
	STORM MANHOLE
	EXISTING STORM SEWER UTILITY
WV	WATER VALVE
	FIRE HYDRANT
W	EXISTING WATER UTILITY
T	TELECOMMUNICATION CONNECTION
	UNDERGROUND FIBER UTILITY HAND HOLE
UT	EXISTING FIBER UTILITY
	LIGHT POLE
E	COMED ELECTRICAL PEDESTAL
UE	EXISTING UNDERGROUND ELECTRIC UTILITY
GAS	EXISTING GAS UTILITY
	TREE TO BE REMOVED

NORTH

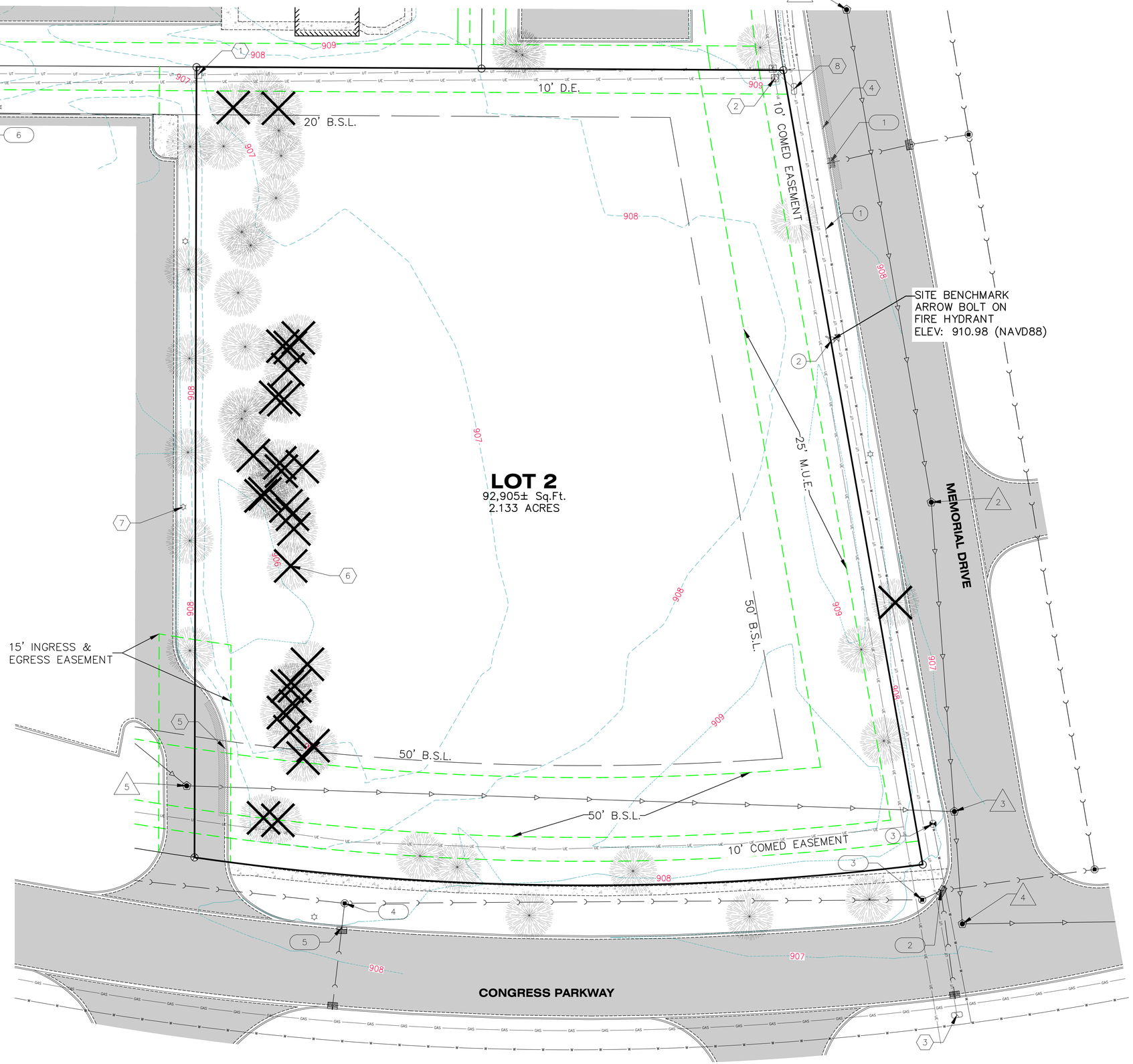
GRAPHIC SCALE
0 20 30 40 60
(IN FEET)
1"=20 FT.

SITE BENCHMARK:
ARROW BOLT ON FIRE HYDRANT
ALONG MEMORIAL DRIVE
ELEV=910.98 (NAVD88)

TOPOGRAPHY:
TOPOGRAPHY TAKEN FROM ELEVATIONS SHOT BY VANDERSTAPPEN LAND SURVEYING ON 02/26/2026

IMPERVIOUS AND DISTURBANCE AREAS DATA:

EXISTING IMPERVIOUS	
RESIDENCES & DETACHED GARAGES:	00.00 SQ.FT.
CURB AND GUTTER:	120.0 SQ.FT.
ASPHALT ENTRANCE:	805.0 SQ.FT.
TOTAL EXISTING IMPERVIOUS=	925.0 SQ.FT.
REMOVAL	
CURB AND GUTTER:	187.5 SQ.FT.
ASPHALT PAVEMENT:	264.0 SQ.FT.
TOTAL IMPERVIOUS REMOVED=	451.5 SQ.FT.
TOTAL LOT SIZE:	92905± SQ.FT. 2.13± ACRES
TOTAL IMPERVIOUS:	925.0 SQ.FT.
TOTAL IMPERVIOUS PERCENT:	0.99%



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CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8803

REVISIONS

NO.	
05/20/2026	CURSORY P.U.D. REVIEW COMMENTS-05/08/2026

LICENSED PROFESSIONAL ENGINEER
ALBERT M SCHMITT
062-068261
ILLINOIS
EXPIRES 11-30-2027

RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

EXISTING CONDITION & REMOVAL PLAN

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.schmittengineering.com

Designed By	ACT
Checked By	AMS
Scale	1' = 20 ft.
Date	04/10/2026
Job Number	250907
Sheet Number	4 of 10

PROPOSED SITE TAGS

1. 18-FT X 15-FT TRASH ENCLOSURE AREA
   1.1. 6-IN PORTLAND CEMENT CONCRETE
   1.2. 6-IN AGGREGATE BASE COURSE, CA-6
2. PROPOSED SIGN LOCATION WITH ELECTRIC SERVICE - AT LEAST 10-FT FROM R.O.W.
3. 26,536-SF ASPHALT PAVEMENT DRIVEWAY
   3.1. 1.5-IN HMA SURFACE COURSE, MIX "C", N50
   3.2. 2.5-IN HMA BINDER COURSE, IL 19, N50 (6-IN THROUGH THE ENTRANCES TILL THE END OF THE RADII)
   3.3. 8-IN AGGREGATE BASE COURSE, CA-6 (4.5-IN THROUGH THE ENTRANCES TILL THE END OF THE RADII)
   3.4. TO THE PLACEMENT OF ASPHALT OR GRANULAR BASE COURSE MATERIAL, THE UPPER 8 INCHES OF THE EXPOSED SUBGRADE MATERIALS SHOULD BE DRIED AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DEFINED BY ASTM D-1557. ALL PAVEMENT SUBGRADES SHOULD BE PROOF ROLLED AND INSPECTED AFTER BEING EXPOSED TO CONSTRUCTION TRAFFIC AND JUST PRIOR TO THE BASE COURSE PLACEMENT
   3.5. SOFT OR UNSTABLE SUBGRADE AREAS THAT CANNOT BE REPAIRED WITH DISKING, DRYING, AND RECOMPACTION PROCEDURES SHOULD BE UNDERCUT AND REPLACED WITH A WELL-GRADED GRANULAR MATERIAL.
4. COMBINATION CURB AND GUTTER TYPE B6-12, 57-FT
5. COMBINATION CURB AND GUTTER TYPE B6-12, 338-FT
6. COMBINATION CURB AND GUTTER TYPE B6-12, 524-FT
7. COMBINATION CURB AND GUTTER DEPRESSED - 57 FT WITH 2.5-FT WIDE PAVEMENT PATCH
8. COMBINATION CURB AND GUTTER DEPRESSED - 68 FT WITH 2.5-FT WIDE PAVEMENT PATCH
9. 5-FT WIDE SIDEWALK - 1,535 SF.
   9.1. 4-IN PORTLAND CEMENT CONCRETE (8-IN THROUGH ENTRANCE)
   9.2. 4-IN AGGREGATE BASE COURSE, CA-6
   9.3. ADA DETECTABLE WARNINGS WHERE SIDEWALK CROSSES ENTRANCE (5-FT X 2-FT)
10. 5-FT WIDE SIDEWALK - 142 SF.
    10.1. SAME CROSS SECTION AS #9
11. 5-FT WITH SIDEWALK AND PATIO - 3,916 SF.
    11.1. SIDEWALK ALONG DRIVEWAY TO HAVE INTEGRATED CURB, SEE DETAIL ON SHEET 8
12. 18-FT X 22-FT CONCRETE PATIO WITH SAME CROSS SECTION OF #9
13. PROPOSED PERGOLA
14. PROPOSED FIRE PIT AREA
15. 4" YELLOW PAINT PAVEMENT MARKING, TYPICAL
16. PAINT PAVEMENT ADA STALL SYMBOL, TYPICAL
17. PROPOSED UNDERGROUND ELECTRIC UTILITY - 74 FT
18. PROPOSED GAS UTILITY - 171 FT (50 FT TO BE DIRECTIONAL BORED UNDER CONGRESS PARKWAY)
19. PROPOSED FIBER AND TV UTILITY - 173 FT
20. PROPOSED ADA STALL SIGN, TYPICAL (SHALL FOLLOW TRAFFICS SIGN POST DETAIL AND INCLUDE R7-8 SIGN)
21. PROPOSED GAS METER LOCATION, TYPICAL
22. PROPOSED 5-FTX5-FT ELECTRICAL TRANSFORMER PAD
    22.1. SAME CROSS SECTION AS #9
23. PROPOSED AC UNIT LOCATION, TYPICAL

LEGEND	
+885.52	EXISTING GRADE
	SANITARY MANHOLE
	EXISTING SANITARY SEWER UTILITY
	PROPOSED SANITARY SEWER UTILITY
	STORM INLET
	STORM MANHOLE
	EXISTING STORM SEWER UTILITY
	PROPOSED STORM SEWER UTILITY
WV	WATER VALVE
	FIRE HYDRANT
W	EXISTING WATER UTILITY
W	PROPOSED WATER UTILITY
T	TELECOMMUNICATION CONNECTION
	UNDERGROUND FIBER UTILITY HAND HOLE
UT	EXISTING FIBER UTILITY
UT	PROPOSED FIBER UTILITY
	LIGHT POLE
E	COMED ELECTRICAL PEDESTAL
UE	EXISTING UNDERGROUND ELECTRIC UTILITY
UE	PROPOSED UNDERGROUND ELECTRIC UTILITY
GAS	EXISTING GAS UTILITY
GAS	PROPOSED GAS UTILITY
AC	AIR CONDITIONING UNIT
G	GAS METER

NORTH

GRAPHIC SCALE
0 20 30 40 60
(IN FEET)
1"=20 FT.

IMPERVIOUS AND DISTURBANCE AREAS DATA:

EXISTING IMPERVIOUS	
RESIDENCES & DETACHED GARAGES:	00.00 SQ.FT.
CURB AND GUTTER:	120.0 SQ.FT.
ASPHALT ENTRANCE:	805.0 SQ.FT.
TOTAL EXISTING IMPERVIOUS=	925.0 SQ.FT.
PROPOSED IMPERVIOUS	
24-UNIT APARTMENT RESIDENCE:	10,620 SQ.FT.
DETACHED GARAGES:	7,350 SQ.FT.
PERGOLA:	268.0 SQ.FT.
ASPHALT DRIVEWAY:	26,536 SQ.FT.
CONCRETE SIDEWALK:	5,368 SQ.FT.
COMBINATION CURB AND GUTTER:	1,377 SQ.FT.
SIGN:	16.00 SQ.FT.
TOTAL PROP. IMPERVIOUS=	51,535 SQ.FT.
TOTAL LOT SIZE:	92,905± SQ.FT. 2.13± ACRES
TOTAL IMPERVIOUS:	52,460 SQ.FT.
TOTAL IMPERVIOUS PERCENT:	56.47%
SOIL DISTURBANCE:	65,000 SQ.FT.

PROP. 24-UNIT APARTMENT COMPLEX
T/F=910.50

GRADE AROUND COMPLEX=910.00

GARAGE COMPLEX 1
T/F=909.95
GAR/F @ DOOR=909.45

GARAGE COMPLEX 2
T/F=909.95
GAR/F @ DOOR=909.45

SITE BENCHMARK
ARROW BOLT ON
FIRE HYDRANT
ELEV: 910.98 (NAVD88)

MEMORIAL DRIVE

CONGRESS PARKWAY

Y:\PJCT\2025\250907-290 E Congress John Konsor_T-\250907.dwg-PROP. SITE--5-2/11/2026 3:04 PM

CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8803

REVISIONS

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05/20/2026	CURSORY P.U.D. REVIEW COMMENTS-05/08/2026

LICENSED PROFESSIONAL ENGINEER
ALBERT M SCHMITT
062-068261
STATE OF ILLINOIS
EXPIRES 11-30-2027

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LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
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CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

PROPOSED SITE PLAN

Designed By: ACT
Checked By: AMS
Scale: 1' = 20 ft.
Date: 04/10/2026
Job Number: 250907
Sheet Number: 5 of 10

PROPOSED STORM SEWER TAGS

1. 2-FT DIA. INLET TYPE-A
   RIM: 908.32
   INV: 905.82 (12"-W)
2. 12-IN RCP STORM SEWER - 158 FT. @ 0.60% SLOPE
3. 4-FT DIA. FLAT TOP INLET
   RIM: 908.60
   INV: 904.83 (12"- E-NW)
4. 15-IN RCP STORM SEWER - 60 FT. @ 0.60% SLOPE
5. 4-FT DIA STORM MANHOLE TYPE-A
   RIM: 907.80
   INV: 904.46 (12"-SE, 15"-N)
6. 15-IN ADS N-12 WT IB HDPE STORM SEWER - 70 FT. @ 0.60% SLOPE
7. 4-FT DIA. STORM MANHOLE TYPE-A
   RIM: 906.80
   INV: 904.02 (15"- S-N, 12"-E)
   INV: 905.00 (8"-SE)
8. 2-FT DIA. INLET TYPE-A
   RIM: 908.32
   INV: 905.82 (12"-W)
9. 12-IN RCP STORM SEWER - 138 FT. @ 1.27% SLOPE
10. 21-IN ADS N-12 WT IB HDPE STORM SEWER - 148 FT. @ 0.60% SLOPE
11. 4-FT DIA. STORM MANHOLE TYPE-A
    RIM: 906.80
    INV: 903.11 (15"-S, 12"-E)
    INV: 903.11 (18"-W WITH SNOUT DEVICE AND BIO-SKIRT)
    BOTTOM ELEVATION: 901.61 (1.5-FT SUMP)
12. 2-FT DIA. INLET TYPE-A
    RIM: 908.32
    INV: 905.82 (12"-W)
13. 12-IN RCP STORM SEWER - 138 FT. @ 1.91% SLOPE
14. 21-IN ADS N-12 WT HDPE STORM SEWER - 90 FT. @ 0.60% SLOPE
15. CONECTION TO EXTISTING 4-FT DIA STORM MANHOLE @ 902.55
16. DOWNSPOUT CONNECTION (14 IN ALL)
17. 8-IN ADS N-12 WT IB HDPE DOWNSPOUT UNDER DRAIN - 176 FT. @ 1.0% SLOPE MINIMUM
18. 8-IN ADS N-12 WT IB HDPE DOWNSPOUT UNDER DRAIN - 248 FT. @ 1.0% SLOPE MINIMUM
19. 8-IN ADS N-12 WT IB HDPE DOWNSPOUT UNDER DRAIN - 27 FT. @ 1.0% SLOPE MINIMUM

PROPOSED WATER MAIN TAGS

1. 4-IN FIRE DEPARTMENT CONNECTION (F.D.C.) LOCATION
2. WATER SERVICE B-BOX FOR ENTIRE BUILDING PLACED ON WALL AT LEAST 18-IN ABOVE GRADE
3. 6-IN DUCTILE IRON D.I. WATER SERVICE - 188-FT
4. CONNECTION TO EXISTING 8-IN WATER MAIN @ 900.70 (V.I.F.)

PROPOSED SANITARY SEWER TAGS

1. SANITARY SEWER CONNECTION TO BUILDING @ 903.25
2. 6" PVC SDR26 SANITARY SEWER SERVICE - 48 FT.
3. CONNECTION TO EXISTING 10" PVC SANITARY SEWER MAIN @ 902.80 (V.I.F.)

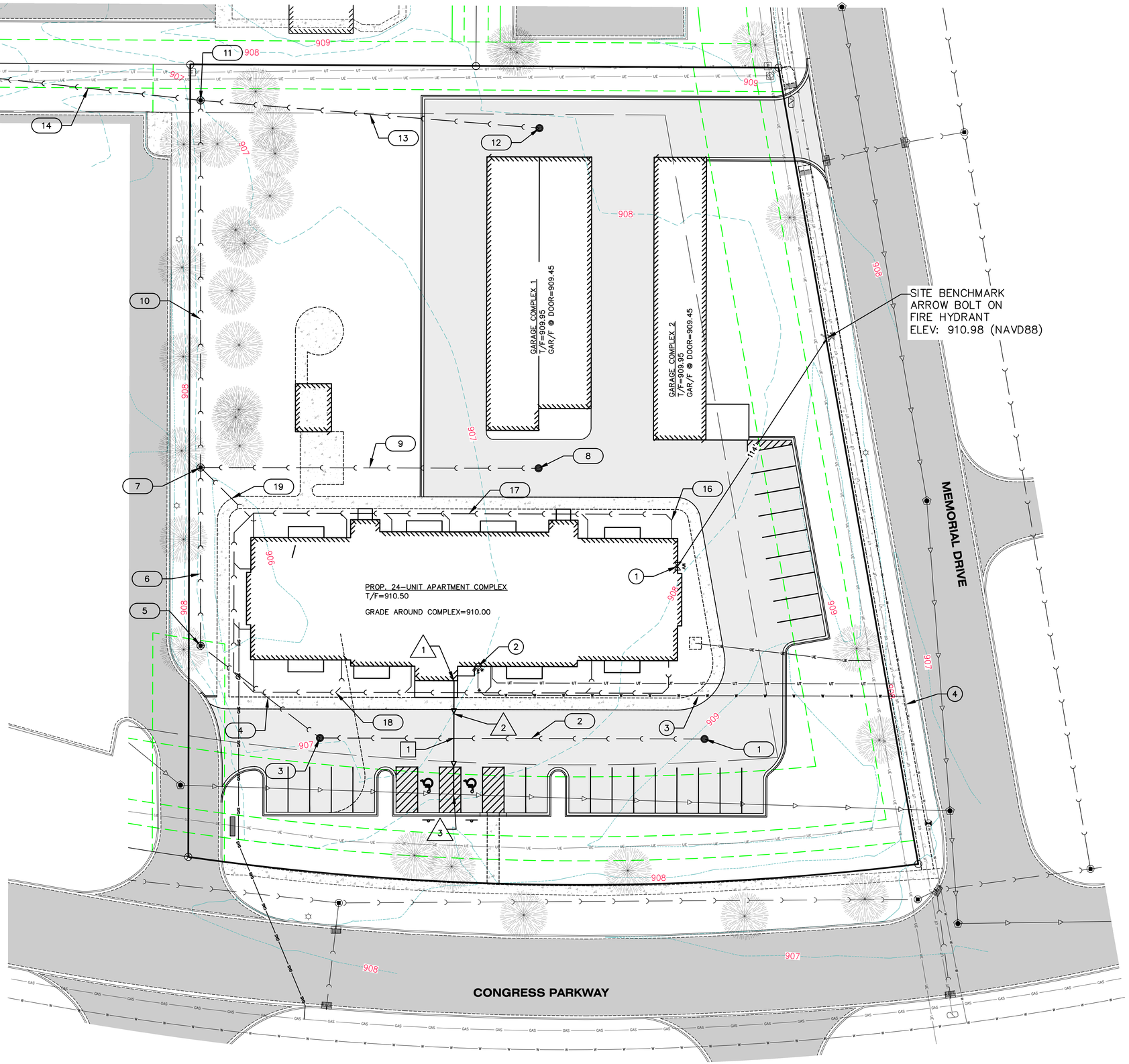
PROPOSED UTILITY CONFLICT TAGS

1. SANITARY SERVICE AND STORM SEWER CONFLICT
   BOTTOM OF STORM SEWER PIPE: 905.16
   TOP OF SANITARY SERVICE PIPE: 902.90
   DIFFERENCE: 27.12-IN

LEGEND	
+885.52	EXISTING GRADE
	SANITARY MANHOLE
	EXISTING SANITARY SEWER UTILITY
	PROPOSED SANITARY SEWER UTILITY
	STORM INLET
	STORM MANHOLE
	EXISTING STORM SEWER UTILITY
	PROPOSED STORM SEWER UTILITY
WV	WATER VALVE
	FIRE HYDRANT
W	EXISTING WATER UTILITY
W	PROPOSED WATER UTILITY
T	TELECOMMUNICATION CONNECTION
	UNDERGROUND FIBER UTILITY HAND HOLE
UT	EXISTING FIBER UTILITY
UT	PROPOSED FIBER UTILITY
	LIGHT POLE
E	COMED ELECTRICAL PEDESTAL
UE	EXISTING UNDERGROUND ELECTRIC UTILITY
UE	PROPOSED UNDERGROUND ELECTRIC UTILITY
GAS	EXISTING GAS UTILITY
GAS	PROPOSED GAS UTILITY

NORTH

GRAPHIC SCALE
0 20 30 40 60
(IN FEET)
1"=20 FT.



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20111 SUNSHINE LANE
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REVISIONS

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05/20/2026	CURSORY P.U.D. REVIEW COMMENTS-05/08/2026

ALBERT M SCHMITT
062-038261
LICENSED PROFESSIONAL ENGINEER
EXPIRES 11-30-2027

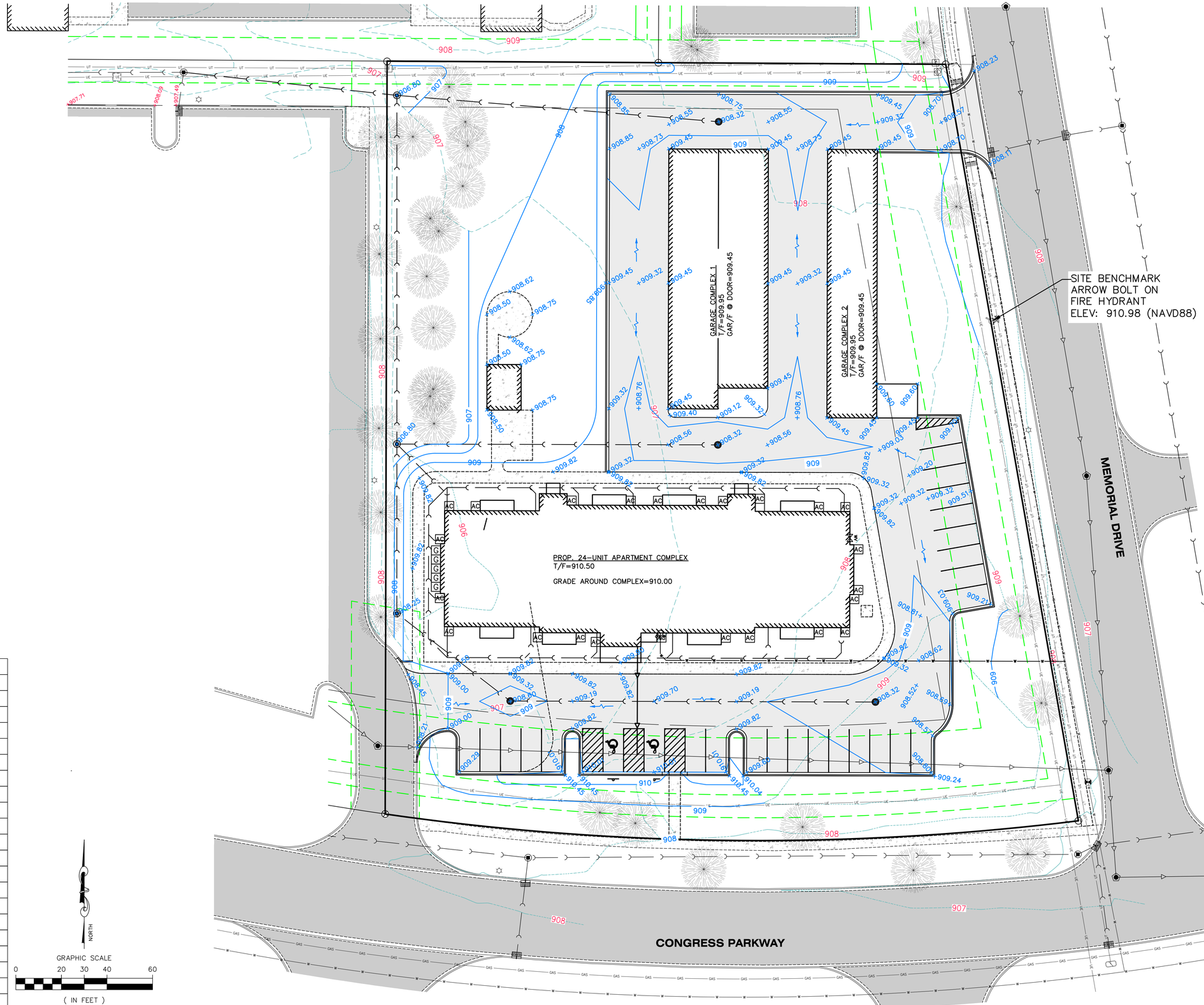
RESIDENTIAL APARTMENT UNITS
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290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

UTILITY PLAN

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.albertschmittengineering.com

Designed By	ACT
Checked By	AMS
Scale	1' = 20 ft.
Date	04/10/2026
Job Number	250907
Sheet Number	6 of 10

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LEGEND	
+885.52	EXISTING GRADE
	SANITARY MANHOLE
	EXISTING SANITARY SEWER UTILITY
	PROPOSED SANITARY SEWER UTILITY
	STORM INLET
	STORM MANHOLE
	EXISTING STORM SEWER UTILITY
	PROPOSED STORM SEWER UTILITY
WV	WATER VALVE
	FIRE HYDRANT
W	EXISTING WATER UTILITY
W	PROPOSED WATER UTILITY
T	TELECOMMUNICATION CONNECTION
	UNDERGROUND FIBER UTILITY HAND HOLE
UT	EXISTING FIBER UTILITY
UT	PROPOSED FIBER UTILITY
	LIGHT POLE
E	COMED ELECTRICAL PEDESTAL
UE	EXISTING UNDERGROUND ELECTRIC UTILITY
UE	PROPOSED UNDERGROUND ELECTRIC UTILITY
GAS	EXISTING GAS UTILITY
GAS	PROPOSED GAS UTILITY

NORTH

GRAPHIC SCALE

0 20 30 40 60

(IN FEET)
1"=20 FT.

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CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
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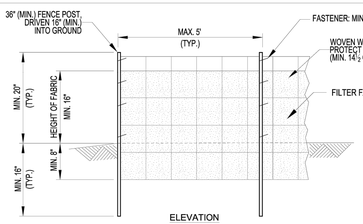
RESIDENTIAL APARTMENT UNITS
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290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

GRADING PLAN

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215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
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Designed By	ACT
Checked By	AMS
Scale	1' = 20 ft.
Date	04/10/2026
Job Number	250907
Sheet Number	7 of 10

EC-01



ELEVATION

MATERIAL SPECIFICATIONS:

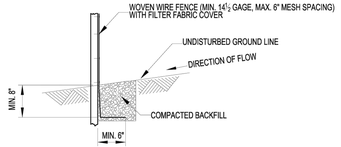
POSTS: STEEL (EITHER "T" OR "U" TYPE) OR HARDWOOD WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

FENCE: WOVEN WIRE (14½ GAGE) WITH 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T 140N.

NOTES:

1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED, AS NEEDED, THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH TIES OR STAPLES
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION
4. WHEN TWO (2) SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX (6) INCHES AND FOLDED
5. MATERIAL SHALL BE REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE
6. DOUBLE ROWS OF SILT FENCE SPACED FIVE (5) FEET APART SHALL BE PLACED AROUND EXISTING STORMWATER MANAGEMENT FACILITIES OR WETLANDS AS ADDITIONAL PROTECTION WHEN REQUIRED BY CITY ENGINEER

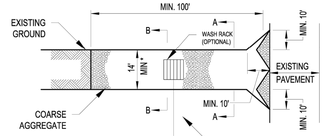


FABRIC ANCHOR DETAIL

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	SILT FENCE	EC-01
2.		Date: 12/4/2012
3.		Drawn DD / Checked AW
4.		City of Crystal Lake Illinois

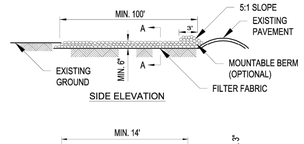
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EC-02

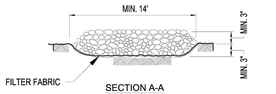


* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.

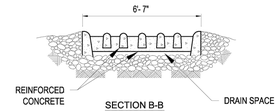
PLAN VIEW



SIDE ELEVATION



SECTION A-A



SECTION B-B

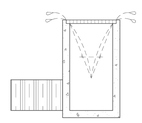
NOTES:

1. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 282 OF THE IDOT STANDARD SPECIFICATIONS AND SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO THE PLACEMENT OF ROCK.
2. ROCK OR RECLAIMED CONCRETE SHALL MEET ONE OF THE FOLLOWING IDOT COARSE AGGREGATE GRADATIONS, CA-1, CA-2, CA-3 OR CA-4.
3. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHALL BE CONSTRUCTED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. IF WASH RACKS ARE USED, THEY SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

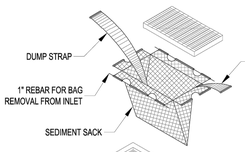
Revised:	Drawing Name	Drawing Number
1. 06/12/2015	CONSTRUCTION ENTRANCE	EC-02
2.		Date: 07/31/2012
3.		Drawn DD / Checked AW
4.		City of Crystal Lake Illinois

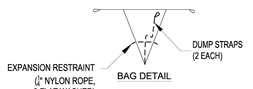
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EC-04

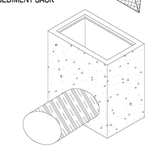


INSTALLATION DETAIL





BAG DETAIL

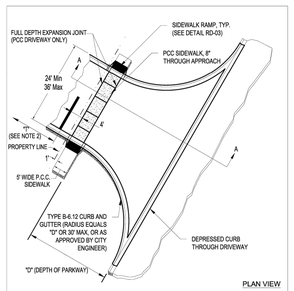


SEDIMENT CONTROL DEVICE

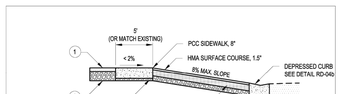
Revised:	Drawing Name	Drawing Number
1. 06/12/2015	INLET SEDIMENT CONTROL DEVICE	EC-04
2.		Date: 11/2/2007
3.		Drawn EM / Checked AW
4.		City of Crystal Lake Illinois

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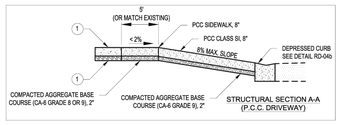
RD-01a



PLAN VIEW



STRUCTURAL SECTION A-A (BITUMINOUS DRIVEWAY)



STRUCTURAL SECTION A-A (P.C.C. DRIVEWAY)

NOTES:

1. MAX. CONSTRUCTED APPROACH GRADE = 8%. APPROACH SHALL BE DESIGNED AT 8% UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. FOR THICKNESS OF PAVEMENT "T", VERTICAL THICKNESS OF THE GUTTER FLAG SHALL BE A MINIMUM OF 9 INCHES. FOR HMA BASE COURSE PAVEMENT SECTIONS THE GUTTER FLAG SHALL BE SAME THICKNESS AS PAVEMENT STRUCTURE.
3. TRANSITION FROM FULL CURB TO DEPRESSED CURB IN 2 LINEAL FEET, WHEN APPLICABLE.

LEGEND:

(1) FOR PARKING LOT SEE UNIFIED DEVELOPMENT ORDINANCE, APPENDIX SECTION A-700.

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	DRIVEWAY: COMMERCIAL APPROACH	RD-01a
2. 02/25/2020		Date: 01/30/15
3. 08/18/2023 JRG - Update curb radius and transitions details		Drawn DD / Checked AW
4.		City of Crystal Lake Illinois

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

RD-03

INSERT THE APPLICABLE IDOT STANDARD(S):

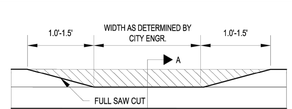
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424006
424011
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424021
424026

THE MOST CURRENT VERSION MUST BE USED.

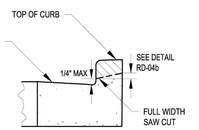
Revised:	Drawing Name	Drawing Number
1. 06/12/2015	CURB RAMPS FOR SIDEWALK	RD-03
2.		Date: 05/19/2015
3.		Drawn JH / Checked AW
4.		City of Crystal Lake Illinois

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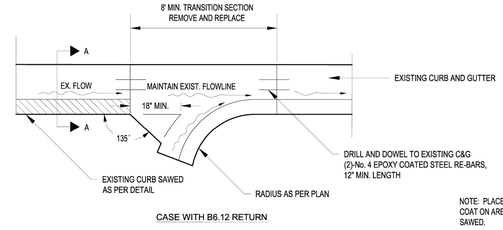
RD-04a



DRIVEWAY OPENING SIDE VIEW



SECTION A-A



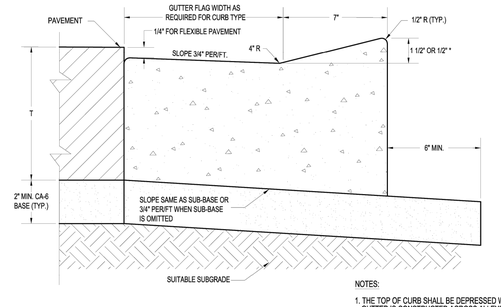
CASE WITH B6.12 RETURN

NOTE: PLACE APPROVED SEAL COAT ON AREA THAT HAS BEEN SAWED.

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	DEPRESSED CURB: ENTRANCE BY SAWING	RD-04a
2.		Date: 01/30/15
3.		Drawn DD / Checked AW
4.		City of Crystal Lake Illinois

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RD-04b



* ADJACENT TO CURB RAMP ACCESSIBLE TO THE DISABLED

NOTES:

1. THE TOP OF CURB SHALL BE DEPRESSED WHERE THE CURB AND GUTTER IS CONSTRUCTED ACROSS ALLEYS AND FOR PRIVATE DRIVES OR WHERE DIRECTED BY THE ENGINEER.
2. THICKNESS OF PAVEMENT "T". WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENT, THE VERTICAL THICKNESS OF THE GUTTER FLAG SHALL BE 9 INCHES. FOR BAM PAVEMENT SECTIONS THE FLAG SHALL BE THE SAME THICKNESS AS THE PAVEMENT.

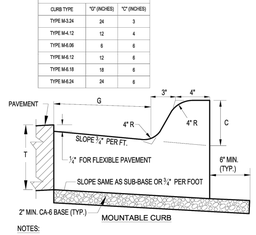
Revised:	Drawing Name	Drawing Number
1. 06/12/2015	DEPRESSED CURB: DETAIL	RD-04b
2.		Date: 01/30/15
3.		Drawn DD / Checked AW
4.		City of Crystal Lake Illinois

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RD-05a

MOUNTABLE CURB DIMENSIONS FOR "G" AND "C"

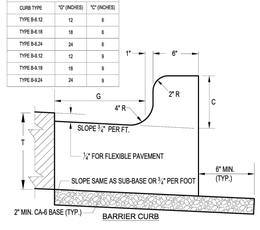
CURB TYPE	"G" (INCHES)	"C" (INCHES)
TYPE M-3.24	24	3
TYPE M-4.12	12	6
TYPE M-6.06	6	6
TYPE M-6.12	12	6
TYPE M-6.18	18	6
TYPE M-6.24	24	6



MOUNTABLE CURB

BARRIER CURB DIMENSIONS FOR "G" AND "C"

CURB TYPE	"G" (INCHES)	"C" (INCHES)
TYPE B-6.12	12	6
TYPE B-6.18	18	6
TYPE B-6.24	24	6
TYPE B-9.12	12	9
TYPE B-9.18	18	9
TYPE B-9.24	24	9



BARRIER CURB

NOTES:

THICKNESS - T - THICKNESS OF PAVEMENT WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE OR RIGID PAVEMENT, THE VERTICAL THICKNESS OF THE GUTTER FLAG SHALL BE 9". ALSO, TIE BARS SHALL BE OMITTED.

DRAINAGE OPENINGS - AT ALL LOCATIONS WHERE METAL CASTINGS ARE TO BE INCORPORATED IN THE CURB AND GUTTER, A 1" THICK PRE-FORMED EXPANSION JOINT FILLER, CONFORMING TO THE CROSS SECTIONS OF THE CURB AND GUTTER, SHALL BE INSTALLED IN THE CURB AND GUTTER A DISTANCE OF 5 FT. FROM EACH SIDE OF THE METAL CASTING. WHEN THE WIDTH OF THE METAL CASTING IS LESS THAN THE WIDTH OF THE CURB AND GUTTER, 2 - NO. 4 REBARS (L = 12' + CASTING LENGTH + 12") SHALL BE INCORPORATED IN THE CONTINUOUS OF CONCRETE GUTTER IN FRONT OF THE CASTING.

TRANSITIONS - THE TRANSITION FROM FULL HEIGHT CURB TO DEPRESSED CURB SHALL BE MADE AT THE RATE OF 3" PER FOOT OF LENGTH OR FLATTER.

(2) - NO. 4 STEEL REINFORCING BARS SHALL BE INCORPORATED OVER TRENCH CROSSINGS IF REQUIRED BY THE CITY ENGINEER.

JOINTS - IN ADDITION TO THE REQUIREMENTS OF ARTICLE 606.06 OF THE STANDARD SPECIFICATIONS, JOINTS SHALL BE CONSTRUCTED AS FOLLOWS:

CONTRACTION JOINTS AND EXPANSION JOINTS SHALL BE INSTALLED IN THE CURB OR CURB AND GUTTER IN PROLONGATION WITH JOINTS IN ADJACENT P.C.C. PAVEMENT OR BASE COURSE.

WHEN CURB AND GUTTER IS CONSTRUCTED ADJACENT TO FLEXIBLE PAVEMENT, A 1" THICK PRE-FORMED EXPANSION JOINT FILLER, CONFORMING TO THE CROSS SECTION OF THE CURB AND GUTTER, SHALL BE INSTALLED AT POINTS OF CURVATURE, THE SHORT RADIUS CURVES AND AT CONSTRUCTION JOINTS. CONTRACTION JOINTS SHALL BE PLACED BETWEEN EXPANSION JOINTS AT DISTANCES NOT TO EXCEED 15 FEET.

ALL EXPANSION JOINTS SHALL BE PROVIDED WITH A 1 ½" DIA. X 18" COATED SMOOTH DOWEL BAR CONFORMING TO ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS. THE DOWEL BAR SHALL BE FITTED WITH A CAP HAVING A PINCHED STOP THAT WILL PROVIDE 1" OF EXPANSION.

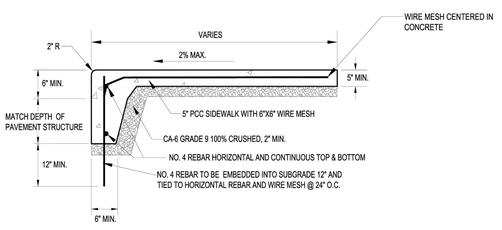
ALL CONSTRUCTION JOINTS SHALL BE PROVIDED WITH 1" DIA. DEFORMED STEEL TIE BARS 30" LONG CONFORMING TO AASHTO M-31 OR M-53. TIE BARS SHALL BE PLACED ON 9"" CENTERS (MINIMUM 2 PER JOINT).

EXPANSION JOINTS SHALL BE PLACED AT INTERVALS NOT TO EXCEED 100 FEET.

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	CURB: CONCRETE CURB AND GUTTER	RD-05a
2. KL 1/25/2021 M-4.12 ADDED		Date: 06/11/2015
3.		Drawn DD / Checked AW
4.		City of Crystal Lake Illinois

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RD-05c



NOTES:

1. CLASS SI CONCRETE SHALL BE USED THROUGHOUT (UNLESS OTHERWISE NOTED)
2. ALL REBAR AND WIRE MESH SHALL BE SURROUNDED BY 2" MINIMUM THICKNESS OF CONCRETE
3. REBAR AND WIRE MESH TO BE INSPECTED PRIOR TO CONCRETE POUR

Revised:	Drawing Name	Drawing Number
1. 06/12/2015	CURB: SIDEWALK WITH INTEGRAL CURB	RD-05c
2. 8/18/2023 JRG 5" PCC THICKNESS		Date: 05/19/2015
3.		Drawn JH / Checked AW
4.		City of Crystal Lake Illinois

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CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8603

REVISIONS

NO.	
05/20/2026	CURSORY P.U.D. REVIEW COMMENTS-05/08/2026

LICENSED PROFESSIONAL ENGINEER
ALBERT M SCHMITT
062-068261
EXPIRES 11-30-2027

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7912
www.schmittengineering.com

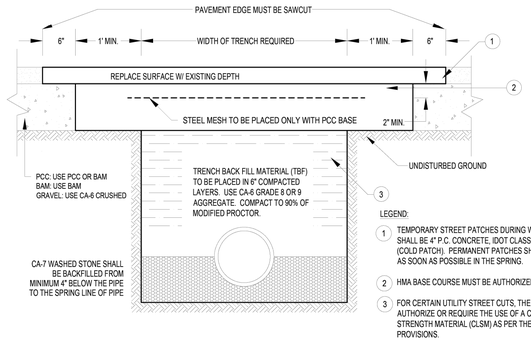
RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

CONSTRUCTION DETAILS (1 OF 3)

Designed By: ACT
Checked By: AMS
Scale: N.T.S.
Date: 04/10/2026
Job Number: 250907
Sheet Number: 8 of 10

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RD-06



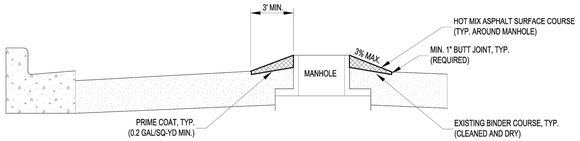
LEGEND:

1. TEMPORARY STREET PATCHES DURING WINTER CONSTRUCTION SHALL BE 4" P.C. CONCRETE, IDOT CLASS SI OR A MIN. 3" OF LIPM (COLD PATCH). PERMANENT PATCHES SHALL BE COMPLETED AS SOON AS POSSIBLE IN THE SPRING.
2. HMA BASE COURSE MUST BE AUTHORIZED BY THE CITY ENGINEER.
3. FOR CERTAIN UTILITY STREET CUTS, THE CITY ENGINEER MAY AUTHORIZE OR REQUIRE THE USE OF A CONTROLLED LOW-STRENGTH MATERIAL (CLSM) AS PER THE IDOT SPECIAL PROVISIONS.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 9/8/2021 KL - CA-7 TO SPRING LINE OF PIPE 3. 4.	PAVEMENT CUT AND REPLACEMENT	RD-06 Date: 05/19/2015 Drawn JH, Checked AW	City of Crystal Lake Illinois

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

RD-07



NOTES

1. RAMPING TO BE USED AFTER BINDER IS CONSTRUCTED AND UNTIL FINAL SURFACE COURSE IS PLACED.
2. MANHOLES TO BE RAMPED NO LATER THAN NOVEMBER 1ST.
3. RAMPS TO BE MAINTAINED THROUGHOUT THE WINTER BY DEVELOPER.
4. RAMP MATERIAL TO BE REMOVED BY MILLING OR OTHERWISE REMOVED BEFORE PLACEMENT OF FINAL SURFACE COURSE.

MIX DESIGN FOR EMERGENCY RAMP PATCHING COMPOUND

MIX:
40% QUICKCRETE HYDRAULIC CEMENT
60% MORTAR MIX
ENOUGH WATER TO MAKE IT WORKABLE
(TOO MUCH WATER WILL GREATLY LENGTHEN SET TIME)

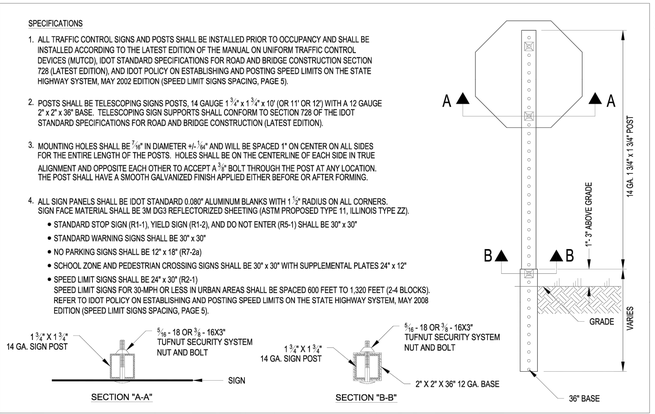
Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	TEMPORARY MANHOLE AND CURB RAMPING	RD-07 Date: 05/19/2015 Drawn JH, Checked AW	City of Crystal Lake Illinois

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TR-03

SPECIFICATIONS

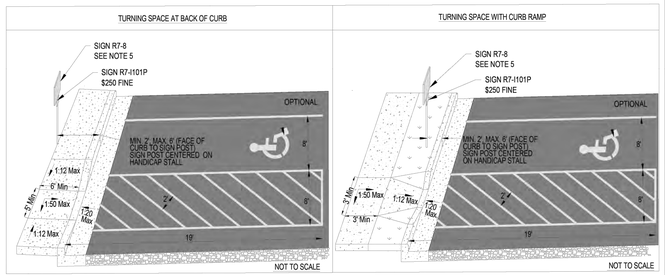
1. ALL TRAFFIC CONTROL SIGNS AND POSTS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND SHALL BE INSTALLED ACCORDING TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 728 (LATEST EDITION), AND IDOT POLICY ON ESTABLISHING AND POSTING SPEED LIMITS ON THE STATE HIGHWAY SYSTEM, MAY 2002 EDITION (SPEED LIMIT SIGNS SPACING, PAGE 5).
2. POSTS SHALL BE TELESCOPING SIGNS POSTS, 14 GAUGE 1 $^{3}/_{4}$" x 1 $^{3}/_{4}$" x 10' (OR 11' OR 12') WITH A 12 GAUGE 2" x 2" x 36" BASE. TELESCOPING SIGN SUPPORTS SHALL CONFORM TO SECTION 728 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).
3. MOUNTING HOLES SHALL BE $^{7}/_{16}$" IN DIAMETER +/- $^{1}/_{16}$" AND WILL BE SPACED 1" ON CENTER ON ALL SIDES FOR THE ENTIRE LENGTH OF THE POSTS. HOLES SHALL BE ON THE CENTERLINE OF EACH SIDE IN TRUE ALIGNMENT AND OPPOSITE EACH OTHER TO ACCEPT A $^{3}/_{8}$" BOLT THROUGH THE POST AT ANY LOCATION. THE POST SHALL HAVE A SMOOTH GALVANIZED FINISH APPLIED EITHER BEFORE OR AFTER FORMING.
4. ALL SIGN PANELS SHALL BE IDOT STANDARD 0.080" ALUMINUM BLANKS WITH 1 $^{1}/_{2}$" RADIUS ON ALL CORNERS. SIGN FACE MATERIAL SHALL BE 3M DG3 REFLECTORIZED SHEETING (ASTM PROPOSED TYPE 11, ILLINOIS TYPE ZZ).
   - STANDARD STOP SIGN (R1-1), YIELD SIGN (R1-2), AND DO NOT ENTER (R5-1) SHALL BE 30" x 30"
   - STANDARD WARNING SIGNS SHALL BE 30" x 30"
   - NO PARKING SIGNS SHALL BE 12" x 18" (R7-2a)
   - SCHOOL ZONE AND PEDESTRIAN CROSSING SIGNS SHALL BE 30" x 30" WITH SUPPLEMENTAL PLATES 24" x 12"
   - SPEED LIMIT SIGNS SHALL BE 24" x 30" (R2-1)
     SPEED LIMIT SIGNS FOR 30-MPH OR LESS IN URBAN AREAS SHALL BE SPACED 600 FEET TO 1,320 FEET (2-4 BLOCKS). REFER TO IDOT POLICY ON ESTABLISHING AND POSTING SPEED LIMITS ON THE STATE HIGHWAY SYSTEM, MAY 2008 EDITION (SPEED LIMIT SIGNS SPACING, PAGE 5).



Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	TRAFFIC CONTROL SIGN AND POST	TR-03 Date: 04/15/2007 Drawn EM, Checked AW	City of Crystal Lake Illinois

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TR-06



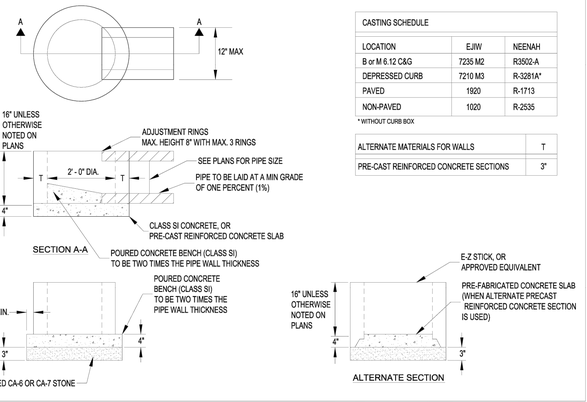
NOTES:

1. CONCRETE PARKING BUMPERS REQUIRED IF BARRIER CURB NOT PRESENT
2. REFER TO CURRENT EDITION OF THE ILLINOIS ACCESSIBILITY CODE, SECTION 502 PARKING SPACES
3. IF DEPRESSED CURB OPENING IS GREATER THAN 3.0 FEET, THE LANDING SHALL BE AS WIDE THE DEPRESSED OPENING.
4. MOUNT SIGNS SO BOTTOM OF R7-8 SIGN IS BETWEEN 5 FEET - 9 FEET ABOVE FINISH GRADE. MOUNT R7-1101P DIRECTLY BELOW.
5. TWO PARKING SPACES ARE PERMITTED TO SHARE A COMMON ACCESS AISLE IN PERPENDICULAR PARKING ONLY
6. PAVEMENT MARKINGS SHALL BE HIGH QUALITY YELLOW PAINT OR THERMOPLASTIC PER ILLINOIS ACCESSIBILITY CODE AND MUTCD.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3/22/2022 KL - Center sign, height, landing options specified. 3. 4.	TYPICAL HANDICAP ACCESSIBLE PARKING STALL	TR-06 Date: 06/01/2007 Drawn EM, Checked AW	City of Crystal Lake Illinois

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UD-01a



CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M 6.12 C&G	7235 M2	R3502-A
DEPRESSED CURB	7210 M3	R-3281A*
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

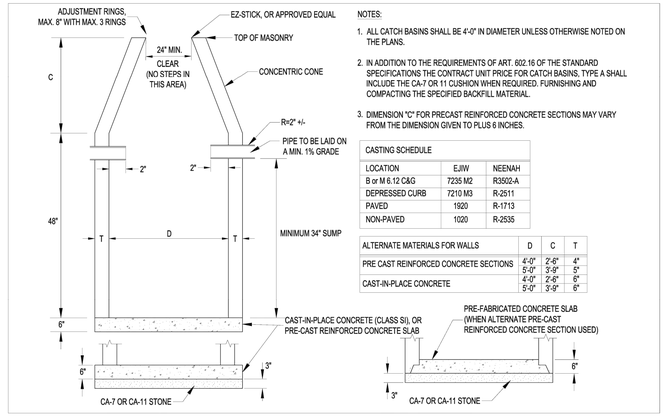
* WITHOUT CURB BOX

ALTERNATE MATERIALS FOR WALLS	T
PRE-CAST REINFORCED CONCRETE SECTIONS	3"

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	DRAINAGE STRUCTURES: INLET, TYPE A	UD-01a Date: 05/28/2015 Drawn JH, Checked AW	City of Crystal Lake Illinois

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UD-01b



NOTES:

1. ALL CATCH BASINS SHALL BE 4'-0" IN DIAMETER UNLESS OTHERWISE NOTED ON THE PLANS.
2. IN ADDITION TO THE REQUIREMENTS OF ART. 602.16 OF THE STANDARD SPECIFICATIONS THE CONTRACT UNIT PRICE FOR CATCH BASINS, TYPE A SHALL INCLUDE THE CA-7 OR 11 CUSHION WHEN REQUIRED. FURNISHING AND COMPACTING THE SPECIFIED BACKFILL MATERIAL.
3. DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6 INCHES.

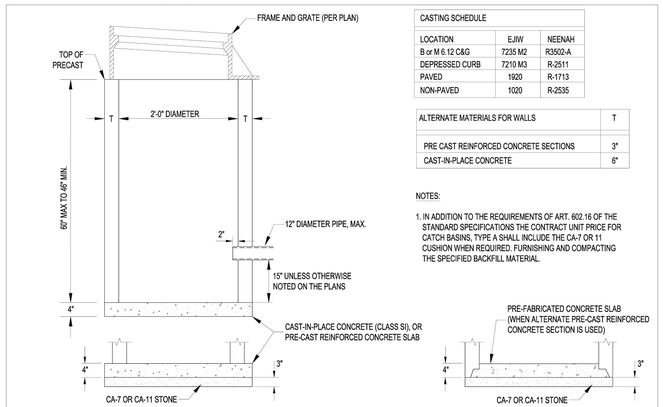
CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M 6.12 C&G	7235 M2	R3502-A
DEPRESSED CURB	7210 M3	R-2511
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

ALTERNATE MATERIALS FOR WALLS	D	C	T
PRE CAST REINFORCED CONCRETE SECTIONS	4'-0"	2'-6"	4"
	5'-0"	3'-0"	5"
CAST-IN-PLACE CONCRETE	4'-0"	2'-6"	6"
	5'-0"	3'-0"	6"

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 08/18/2023 3. 4.	CATCH BASIN TYPE A	UD-01b Date: 09/18/2012 Drawn DD, Checked AW	City of Crystal Lake Illinois

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UD-01c



CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M 6.12 C&G	7235 M2	R3502-A
DEPRESSED CURB	7210 M3	R-2511
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

ALTERNATE MATERIALS FOR WALLS	T
PRE CAST REINFORCED CONCRETE SECTIONS	3"
CAST-IN-PLACE CONCRETE	6"

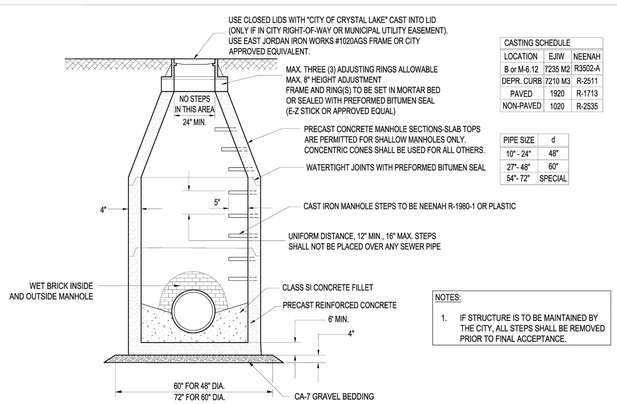
NOTES:

1. IN ADDITION TO THE REQUIREMENTS OF ART. 602.16 OF THE STANDARD SPECIFICATIONS THE CONTRACT UNIT PRICE FOR CATCH BASINS, TYPE A SHALL INCLUDE THE CA-7 OR 11 CUSHION WHEN REQUIRED. FURNISHING AND COMPACTING THE SPECIFIED BACKFILL MATERIAL.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	CATCH BASIN TYPE C	UD-01c Date: 05/19/2015 Drawn JH, Checked AW	City of Crystal Lake Illinois

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UD-01d



CASTING SCHEDULE		
LOCATION	EJIW	NEENAH
B or M-6.12	7235 M2	R3502-A
DEPR. CURB	7210 M3	R-2511
PAVED	1920	R-1713
NON-PAVED	1020	R-2535

PIPE SIZE	d
10" - 24"	48"
27"- 48"	60"
54" - 72"	SPECIAL

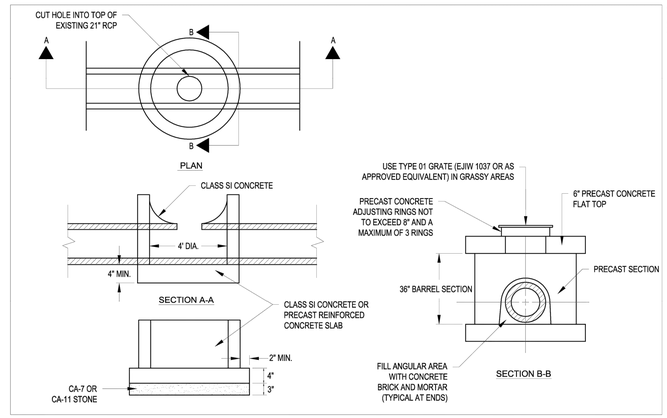
NOTES:

1. IF STRUCTURE IS TO BE MAINTAINED BY THE CITY, ALL STEPS SHALL BE REMOVED PRIOR TO FINAL ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 08/18/2023 JRG NOTE 1 3. 4.	STORM MANHOLE TYPE A	UD-01d Date: 05/19/2015 Drawn JH, Checked AW	City of Crystal Lake Illinois

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UD-01e



Revised:	Drawing Name	Drawing Number	
1. 06/12/2015 2. 3. 4.	4-FOOT INLET WITH CONCRETE FLAT TOP	UD-01e Date: 05/29/2015 Drawn JH, Checked AW	City of Crystal Lake Illinois

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CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8603

REVISIONS

NO.	
05/20/2026	CURSORY P.U.D. REVEW COMMENTS--05/08/2026

LICENSED PROFESSIONAL ENGINEER
ALBERT M SCHMITT
062-068261
STATE OF ILLINOIS
EXPIRES 11-30-2027

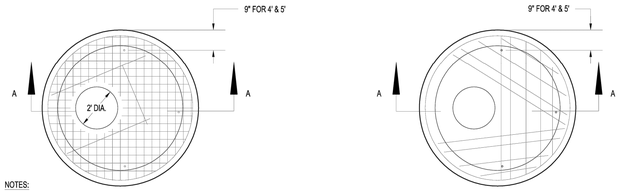
SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.albertschmittengineering.com

RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

CONSTRUCTION DETAILS (2 OF 3)

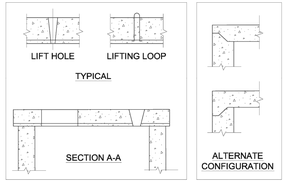
Designed By: ACT
Checked By: AMS
Scale: N.T.S.
Date: 04/10/2026
Job Number: 250907
Sheet Number: 9 of 10

UD-02b



NOTES:

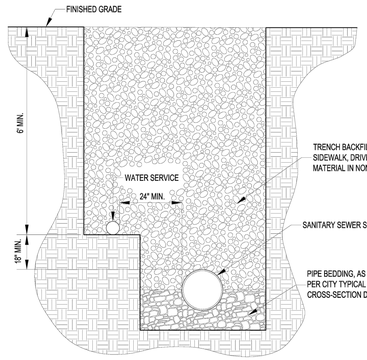
1. PRECAST FLAT TOPS SHALL SHALL CONFORM TO SECTION 1042 OF THE STANDARD SPECIFICATIONS.
2. REINFORCEMENT BARS OR WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH ARTICLE 1006.10 OF THE STANDARD SPECIFICATIONS.
3. JOINT CONFIGURATION AND DIMENSIONS SHALL MATCH AND FIT THE RISER JOINT DETAIL.
4. LIFTING DEVICES OTHER THAN THAT SHOWN MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER.
5. THE FLAT SLAB TOP MAY BE USED IN LIEU OF THE TAPERED TOPS SHOWN ON STANDARD 1514, 1526, 1527, OR 1886, AT THE OPTION OF THE CONTRACTOR OR WHEN FIELD CONDITIONS PROHIBIT THE USE OF TAPERED TOPS.
6. THE COST OF FURNISHING AND INSTALLING THE FLAT SLAB TOP SHALL BE INCLUDED IN THE UNIT PRICE FOR CATCH BASIN OR MANHOLE.



Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	ECCENTRIC FLAT TOPS FOR CURB INLET STORM MANHOLES	UD-02b	
2.		Date: 01/30/15	
3.		Drawn DD	Checked AW
4.			

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UG-02



NOTES:

1. THE WATER SERVICE PIPING AND BUILDING SEWER PIPING MAY BE INSTALLED IN A COMMON TRENCH PROVIDED THAT THE WATER SERVICE PIPE IS PLACED ON A SHELF A MINIMUM OF EIGHTEEN (18) INCHES ABOVE AND TWENTY-FOUR (24) INCHES HORIZONTALLY FROM THE BUILDING SEWER PIPING SUCH INSTALLATION SHALL USE SEWER MATERIAL AS SPECIFIED IN THE CITY CODE FOR A BUILDING DRAIN.

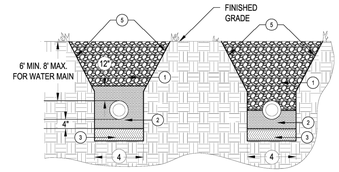
Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	COMMON WATER/SANITARY SERVICE TRENCH	UG-02	
2.		Date: 04/15/2007	
3.		Drawn EM	Checked LZ
4.			

L:\ENGINEERING AND BUILDING\ENGINEERING\DETAILS AND STANDARDS\

UG-03

LEGEND:

1. TRENCH BACKFILL TO SUBGRADE AND WITHIN 2 FEET OF PROPOSED PAVEMENT, DRIVEWAY, CURB AND GUTTER OR SIDEWALK. TRENCH BACKFILL MATERIALS SHALL BE IDOT APPROVED GRADATION CA-6, GRADE 7, 8, OR 9 COMPACTED TO 90% OF MODIFIED PROCTOR DENSITY. IN NON-STRUCTURAL AREAS BACKFILL WITH APPROVED EXCAVATED MATERIALS.
2. PIPE BEDDING SHALL BE WASHED MATERIAL IDOT GRADATION CA-7 OR CA-11 FROM 4 INCHES BELOW BOTTOM OF PIPE TO HEIGHT SHOWN ON EACH SECTION
3. UNSUITABLE MATERIAL TO BE REMOVED WHERE DIRECTED BY THE ENGINEER AND REPLACED WITH COMPACTED SUITABLE MATERIAL.
4. TRENCH WIDTH:
   PIPE O.D. + 12 INCHES MINIMUM
   PIPE I.D. + 18 INCHES MAXIMUM
5. CONTRACTORS SHALL COMPLY WITH ALL CURRENT OSHA STANDARDS.

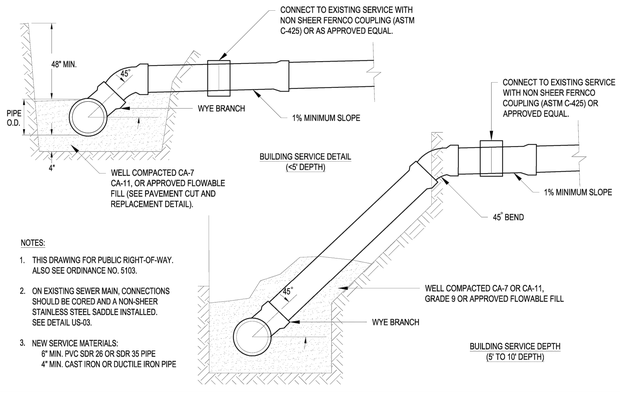


* NOTE: ALL DUCTILE IRON SHALL BE WRAPPED WITH APPROVED POLYETHYLENE PIPE WRAP
** NOTE: PVC WATERMAIN ONLY ALLOWED FOR REPAIRS TO EXISTING PVC WATERMAIN

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	TYPICAL TRENCH CROSS SECTION	UG-03	
2. 02/04/2021 KL CA-7 WASHED STONE		Date: 05/29/2015	
3. 07/14/2023 JRG PVC ALLOWED ONLY AS STATED		Drawn JH	Checked AW
4. 03/14/2024 JRG UPDATED CROSS SECTIONS			

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US-01



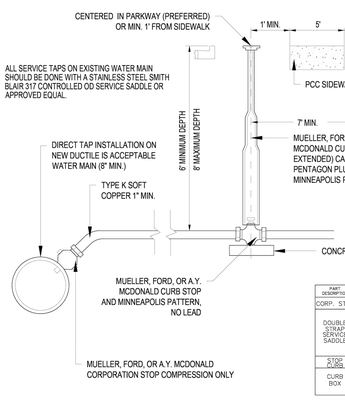
NOTES:

1. THIS DRAWING FOR PUBLIC RIGHT-OF-WAY. ALSO SEE ORDINANCE NO. 5103.
2. ON EXISTING SEWER MAIN, CONNECTIONS SHOULD BE CORED AND A NON-SHEER STAINLESS STEEL SADDLE INSTALLED. SEE DETAIL US-03.
3. NEW SERVICE MATERIALS:
   6" MIN. PVC SDR 26 OR SDR 35 PIPE
   4" MIN. CAST IRON OR DUCTILE IRON PIPE

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	SANITARY SERVICE RISER (DEPTH <10')	US-01	
2.		Date: 06/10/2015	
3.		Drawn JH	Checked VR
4.			

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UW-04



NOTES:

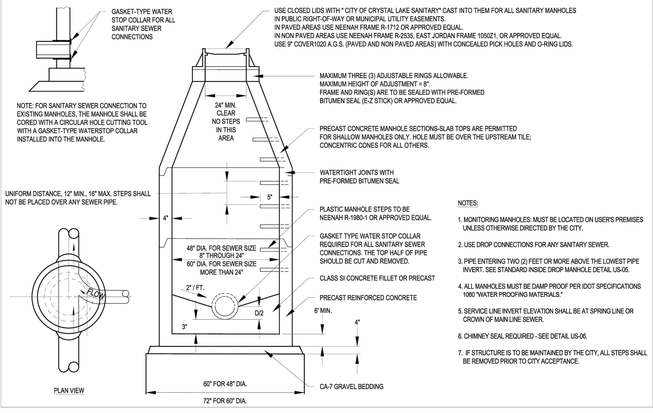
1. NO CORPORATION STOPS OR CURB BOXES MAY BE LOCATED UNDER PAVED AREAS INCLUDING DRIVES AND SIDEWALKS.
2. ALL WATER MAIN HARDWARE SHALL BE MUELLER, A.Y. McDONALD, OR FORD. NO LEAD, COMPRESSION ONLY.
3. SERVICE TO BE CONTINUOUS WITHOUT JOINTS FROM CORPORATION STOP TO CURB STOP.
4. MULTIPLE TAPS INTO MAIN SHALL BE NO CLOSER THAN 2' APART.
5. TRENCH FROM MAIN TO BACK OF SIDEWALK TO BE COMPACTED TRENCH BACKFILL.
6. NO FLARE FITTINGS WILL BE ACCEPTED. COMPRESSION ONLY.
7. ALL CURB BOX ADJUSTMENTS TO BE MADE WITH GALVANIZED PIPE AND COUPLINGS (SCREWED ON).
8. B-BOXES (TWO OR MORE) FOR ALL MULTI-UNIT BUILDINGS MUST BE CLEARLY AND PERMANENTLY LABELED BY WELDING THE UNIT NUMBER/LETTER ONTO THE B-BOX TOP.
9. B-BOXES TO BE USED FOR SERVICES LESS THAN OR EQUAL TO 2".

PART DESCRIPTION	MUELLER CAT. NO.	FORD CAT. NO.	A.Y. MCDONALD CAT. NO.	SERVICE SIZE
CORP. STOP	B-25008	FB1000-Q	4701BQ	
DOUBLE STRAP SERVICE SADDLE	BR 2 S 0684 CC	202BS-750-CC	3855 6	
	BR 2 S 0899 CC	202BS-962-CC	3855 8	
	BR 2 S 1104 CC	202BS-1212-CC	3855 10	
	BR 2 S 1314 CC	202BS-1438-CC	3855 12	
STOP CURB LOCK	B-25155	B44-M-Q	6104Q	
CURB BOX	H-10300	EM2-60-56	5614	1"
	H-10300-99002	EM2-60-57	5615	1.5" & 2"

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	WATER SERVICE INSTALLATION FOR DUCTILE AND CAST IRON WATER MAIN	UW-04	
2. 01/25/2021 KL Eliminate 1.25" Services		Date: 03/17/2014	
3.		Drawn DD	Checked VR
4.			

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US-04



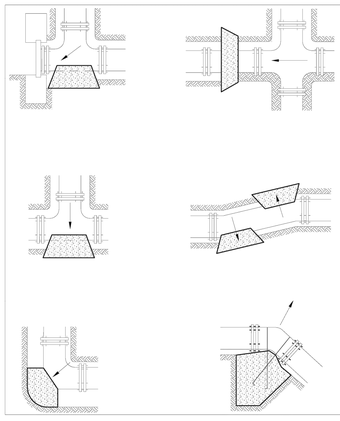
NOTES:

1. MONITORING MANHOLES: MUST BE LOCATED ON USER'S PREMISES UNLESS OTHERWISE DIRECTED BY THE CITY.
2. USE DROP CONNECTIONS FOR ANY SANITARY SEWER.
3. PIPE ENTERING TWO (2) FEET OR MORE ABOVE THE LOWEST PIPE INVERT. SEE STANDARD INSIDE DROP MANHOLE DETAIL US-05.
4. ALL MANHOLES MUST BE DAMP PROOF PER IDOT SPECIFICATIONS 1060 "WATER PROOFING MATERIALS."
5. SERVICE LINE INVERT ELEVATION SHALL BE AT SPRING LINE OR CROWN OF MAIN LINE SEWER.
6. CHIMNEY SEAL REQUIRED - SEE DETAIL US-06.
7. IF STRUCTURE IS TO BE MAINTAINED BY THE CITY, ALL STEPS SHALL BE REMOVED PRIOR TO CITY ACCEPTANCE.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	STANDARD SANITARY AND MONITORING MANHOLE	US-04	
2. 08/21/2018		Date: 06/12/2015	
3. JRG NOTE 7. 8-18-2023		Drawn JH	Checked VR
4.			

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UW-03



BEARING AREA (SQ. FT.)

PIPE SIZE	TEE/PLUG	90°	45°	21 1/2°	11 1/4°
6	4	2	1	1	1
8	6	4	3	1	1
10	7	5	3	1	1
12	8	6	4	2	2
14	12	9	6	3	3
16	15	12	7	3	3
18	18	15	9	4	4
24	40	30	15	5	5

NOTES:

ALL BLOCKING SHALL BE POURED CLASS SI CONCRETE AGAINST UNDISTURBED EARTH.

ALL BENDS OR ELBOWS GREATER THAN OR EQUAL TO 11 1/4° SHALL HAVE THRUST BLOCKING. FORM AS TO NOT COVER BOLTS.

IN LIEU OF THRUST BLOCKING, "MEGA LUG" (EBAA) JOINT RESTRAINTS OR APPROVED EQUAL CAN BE USED AS APPROVED BY THE ENGINEER.

Revised:	Drawing Name	Drawing Number	
1. 06/12/2015	THRUST BLOCK INSTALLATION	UW-03	
2.		Date: 05/29/2015	
3.		Drawn JH	Checked VR
4.			

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CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8603

REVISIONS

NO.	
05/20/2026	CURSORY P.U.D. REVIEW COMMENTS--05/08/2026

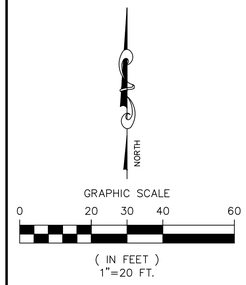
LICENSED PROFESSIONAL ENGINEER
ALBERT M SCHMITT
062-068261
REGISTERED
ILLINOIS
EXPIRES 11-30-2027

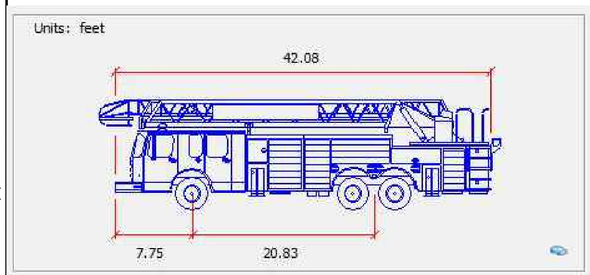
RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

CONSTRUCTION DETAILS (3 OF 3)

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.schmittengineering.com

Designed By ACT
Checked By AMS
Scale N.T.S.
Date 04/10/2026
Job Number 250907
Sheet Number
10 of 10





General Data
Name: Crystal Lake
Library: Custom
Region: North America
Type: Fire Truck 2
Class: Emergency - Fire - Aerial
Lock to Lock Time: 6.0 sec.
Steering Lock Angle: 37.0 deg.

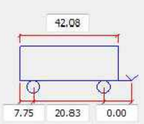
Displayed Data
Plan View Data / Profile View Data
Creation Units: feet

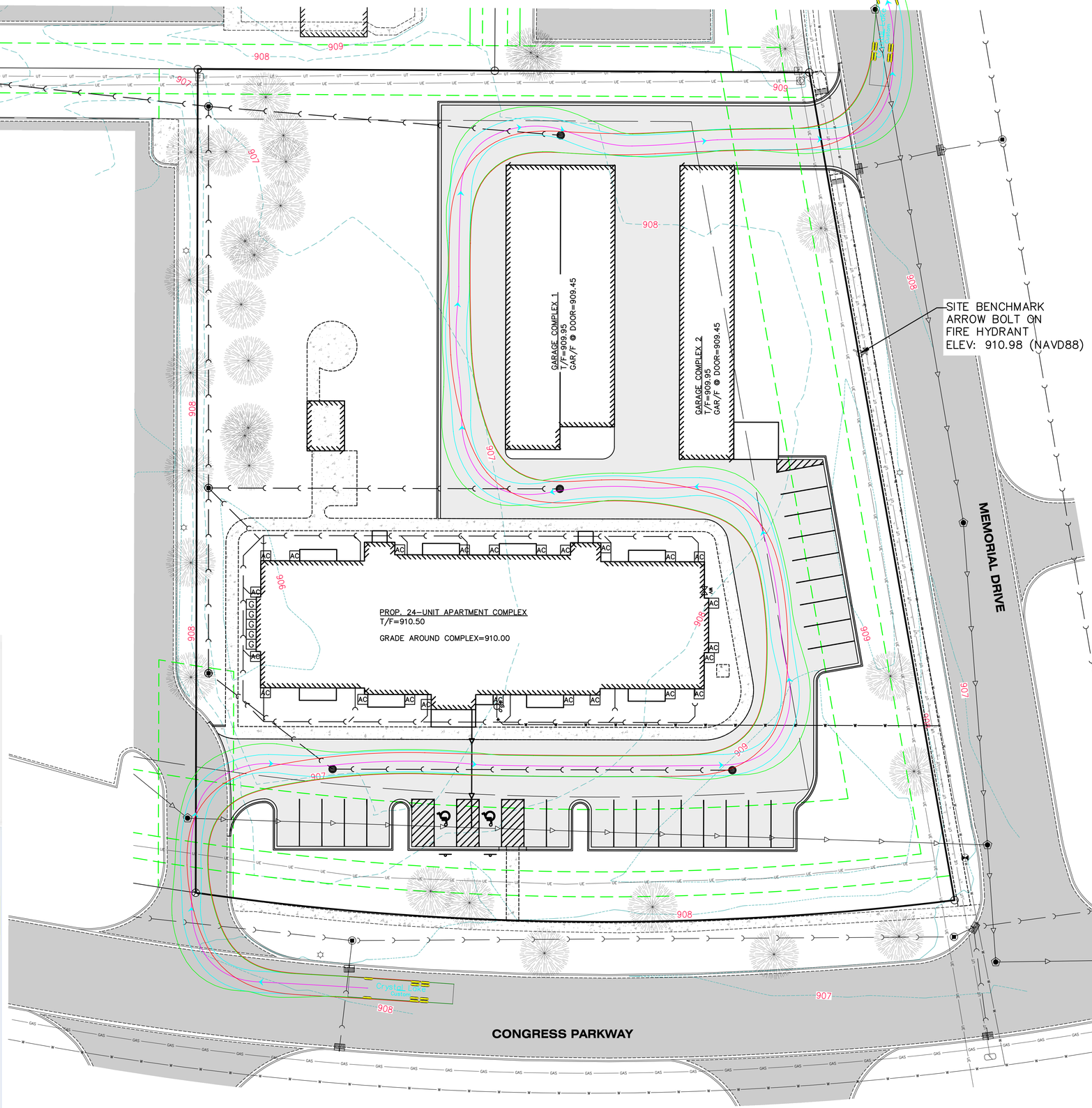
Overall Vehicle Length: 42.08 ft

Current Part Data
Tractor: Full
Width: 8.00
Steering: Front Only

Front Axle Group
Axles: 1
Wheels: 2
Track: 8.50 ft

Rear Axle Group
Axles: 2
Wheels: 4
Track: 8.50 ft





CLIENT:
SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8803

REVISIONS

NO.	
05/20/2026	CURSORY P.U.D. REVIEW COMMENTS-05/08/2026

LICENSED PROFESSIONAL ENGINEER
ALBERT M SCHMITT
062-068281
ILLINOIS
EXPIRES 11-30-2027

RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

FIRE TRUCK TURNING RADIUS

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.schmittengineering.com

Designed By	ACT
Checked By	AMS
Scale	1' = 20 ft.
Date	04/10/2026
Job Number	250907
Sheet Number	EX of 10

\\SCHMITT-SERVER\AutoCAD_Projects\PLATS\2025\250907-290 E Congress John Konsor_T-250907 - Recover.dwg-EXHIBIT-TURNING RADIUS-2/11/2026 3:04 PM

215 W. Calhoun Street
Woodstock, Illinois 60098
alschmittengineering.com

STORM WATER MANAGEMENT REPORT

For

LOT 2 OF CRYSTAL LAKE BUSINESS CENTER

290 CONGRESS PARKWAY CRYSTAL LAKE, IL 60014

Prepared for

CITY OF CRYSTAL LAKE

MCHENRY COUNTY, ILLINOIS



Prepared by: Andrew Trocki

Reviewed by: Albert M. Schmitt

Date: April 10, 2026

Updated: May 22, 2026

Project No.: 250907

215 W. Calhoun Street
Woodstock, Illinois 60098
alschmittengineering.com

TABLE OF CONTENTS

INTRODUCTION 1
EXISTING DRAINAGE CONDITIONS 1
PROPOSED DRAINAGE CONDITIONS 1
A. STORM SEWER DESIGN 2
i. INLET PONDING CALCULATION 2
CONCLUSION 2

EXHIBITS

EXHIBIT 1 – EXISTING DRAINAGE AREA MAP
EXHIBIT 2 – DETENTION BASIN STORAGE CONFIRMATION CALCULATION
EXHIBIT 3 – PROPOSED DRAINAGE AREA MAP
EXHIBIT 4 – TIME OF CONCENTRATION NOMOGRAPH
EXHIBIT 5 – DURATION AND INTESITY CALCULATION
EXHIBIT 6 – RATIONAL METHOD STORM SEWER SIZING CALCULATION
EXHIBIT 7 – BENTLEY FLOWMASTER STORM SEWER SIZING REPORT
EXHIBIT 8 – INLET PONDING CALCULATION
EXHIBIT 9 – MAINTENANCE PLAN

215 W. Calhoun Street
Woodstock, Illinois 60098
alschmittengineering.com

INTRODUCTION

This report has been prepared by Schmitt Engineering at the request of our client for Lot 2 of the Crystal Lake Business Center to fulfill the stormwater permit requirements for the City of Crystal Lake IL. This report coincides with the plan set titled "Lot 2 of the Crystal Lake Business Center" created by Schmitt Engineering. The following report provides information detailing the drainage features presented in the construction plan.

Our Client owns the property with the property identification number (P.I.N.) of 19-04-301-024 on Congress Parkway and Memorial Drive in Crystral Lake IL. The address is 290 Congress Parkway Crystal Lake, IL 60014. The owner is proposing to build a 24-unit apartment complex with individual garages that are detached in a row north of the apartment complex. With these buildings the owner will construct an asphalt driveway with combination curb and gutter, concrete sidewalk, a pergola and fire pit area, and a storm sewer system to direct stormwater runoff to a detention basin that is already designed to accept the runoff. At the end of the storm sewer system, a stormwater quality hood is to be placed to collect floatable trash and debris, free oils, and other solids from the sites stormwater runoff collected in the system.

EXISTING DRAINAGE CONDITIONS

The project is bordered by Memorial Drive on the east and Congress Parkway on the south side with concrete curb on both streets, and business parks to the north and west. The site is mostly comprised of maintained grass, with trees lining the right-of-way (R.O.W.) areas to the east, south, and west. High points along Memorial Drive and at the corner of Congress Parkway and Memorial Drive cause the site to drain east to west to a low point along the west property line. Once ponded at the west property line the water flows north to the swale that runs in between the business parks to the detention pond. This detention pond is northwest of our site and services the surrounding lots. Exhibit 1 shows the existing drainage patterns for the site.

A topographic survey and storage capacity analysis was completed for this existing detention pond. The study showed that the pond is able to accommodate this lot as designed. Our analysis determined that the detention pond is able to receive the sites runoff with an impervious coverage of 60%. Exhibit 2 shows this study and its accompanying calculations.

We have spoken to the owner and he in turn has spoken with the prior owner and the neighbors. They are not aware of any drain tiles on these properties. The project site did not have a different prior land use which would be prone to drain tile use. For these reasons, we have no reason to believe any drain tiles exist on this property.

PROPOSED DRAINAGE CONDITIONS

This report has considered the runoff the site improvements create and shows proposed drainage features that properly control the stormwater runoff created by the 100-yr event. The proposed improvements create roughly 52,460-SF of impervious or 56.47% of impervious over the entire site, which includes the existing entrance at the south west corner of the property. The stormwater management system was designed using IL Bulletin 75 rainfall data adopted by McHenry County IL, the rational method, and Bentley FlowMaster software. Exhibit 2 shows the drainage map for the proposed on-site drainage pattern. Since the 100-yr storm event was used to design the storm sewer system, no overland flow route was provided.

A. STORM SEWER DESIGN

To determine the correct size of each storm sewer pipe, the site was divided into six drainage areas. Five drainage area are captured by the storm sewer system and the last area drains off site to the abutting streets. With in each of the five drainage areas a Time of Concentration (Tc) line was drawn to determine the longest flow route. Using this length, the overall slope the runoff travels and the surface type, a Tc Nomograph was used to determine the time in minutes the runoff takes to arrive at an inlet. Exhibit 3 shows the Nomograph.

This time was then used to determine the intensity variable for the rational method for each drainage area. Converting the rainfall data from the IL Bulletin 75 from inches to inches per hour and comparting that to our time of concentration for each section we are able to determine the intensity variable. Exhibit 4 shows this calculation.

Using this found variable, the drainage areas, and the combined runoff coefficient specific to each area, we are able to use the rational method to determine the flows each inlet receives. Exhibit 5 tabulates these results. Using these results and the Bentley FlowMaster software, the correct sizes of storm sewer pipe were determined. These pipes will effectively convey the 100-yr storm event. Exhibit 6 shows the Bentley FlowMaster reports for each pipe section. Below is a rational method summary table for each drainage area.

TABLE 1: RATIONAL METHOD SUMMARY

	AREA - A (AC)	INTENSITY - I (IN/HR)	C	FLOW – Q (CFS)	MAXMUM PIPE DIAMETER (IN)
DRAINAGE AREA NO. 1	0.22	12.36	0.95	2.58	12
DRAINAGE AREA NO. 2	0.30	12.36	0.90	3.35	12
DRAINAGE AREA NO. 3	0.26	12.36	0.84	2.71	12
DRAINAGE AREA NO.4	0.13	12.36	0.84	1.35	15
DRAINAGE AREA NO. 5	0.22	12.36	0.95	2.58	21
UN-DETATINED RUNOFF AREA	0.44				

i. INLET PONDING CALCULATION

The last calculation performed was to determine the ponding elevation if the inlets were ever clogged. This was completed to ensure that each building would be at least 6-inches above the ponded water elevation and meet freeboard and protection requirements. After completing this calculation, it was determined that with a 50% clogging factor storm water did not pond more that 6-inches during a 100-yr storm event. Exhibit 7 shows this calculation and table below shows a summary.

TABLE 2: INLET PONDING SUMMARY

	RIM ELEVATION	PONDING (IN)	FREEBOARD (FT)
INLET NO. 1	908.32	5.03	1.26
INLET NO. 3	908.60	2.08	1.23
INLET NO. 8	908.32	5.77	1.20
INLET NO. 12	908.32	4.87	1.27

CONCLUSION

Utilizing the Rational Method and Bentley FlowMaster software, we are able to confirm that the proposed storm water control system has been properly designed to handle the runoff received. To meet the runoff volume reduction requirements of McHenry County, a snout device with a bio-skirt has been added to the last manhole in the system. This device will filter total suspended solids (TSS) and total petroleum

hydrocarbons (TPH) from the runoff and prevent them from entering the detention pond. Lastly, a maintenance plan has been completed for all the drainage features that the site has. See Exhibit 9 for the maintenance plan.

EXHIBIT 1

EXISTING DRAINAGE AREA MAP

EXISTING DRAINAGE AREA

- DRAINAGE AREA NO. 1
- DESCRIPTION:A GRASSY SITE WITH TREES THROUGH OUT THE SITE THAT SLOPES TO THE EAST TO THE ROAD TO THE NORTH, THEN FLIS AND FLOWS TO THE NORTH SWALE AND THEN EAST TO THE NORTHWEST.
- AREA:2.13 AC TOTAL (2.10 AC STAYS ON SITE / 0.03 AC FLOWS OFF SITE)

LEGEND

+885.52	EXISTING GRADE
	PROPOSED FLOW DIRECTION
	SANITARY MANHOLE
	EXISTING SANITARY SEWER UTILITY
	STORM INLET
	STORM MANHOLE
	EXISTING STORM SEWER UTILITY
	WATER VALVE
	FIRE HYDRANT
	EXISTING WATER UTILITY
	TELECOMMUNICATION CONNECTION
	UNDERGROUND FIBER UTILITY HAND HOLE
	EXISTING FIBER UTILITY
	LIGHT POLE
	COMED ELECTRICAL PEDESTAL
	EXISTING UNDERGROUND ELECTRIC UTILITY
	EXISTING GAS UTILITY

NORTH

GRAPHIC SCALE
(IN FEET)
1"=20 FT.
0 20 30 40 60

CONGRESS PARKWAY

MEMORIAL DRIVE

SITE BENCHMARK
ARROW BOLT ON
FIRE HYDRANT
ELEV: 910.98 (NAVD88)

Sheet Number	EX of 10
Job Number	250907
Date	04/10/2026
Scale	1" = 20 ft.
Checked By	AMS
Designed By	ACT

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.alschmittengineering.com

RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

EXISTING DRAINAGE AREAS

LICENSED PROFESSIONAL ENGINEER
ALBERT M. SCHMITT
062-057051
STATE OF ILLINOIS
EXPIRES 11-30-2027

REVISIONS		
05/20/2026	NO.	CURSORY P.U.D. REVIEW COMMENTS-05/08/2026

CLIENT:

SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8803

EXHIBIT 2

DETENTION BASIN STORAGE CONFIRMATION CALCULATION

215 W. Calhoun Street
Woodstock, Illinois 60098

SCHMITT ENGINEERING

November 5, 2025

City of Crystal Lake- Engineering Division
100 W. Woodstock St.
Crystal Lake, IL 60014

RE: Stormwater Memo for 290 E. Congress Parkway Crystal Lake, IL 60014

This stormwater memo is in regards to evaluating the storage capacity of the existing detention basin on parcel 19-04-301-010. The parcel located at 290 E. Congress Parkway was included in the stormwater detention of the basin when it was originally designed, and the basin needs to be evaluated to determine if it is currently providing the storage volume required so that the parcel on 290 E. Congress Parkway can utilize a 60% impervious coverage limit without needing to provide additional stormwater storage.

The City of Crystal Lake was able to find and provide to our client, John Konsor, the stormwater calculations that Rezek, Henry, Meisenheimer and Gende, Inc. computed for the basin back in 1989. These calculations have been attached to this memo. The design engineer determined the basin needed to provide 308,057 cubic feet of storage between the elevations of 891.5 to 902. The design engineer also determined that after settling, the basin would provide 342,091 cubic feet of storage.

Our client ordered a topographic survey of the existing detention basin which was completed by Vanderstappen Land Surveying, Inc. and is dated October 17, 2025. This topo survey is also attached to this memo. The existing storage was computed from this topographic survey, and the basin currently provides 351,843 cubic feet of storage which is greater than the design amount (see attached volume calculation).

Since the existing detention basin provides more stormwater storage than what it was originally designed to provide, the parcel located at 290 E. Congress Parkway can utilize a 60% impervious lot coverage without needing to provide additional stormwater storage in the existing basin on parcel 19-04-301-010.

Thank you,
THOMAS MROZ, P.E
Cell: (815) 978-0659
thomasm@schmittengineer.com



215 W. Calhoun Street
Woodstock, Illinois 60098

SCHMITT ENGINEERING

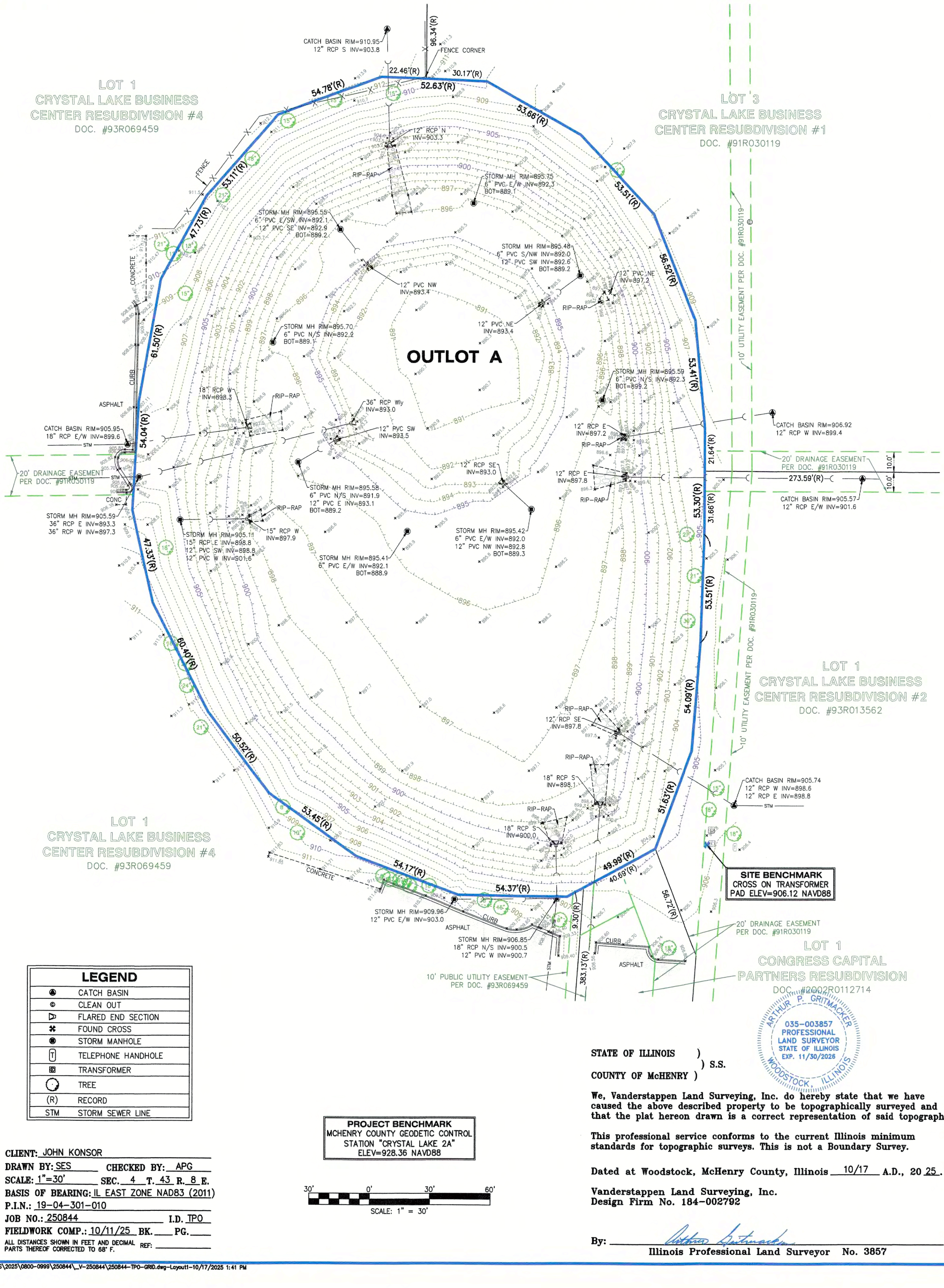
Topographic Survey by Vanderstappen Land Surveying, Inc. 10/17/2025

Tel: (815) 337-7810 Fax: (815) 337-7812
web: www.alschmittengineering.com

Vanderstappen
Land Surveying, Inc.
www.vandersinc.com
1316 N. Madison St.
Woodstock, Illinois 60098
ph. 815-337-8310 fax 815-337-8314
"Always faithful to the property line"

TOPOGRAPHIC SURVEY

Outlot A in Crystal Lake Business Center Resubdivision No. 1, being part of the Southwest Quarter of Section 4, Township 43 North, Range 8 East of the Third Principal Meridian, McHenry County, Illinois, per Plat of Subdivision recorded with the Recorder of Deeds of McHenry County on August 9, 1991 as Document No. 91R030119.



LEGEND	
◉	CATCH BASIN
©	CLEAN OUT
▷	FLARED END SECTION
✖	FOUND CROSS
◉	STORM MANHOLE
T	TELEPHONE HANDHOLE
▣	TRANSFORMER
○	TREE
(R)	RECORD
STM	STORM SEWER LINE

PROJECT BENCHMARK
MCHENRY COUNTY GEODETIC CONTROL
STATION "CRYSTAL LAKE 2A"
ELEV=928.36 NAVD88

30' 0' 30' 60'
SCALE: 1" = 30'

CLIENT: JOHN KONSOR
DRAWN BY: SES **CHECKED BY:** APG
SCALE: 1"=30' **SEC.** 4 **T.** 43 **R.** 8 **E.**
BASIS OF BEARING: IL EAST ZONE NAD83 (2011)
P.I.N.: 19-04-301-010
JOB NO.: 250844 **I.D.** TPO
FIELDWORK COMP.: 10/11/25 **BK.** ___ **PG.** ___
ALL DISTANCES SHOWN IN FEET AND DECIMAL PARTS THEREOF CORRECTED TO 68° F. **REF:** ___

STATE OF ILLINOIS)
) S.S.
COUNTY OF McHENRY)

We, Vanderstappen Land Surveying, Inc. do hereby state that we have caused the above described property to be topographically surveyed and that the plat hereon drawn is a correct representation of said topography.

This professional service conforms to the current Illinois minimum standards for topographic surveys. This is not a Boundary Survey.

Dated at Woodstock, McHenry County, Illinois 10/17 A.D., 20 25.

Vanderstappen Land Surveying, Inc.
Design Firm No. 184-002792

ARTHUR P. GRITMACKER
035-003857
PROFESSIONAL
LAND SURVEYOR
STATE OF ILLINOIS
EXP. 11/30/2026
WOODSTOCK, ILLINOIS

By: *Arthur Gritmacker*
Illinois Professional Land Surveyor No. 3857

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215 W. Calhoun Street
Woodstock, Illinois 60098

SCHMITT ENGINEERING

Existing Detention Storage Being Provided

Tel: (815) 337-7810 Fax: (815) 337-7812
web: www.alschmittengineering.com

Existing Basin per Vanderstappen Topo dated 10/17/25

Contour	Area (sq.ft.)	Volume (cf)	Accumulated Volume (cf)	Accumulated Volume (ac-ft)
891.5	5,110	0	0	0.00
892.0	7,080	3,048	3,048	0.07
893.0	9,760	8,420	11,468	0.26
894.0	11,450	10,605	22,073	0.51
895.0	13,210	12,330	34,403	0.79
896.0	23,620	18,415	52,818	1.21
897.0	37,375	30,498	83,315	1.91
898.0	47,340	42,358	125,673	2.89
899.0	52,500	49,920	175,593	4.03
900.0	56,755	54,628	230,220	5.29
901.0	60,850	58,803	289,023	6.64
902.0	64,790	62,820	351,843	8.08

215 W. Calhoun Street
Woodstock, Illinois 60098

SCHMITT ENGINEERING

Rezek, Henry, Meisenheimer and Gende, Inc. 1989 Stormwater Calculations

Tel: (815) 337-7810 Fax: (815) 337-7812
web: www.alschmittengineering.com

file McIntosh drainage calcs

Rezek, Henry, Meisenheimer and Gende, Inc.
Consulting Engineers (312) 362-5959
162 E. Cook Ave., P.O. Box 40, Libertyville, Illinois 60048

February 7, 1989

received 2/10/89

Mr. Bill Geegan
City of Crystal Lake
100 Municipal Complex
Crystal Lake, IL 60014

Re: Crystal Lake Business Center
Stormwater Management Facilities
Project No. 8803051

Dear Mr. Geegan:

Per your request, enclosed please find the revised stormwater calculations for Detention Pond No. 1. Additionally, I am enclosing a revised set of plans for both Ponds No. 1 and 3.

If you have any questions, please call me.

Sincerely yours,

REZEK, HENRY, MEISENHEIMER AND GENDE, INC.

Philip D. Smith

PDS/amd

Enclosures

cc: Mr. Rich Raffin - McIntosh, Ltd.

76A

(312) 362-5959

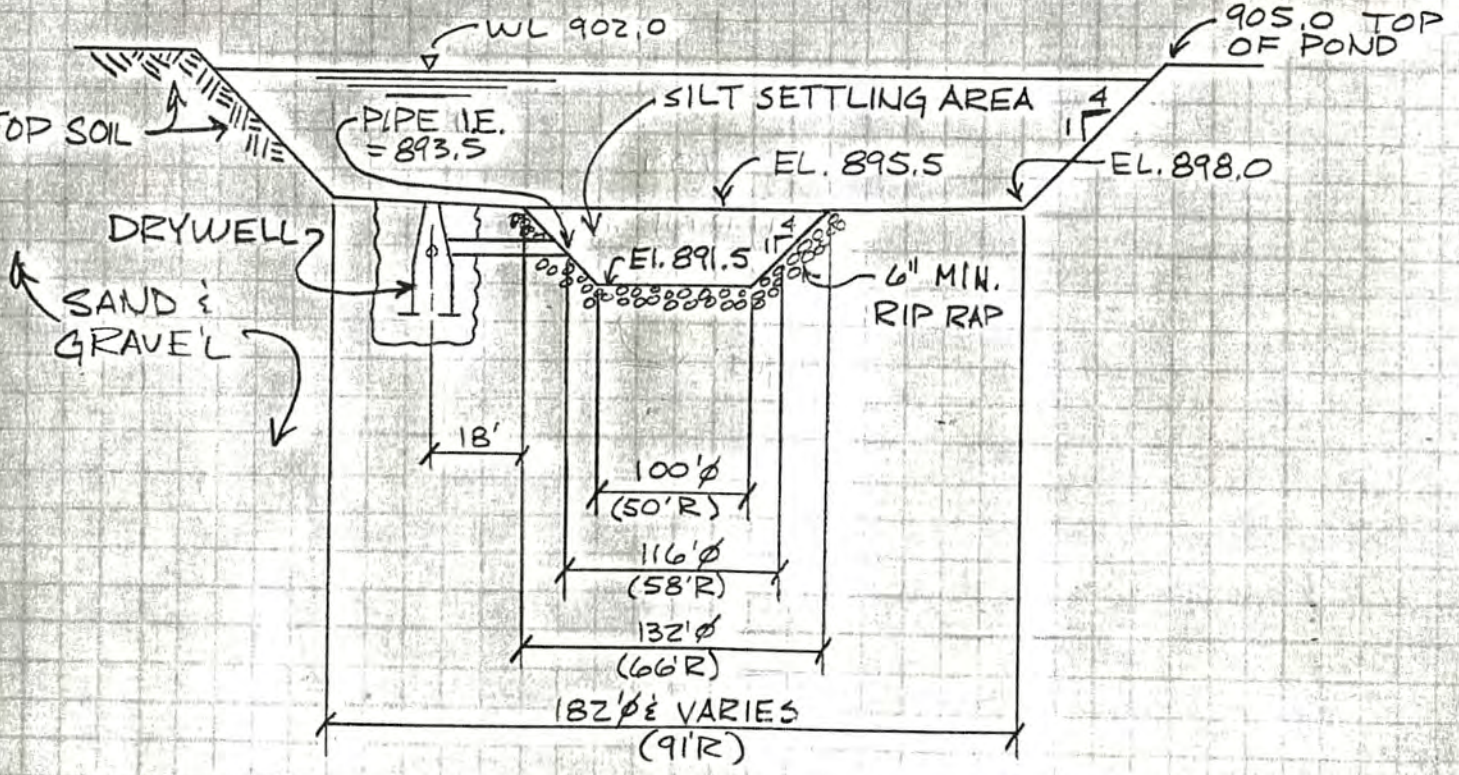
Rezek, Henry,
Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Temp. Sheet No. _____

SUBJECT: Detention Pond No. 1 Calc. by PDS Date Feb. 2, 19

Div. of Work: Redesign Checked by _____ Date _____

Consulting Engineers Job. No. 8803051 Sheet No. 1 of _____



1. AREA of DRAINAGE = 28.36 ACRES ✓

2. STORAGE AREA = 7.07 Ac/Ft = 308,057 Ft³ ✓

3. EXFILTRATION (Allowable Release Rate) = 3.57 cfs ✓

[taken from appendix "A", Crystal Lake Business Center, Storm Water Management Calculations, attached]

→ Actual Storage Area = 342,091 Ft³ → see attached Volumn Calc's.

(312) 362-5959

Rezek, Henry,
Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Temp. Sheet No. _____

SUBJECT: Detention Pond No. 1 Calc. by PDS Date Feb. 2,

Div. of Work: Redesign Checked by _____ Date _____

Consulting Engineers Job. No. 8803051 Sheet No. 2 of ___

Calculate Q flow into Storage Area

Q = cfs

C = coefficient, composite runoff

I = intensity for ten year storm, in inches/hour

A = Area

$Q = CIA$

$Q = (0.81)(3.0)(28.36)$ [taken from Appendix "D", Crystal Lake Business Center, Storm Wate Management Calculations, attache

$Q = \underline{68.91 \text{ cfs}}$ ✓

Silt Settling Area Required

Assume 100% settling of 500 μ (0.05mm) silt

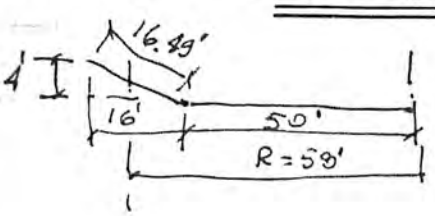
$V_t = 6.562 \times 10^{-3}$ ft/sec $A = \frac{68.91 \text{ cfs}}{6.562 \times 10^{-3}} = \underline{10{,}501.4 \text{ SF}}$ ✓

[V_t taken from Appendix "D", Crystal Lake Business Center, Storm Water Management Calculations, attached]

Actual Silt Settling Area

Diameter of circle = 116' ✓ (58' R.), 2' above bottom.

$\pi 58'^2 = \underline{10568.3 \text{ SF}}$ Actual Area in excess of Required Are



$58' \times 2 \times \pi = 364.42 \text{ LF} \times 16.49' = 6010.2 \text{ SF}$

$(50)^2 \times \pi = 7854.0 \text{ SF}$

ACTUAL → 13,864.2 SF

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Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Consulting Engineers

SUBJECT: Detention Pond No. 1 Calc. by PDS Date Feb. 2, 8
Temp. Sheet No. ____

Div. of Work: Redesign Checked by ____ Date ____

Job. No. 8803051 Sheet No. 3 of ____

Drywells Required

Each Drywell has a release rate of 0.23 cfs [taken from Sht. 4 of 11, Storm Water Management Calc's, attached]

Thus → # Units = $\frac{\text{exfiltration (allowable release rate)}}{\text{(drywell release rate)}}$

$\frac{3.57}{0.23} = 15.5 \rightarrow$ say 16 ✓

AREA REQ'D 15.5 x 113.10 = 1753 SF

8 x 113.10 SF = 904.8 SF
8 x 5' x (64.29 - 12) = 2091.7 SF
TOTAL = 2996.5 SF ✓

Drywells provided = 8

Additional exfiltration can be achieved through the 6" ϕ Perforated PVC Pipe Beds as follows:

Area of Pipe Beds = (64' length - 12' Drywell) x 5' width
= 260 SF x 8 pipe beds
= 2080 SF

Since 100 SF = 0.2 cfs release, [taken from Sht. 4 of 11 Storm Water Management Calc's, attached]

$\frac{2080 \text{ SF}}{100 \text{ SF}} \times 0.2 \text{ cfs} = 4.16 \text{ cfs}$ ← exfiltration via pipe beds

Thus $\frac{4.16 \text{ cfs}}{0.23 \text{ cfs/drywell}} = 18$ drywells, which is greater than the remaining 8 drywells required to achieve exfiltration (16 - 8 = 8)

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Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Temp. Sheet No. _____

SUBJECT: Detention Basin #1 Redesign Calc. by PDS Date Jan. 23, 1989

Div. of Work: Volumn Calcs Checked by _____ Date _____

Consulting Engineers Job. No. 880305/ Sheet No. 1 of 2

Area of Silt Settling Area

$\pi 50^2 = 7854$ SF (891.5 EL)

$\pi 66^2 = 13685$ SF (895.5 EL)

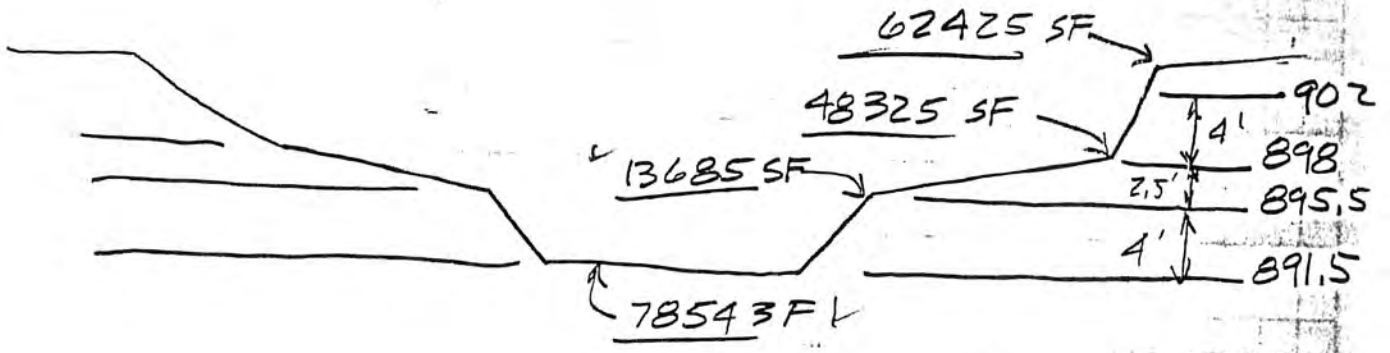
898 EL 12.20 > 19.3
31.50 > 19.35
50.85 > 19.35

50' X 50'

19.33 x 2500' = 48325 SF

902 EL (HWL) 52.90 > 24.98
77.88 > 24.97
102.85 > 24.97

24.98 x 2500' = 62425 SF



-5959

Rezek, Henry,
Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Consulting Engineers

Temp. Sheet No. _____

SUBJECT: _____ Calc. by _____ Date _____

Div. of Work: _____ Checked by _____ Date _____

Job. No. 8803051 Sheet No. 2 of 2

Area of Basin

895.5 - 891.5 = 4 ft

$\frac{7854 \square + 13685 \square}{2}$ = 10769.5 SF x 4 ft = 43078 CF

$\frac{13685 \square + 48325 \square}{2}$ = 31005 SF x 2.5 ft = 77513 CF

$\frac{48325 \square + 62425 \square}{2}$ = 55375 SF x 4 ft 221500 CF

Storage Area = 342091 CF ✓

CRYSTAL LAKE BUSINESS CENTER

STORM WATER MANAGEMENT CALCULATIONS

SEPTEMBER, 1987

REZEK, HENRY, MEISENHEIMER AND GENDE, INC.
LIBERTYVILLE, IL 60048

#880302

(312) 362-5959

Rezek, Henry,
Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Temp. Sheet No. _____

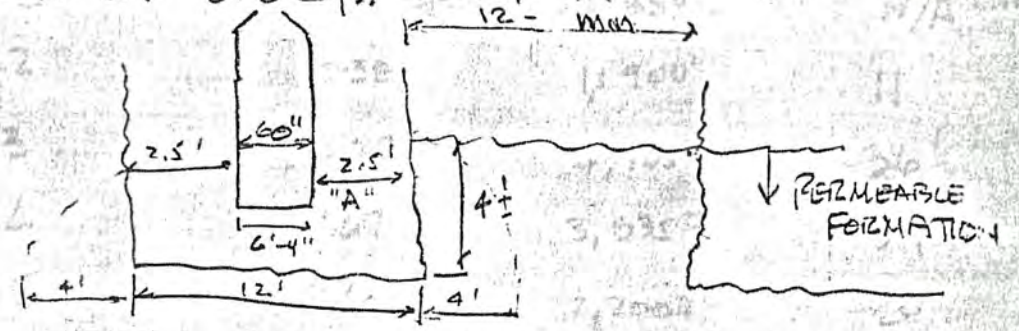
SUBJECT: _____ Calc. by JWR Date 9/15/87

Div. of Work: _____ Checked by _____ Date _____

Consulting Engineers Job. No. 880302 Sheet No. 4 of 11

f. CHECK K value against City Stds.

City says each DRY well has max. EXFILTRATION RATE OF 0.5 cfs.



AREA of INFLUENCE = 12' ϕ

$= (\pi/4)(12)^2 = 112.9\ \square'$

Q = 0.5 cfs over 112.9 □'

OR $\frac{0.5\ cfs}{112.9}(100) = 0.44\ cfs/100\ \square'$ OF AREA

OR EQUIVALENT $K = \left(\frac{0.44\ cfs}{100\ ft^2}\right) = 4.4 \times 10^{-3}\ \frac{ft}{sec}\left(\frac{30.48\ cm}{FT}\right)$

$= 0.13\ cm/sec$

OK $0.13\ cm/sec > 0.5 \times 10^{-1}\ cm/sec$

USE $0.5 \times 10^{-1}\ cm/sec$.

DESIGN CRITERIA - $\left(\frac{0.44\ cfs}{100\ \square'}\right)\left(\frac{0.5 \times 10^{-1}}{1.3 \times 10^{-1}}\right) = 0.17$

→ Use 0.2 cfs/100 □'

OR FOR EACH DRY well - use

$\frac{(0.2\ cfs)}{100'}(112.9) = 0.23\ cfs$ / DRY well

CRYSTAL LAKE BUSINESS CENTER

STORM WATER RETENTION BASIN SIZING

100 - YEAR STORM
EXFILTRATION RATE - 1/2 basin in 12 hours
(Release Rate)

APPENDIX "A"

SEPTEMBER, 1987
REZEK, HENRY, MEISENHEIMER AND GENDE, INC.
LIBERTYVILLE, IL 60048

#880302

9/8/87

CRYSTAL LAKE NORTH LOOP ROAD
STORMWATER RETENTION REQUIREMENTS
AREA 1

880301

Area of site	28.36 acres
Allowable release rate	3.57 cfs
Drainage basin area	28.36 acres
Composite runoff coefficient	0.81
Flood reservoir capacity	7.07 Acre-Ft.
	308,057 Cubic Ft.
	3.57 CF/sec/day

75% developed land @ C=0.75

~25% " " into permanent body of water @ C = 1.0

Composite "C" = $\frac{(0.75)(75\%) + (25\%)(1.0)}{100\%}$ =

= 0.8125

"C" = 0.81

OVERALL

DURATION TIME (Hours)	(Minutes)	INTENSITY FOR 100-YR STORM (In./Hr.)	INFLOW RATE (cfs)	STORED RATE (cfs)	RESERVOIR SIZE (Acre-Ft.)	
0.17	10	7.60	174.58	171.73	2.39	
0.33	20	5.50	126.34	123.49	3.43	
0.50	30	4.40	101.08	98.22	4.09	
0.67	40	3.70	84.99	82.14	4.56	
0.83	50	3.20	73.51	70.66	4.91	
1.00	60	2.80	64.32	61.47	5.12	
1.50	90	2.10	48.24	45.39	5.67	
2.00	120	1.70	39.05	36.20	6.03	
3.00	180	1.20	27.57	24.71	6.18	
4.00	240	1.00	22.97	20.12	6.71	
5.00	300	0.84	19.30	16.44	6.85	
6.00	360	0.73	16.77	13.92	6.96	
7.00	420	0.65	14.93	12.08	7.05	$(6.5)(7) = 4.5$
8.00	480	0.58	13.32	10.47	6.98	
9.00	540	0.53	12.17	9.32	6.99	
10.00	600	0.49	11.26	8.40	7.00	
11.00	660	0.46	10.57	7.71	7.07	$(0.46)(11) = 5.06$
12.00	720	0.43	9.88	7.03	7.03	
13.00	780	0.4	9.19	6.34	6.86	
14.00	840	0.38	8.73	5.88	6.86	
15.00	900	0.36	8.27	5.42	6.77	

CRYSTAL LAKE BUSINESS CENTER

RETENTION BASINS
PRELIMINARY DESIGN
BASINS #2 - #6

APPENDIX "D"

SEPTEMBER, 1987
REZEK, HENRY, MEISENHEIMER AND GENDE, INC.
LIBERTYVILLE, IL 60048

#880302

(312) 362-5959

Rezek, Henry,
Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Temp. Sheet No. _____

SUBJECT: _____ Calc. by _____ Date _____

Div. of Work: _____ Checked by _____ Date _____

Consulting Engineers Job. No. _____ Sheet No. 4 of 25

2) DETERMINE SIZE OF SETTLING BASIN AREA.

ASSUME SILT - DISCRETE PARTICLES - TYPE I SEDIMENTATION,
SIZE - 0.005 TO 0.05 mm ϕ (STANDARD HANDBOOK FOR CIVIL ENG - P. 7-4)

SETTLING VELOCITY: SILT @ SP 2.65 (SAND - SILICA)
("ENVIRONMENTAL ENG. P. 76 FIGURE 3.2)

SIZE 0.005 mm V_t = 0.00175 cm/sec = 5.742×10^{-5} F/sec.
0.05 mm V_t = 0.2 cm/sec. = 6.562×10^{-3} F/sec.

$$V_t = \frac{Q}{A} \qquad A = \frac{Q}{V_t}$$

0.005 mm = 50μ ϕ
0.05 mm = 500μ ϕ

1) DETERMINE AREA OF SETTLING POND

Q = 2.35 CFS

$$A = \frac{46.15 \text{ CFS}}{5.742 \times 10^{-5}} = 803,983 \text{ SF} \ (18.45 \text{ ac})$$

$$A = \frac{46.15 \text{ CFS}}{6.562 \times 10^{-3}} = 7032.5 \text{ SF} = 94.6 \text{ FT } \phi$$

FOR 100% REMOVAL OF SMALLEST SILT PARTICLE WILL NEED POND = TO LARGE
FOR 100% " " LARGE " " " " = 94.6' ϕ

∴ TRY TO REMOVE 100% PARTICLES OF 500μ (0.05 mm)

∴ USE SETTLING BASIN = 95 FT ϕ.

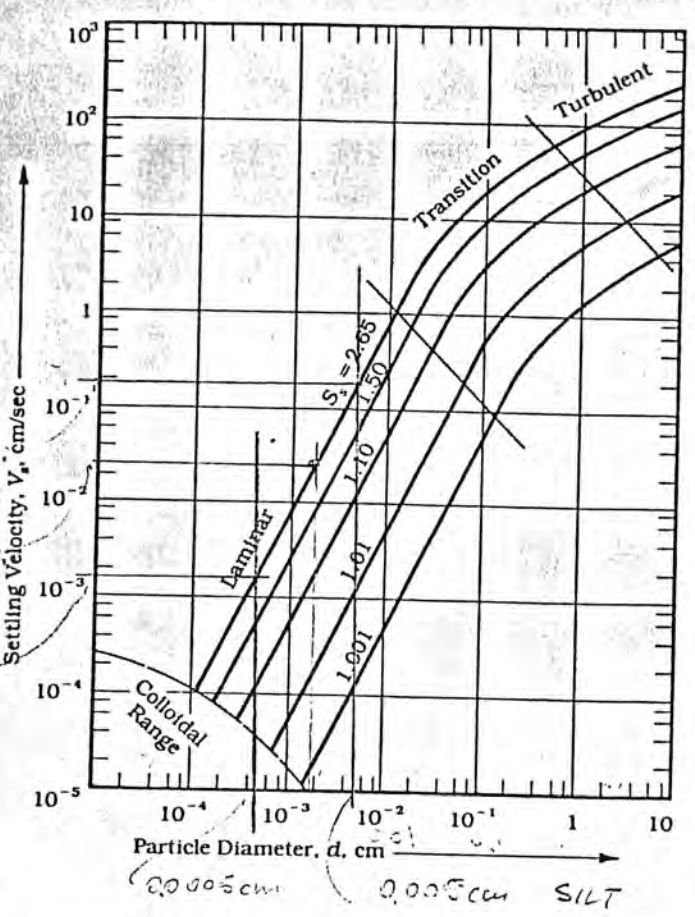
4 DETERMINE FLOW INTO STORAGE AREA

@ t_c = 30 MINUTES & 10 YEAR STORM @ 3"/HR. (I)
C = 0.75, I = 3.0

$$Q_{INLET} = CIA = (0.75)(3.0)(20.51 \text{ ac})$$

∴ Q_{IN} = 46.15 CFS

Figure 3.2. Type I Settling of Spheres in Water at 10°C
Adapted from "Water Treatment" by T. R. Camp in *Handbook of Applied Hydraulics*, 2nd ed., ed. C. V. Davis. Copyright © 1952 by McGraw-Hill Book Co., Inc. Reprinted by permission.



$2 \times 10^{-1} = 0.2$ cm/sec

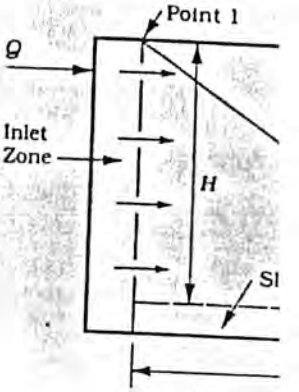
$2.6 \times 10^{-2} = 0.026$ cm/sec

$1.75 \times 10^{-3} = 0.00175$ cm/sec.

4. There are three zones in the basin: (1) the entrance zone, (2) the outlet zone, and (3) the sludge zone.
5. There is a uniform distribution of particles throughout the depth of the entrance zone.
6. Particles that enter the sludge zone remain there and particles that enter the outlet zone are removed.

Figure 3.3 shows an ideal rectangular settling basin of a length, L, a width, W, and a depth, H. V_o is the settling velocity of the smallest particle size that is 100 percent removed. When a particle of this size enters the basin at the water surface, point 1, it has a trajectory as shown and

Figure 3.3. Ideal Rectar



intercepts the sludge zone a
stream end. The detention
divided by the settling veloc

$$t = \frac{H}{V_o}$$

The detention time, t, is alsc
by the horizontal velocity, V

$$t = \frac{L}{V}$$

The horizontal velocity, V, is
vided by the cross-sectional a

$$V = \frac{Q}{HW}$$

(312) 362-5959

Rezek, Henry,
Meisenheimer and Gende, Inc.
Consulting Engineers
162 E. Cook Avenue - P. O. Box 40
Libertyville, IL 60048

Consulting Engineers

Temp. Sheet No. _____

SUBJECT: Crystal Lake Business Center Calc. by JWR Date 8/20/8

Div. of Work: INTENSITY/DURATION CURVES Checked by _____ Date _____

Job. No. 88030 CRYSTAL LAKE Sheet No. 5 of 25

$Q = CIA$

$Q = (0.75)(3.0)A$

$Q = 2.25A$

$A = ac$

Q CFS

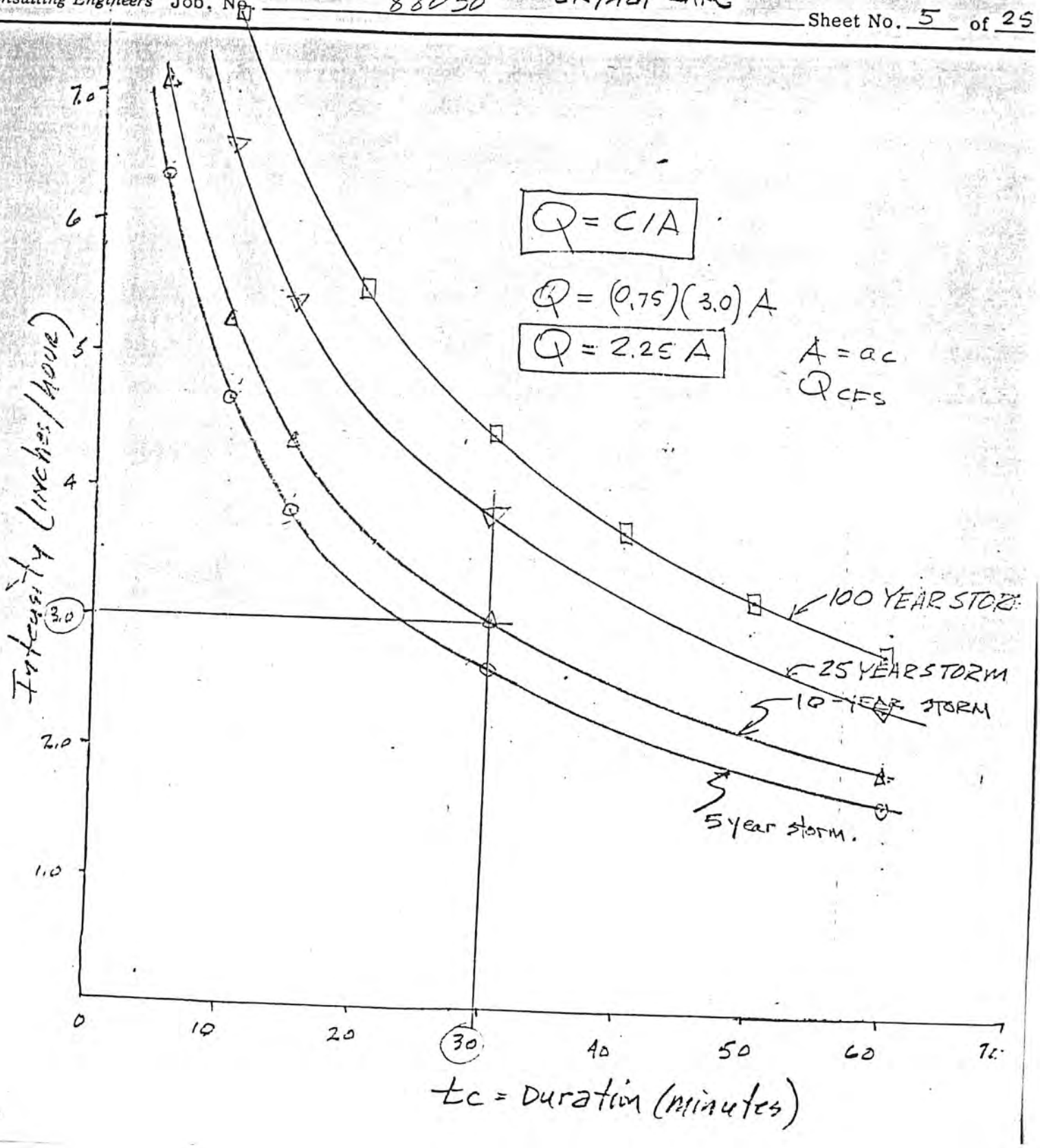


EXHIBIT 3

PROPOSED DRAINAGE AREA MAP

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PROPOSED DRAINAGE AREA

- DRAINAGE AREA NO. 1
  DESCRIPTION:NORTH SECTION OF THE PROPOSED DRIVEWAY AND GARAGE UNITS THAT DRAINS TO INLET NO. 12. NO PERVIOUS SURFACE DRAINS TO INLET
  AREA:0.22 AC
  C%: 0.95
  TIME OF CONCENTRATION: MINIMUM OF 5 MINUTES
- DRAINAGE AREA NO. 2
  DESCRIPTION: SOUTH SECTION OF THE PROPOSED GARAGE UNITS AND THE MIDDLE SECTION OF THE PROPOSED DRIVEWAY, PROPOSED CONCRETE SIDEWALK, AND THE GRASS AREA NEXT TO THE BUILDING THAT DRAINS TO INLET NO. 8
  AREA: 0.30 AC (0.02 AC PERVIOUS / 0.28 AC IMPERVIOUS)
  C%: 0.90
  TIME OF CONCENTRATION: MINIMUM OF 5 MINUTES
- DRAINAGE AREA NO. 3
  DESCRIPTION: THE MIDDLE AND SOUTH SECTION OF THE PROPOSED DRIVEWAY, CONCRETE SIDEWALK, AND THE GRASS AREA ALONG THE BUILDING THAT DRAINS TO INLET NO. 1
  AREA: 0.26 AC (0.04 AC PERVIOUS / 0.24 AC IMPERVIOUS)
  C%: 0.84
  TIME OF CONCENTRATION: MINIMUM OF 5 MINUTES
- DRAINAGE AREA NO. 4
  DESCRIPTION: THE SOUTH WEST SECTION OF THE PROPOSED DRIVEWAY, CONCRETE SIDEWALK, AND THE GRASS AREA ALONG THE BUILDING THAT DRAINS TO INLET NO. 3
  AREA: 0.13 AC (0.02 AC PERVIOUS / 0.11 AC IMPERVIOUS)
  C%: 0.84
  TIME OF CONCENTRATION: MINIMUM OF 5 MINUTES
- DRAINAGE AREA NO. 5
  DESCRIPTION: THE DOWNSPOUT COLLECTION OF THE ROOF RUNOFF FROM THE BUILDING THAT DRAINS TO STORM MANHOLE NO. 7
  AREA: 0.22 AC
  C%: 0.95
  TIME OF CONCENTRATION: MINIMUM OF 5 MINUTES
- UN-DETAINED AREAS
  NORTHWEST SECTION
  DESCRIPTION: A GRASS AREA THAT INCLUDES SIDEWALK, PATIO, PERGOLA, AND FIRE PLACE AREAS THAT DRAINS TO THE SWALE ALONG THE NORTH PROPERTY LINE AND THEN WEST TOWARDS THE POND
  AREA: 0.91 AC (0.04 AC IMPERVIOUS / 0.47 AC PERVIOUS)
  SOUTHEAST SECTION
  DESCRIPTION: A GRASS AREA THAT INCLUDES SIDEWALK TO THE SOUTH, A PORTION OF THE ROOF LINE OF THE GARAGE THAT DRAINS TO THE ROAD WAY, EITHER MEMORIAL DRIVE OR CONGRESS PARKWAY.
  AREA: 0.44 AC (0.03 AC IMPERVIOUS / 0.41 AC PERVIOUS)

LEGEND

+885.52	EXISTING GRADE
	SANITARY MANHOLE
	EXISTING SANITARY SEWER UTILITY
	PROPOSED SANITARY SEWER UTILITY
	STORM INLET
	STORM MANHOLE
	EXISTING STORM SEWER UTILITY
	PROPOSED STORM SEWER UTILITY
	WATER VALVE
	FIRE HYDRANT
	EXISTING WATER UTILITY
	PROPOSED WATER UTILITY
	TELECOMMUNICATION CONNECTION
	UNDERGROUND FIBER UTILITY HAND HOLE
	EXISTING FIBER UTILITY
	PROPOSED FIBER UTILITY
	LIGHT POLE
	COMED ELECTRICAL PEDESTAL
	EXISTING UNDERGROUND ELECTRIC UTILITY
	PROPOSED UNDERGROUND ELECTRIC UTILITY
	EXISTING GAS UTILITY
	PROPOSED GAS UTILITY

NORTH

GRAPHIC SCALE
0 20 30 40 60
(IN FEET)
1"=20 FT.

NORTHWEST UN-DETAINED AREA

DRAINAGE AREA NO. 4

TIME OF CONCENTRATION PATH

PROP. 24-UNIT APARTMENT COMPLEX
T/F=910.50
GRADE AROUND COMPLEX=910.00

DRAINAGE AREA NO. 5

TIME OF CONCENTRATION PATH

GARAGE COMPLEX 1
T/F=909.95
GAR/F @ DOOR=909.45

GARAGE COMPLEX 2
GAR/F @ DOOR=909.45

DRAINAGE AREA NO. 1

TIME OF CONCENTRATION PATH

DRAINAGE AREA NO. 2

TIME OF CONCENTRATION PATH

DRAINAGE AREA NO. 3

SOUTHEAST UN-DETAINED AREA

CONGRESS PARKWAY

MEMORIAL DRIVE

SITE BENCHMARK
ARROW BOLT ON FIRE HYDRANT
ELEV: 910.98 (NAVD88)

907.71
908.09
907.49

EX of 10

Sheet Number 250907 Job Number

04/10/2026 Date

1" = 20 ft. Scale

AMS Checked By

ACT Designed By

SCHMITT ENGINEERING
215 West Calhoun Street, Woodstock, Illinois 60098
Phone (815) 337-7810 Fax (815) 337-7812
www.alschmittengineering.com

RESIDENTIAL APARTMENT UNITS
LOT 2 OF CRYSTAL LAKE BUSINESS CENTER
290 CONGRESS PARKWAY
CRYSTAL LAKE, IL 60014
P.I.N.: 19-04-301-024

PROPOSED DRAINAGE AREAS

ALBERT L. SCHMITT 062.046281 LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
EXPIRES 11-30-2027

REVISIONS

05/20/2026	NO. 1	CURSORY P.U.D. REVIEW COMMENTS 05/08/2026

CLIENT:

SUNSHINE APARTMENTS LLC
CONTACT: JOHN KONSOR
20111 SUNSHINE LANE
DEER PARK, IL 60010
JKONSOR@COMCAST.NET
(847) 863 - 8803

EXHIBIT 4

TIME OF CONCENTRATION NOMOGRAPH

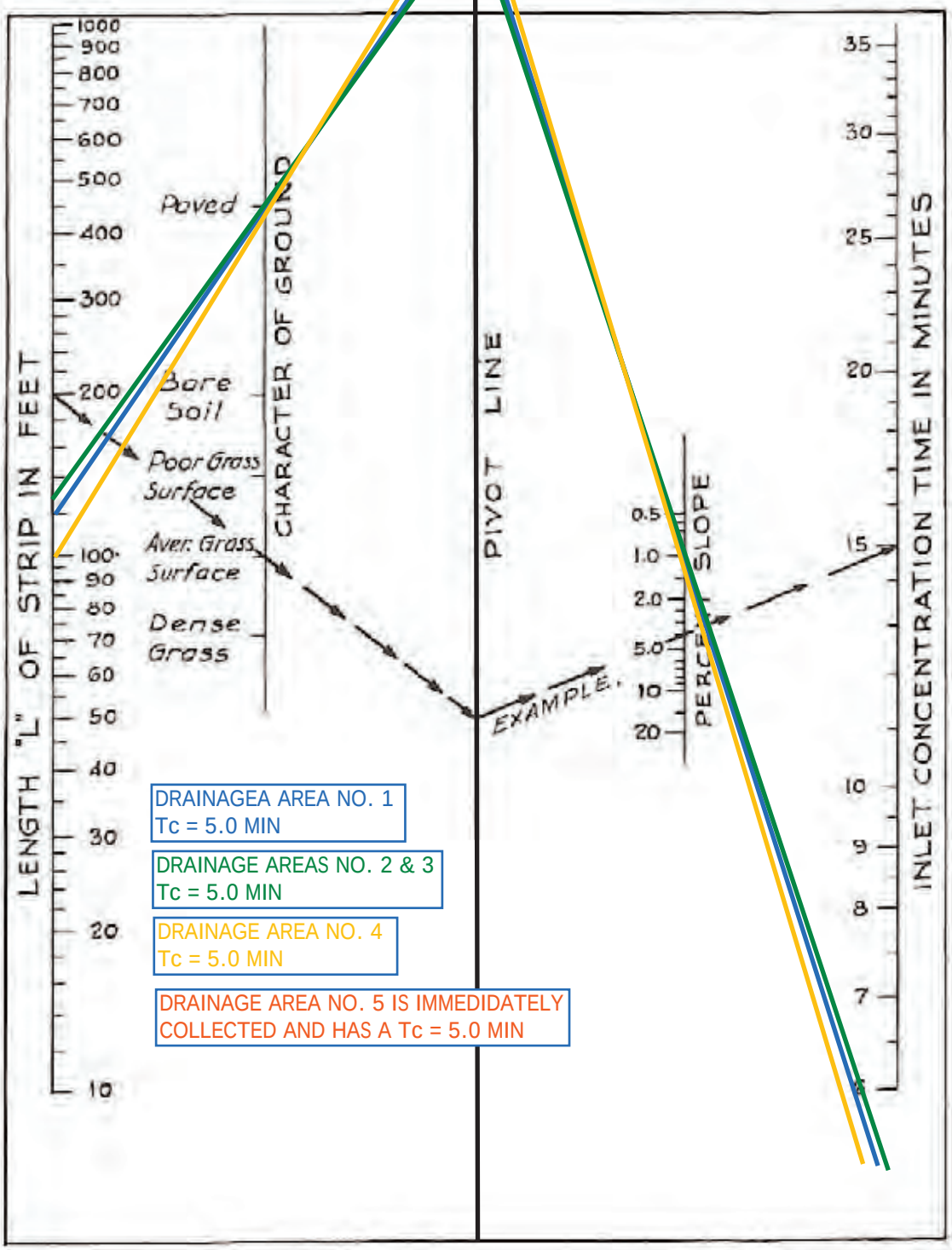

LENGTH "L" OF STRIP IN FEET
1000
900
800
700
600
500
400
300
200
100
90
80
70
60
50
40
30
20
10
CHARACTER OF GROUND
Paved
Bare Soil
Poor Grass Surface
Aver. Grass Surface
Dense Grass
PIVOT LINE
EXAMPLE
PERCENT SLOPE
0.5
1.0
2.0
5.0
10
20
INLET CONCENTRATION TIME IN MINUTES
35
30
25
20
15
10
9
8
7
DRAINAGEA AREA NO. 1
Tc = 5.0 MIN
DRAINAGE AREAS NO. 2 & 3
Tc = 5.0 MIN
DRAINAGE AREA NO. 4
Tc = 5.0 MIN
DRAINAGE AREA NO. 5 IS IMMEDIDATELY
COLLECTED AND HAS A Tc = 5.0 MIN

EXHIBIT 5

DURATION AND INTENSITY CALCULATION

TIME OF CONCENTRATION DURATION (MIN)	10-YR INTENSITY (IN/HR)	100-YR INTENSITY (IN/HR)
5	7.44	12.36
6	7.25	12.05
8	7.18	11.42
10	6.48	10.80
12	6.11	10.19
14	5.74	9.58
15	5.56	9.28
16	5.44	9.09
18	5.21	8.69
20	4.98	8.30
22	4.75	7.91
24	4.52	7.52
23	4.28	7.12
28	4.05	6.73
30	3.82	6.34
32	3.72	6.19
34	3.63	6.03
36	3.54	5.88
38	3.45	5.72
40	3.35	5.57
42	3.26	5.42
44	3.17	5.26
46	3.07	5.11
48	2.98	4.95
50	2.89	4.80
52	2.79	4.65
54	2.70	4.49
56	2.61	4.34
58	2.51	4.18
60	2.42	4.03

DRAINAGE AREA NO. 1	
Tc (MIN.) =	5.0
10-YR INTENSITY (IN/HR) =	7.44
100-YR INTENSITY (IN/HR) =	12.36

DRAINAGE AREA NO. 2	
Tc (MIN.) =	5
10-YR INTENSITY (IN/HR) =	7.44
100-YR INTENSITY (IN/HR) =	12.36

DRAINAGE AREA NO. 3	
Tc (MIN.) =	5
10-YR INTENSITY (IN/HR) =	7.44
100-YR INTENSITY (IN/HR) =	12.36

DRAINAGE AREA NO. 4	
Tc (MIN.) =	5
10-YR INTENSITY (IN/HR) =	7.44
100-YR INTENSITY (IN/HR) =	12.36

DRAINAGE AREA NO. 5	
Tc (MIN.) =	5
10-YR INTENSITY (IN/HR) =	7.44
100-YR INTENSITY (IN/HR) =	12.36

TIME OF CONCENTRATION WAS FOUND USING THE TR-55 METHOD OR A NOMOGRAPH AND THE BULLITEN 75 DATED MARCH 2020 WAS USED

EXHIBIT 6

RATIONAL METHOD STORM SEWER SIZING CALCULATION

100-YR RATIONAL METHOD STORM SEWER SIZING CALCULATION										
INLET / PIPE NO.	PERVIOUS AREA (AC)	IMPERVIOUS AREA (AC)	TIME OF CONCENTRATION DESCRIPTION	Tc (MIN)	TOTAL AREA (AC)	C	I-INTENSITY (IN/HR)	Q-FLOW (CFS)	PIPE DIA. (IN)	DESIGNED SLOPE (%)
DRAINAGE AREA NO. 1										
INLET NO. 12	0	0.22	11 FT OF ROOF RUNOFF, 109 FT OF PAVED ASPHALT DRIVEWAY @ AN AVERAGE 1.0% SLOPE	5	0.22	0.95	12.36	2.58		
PIPE NO. 13								2.58	12	1.91
DRAINAGE AREA NO. 2										
INLET NO. 8	0.02	0.28	127 FT OF PAVED ASPHALT DRIVEWAY @ AN AVERAGE OF 1.0% SLOPE	5	0.30	0.90	12.36	3.35		
PIPE NO. 9								3.35	12	1.27
DRAINAGE AREA NO. 3										
INLET NO.1	0.04	0.22	132 FT OF PAVED ASPHALT DRIVEWAY @ AN AVERAGE OF 1.0% SLOPE	5	0.26	0.84	12.36	2.71		
PIPE NO.2								2.71	12	0.60
DRAINAGE AREA NO. 4										
INLET NO. 3	0.02	0.11	96 FT OF PAVED ASPHALT DRIVEWAY @ AN AVERAGE OF 1.0% SLOPE	5	0.13	0.84	12.36	1.35		
PIPE NO. 4								4.06	15	0.60
DRAINAGE AREA NO. 5										
STORM MANHOLE NO. 7	0	0.22	ROOF RUNOOF COLLECTED BY A DOWNSPOUT COLLECTION SYSTEM	5	0.22	0.95	12.36	2.58		
PIPE NO. 10								9.99	21	0.60
TOTAL SYSTEM										
STORM MANHOLE NO. 11	0.08	1.05	TOTAL AREA SUMMARY							
PIPE NO. 14							TOTAL FLOW =	12.58	21	0.60

NOTE: TO CALCULATE THE COMBINED "C" VALUE, THE IMPERVIOUS "C" VALUE IS 0.95 AND THE PERVIOUS "C" VALUE IS 0.25

EXHIBIT 7

BENTLEY FLOWMASTER STORM SEWER SIZING REPORT

Pipe No. 2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Diameter	1.00	ft
Discharge	2.71	ft^3/s

Results

Normal Depth	0.80	ft
Flow Area	0.68	ft^2
Wetted Perimeter	2.22	ft
Hydraulic Radius	0.30	ft
Top Width	0.79	ft
Critical Depth	0.71	ft
Percent Full	80.4	%
Critical Slope	0.00808	ft/ft
Velocity	4.01	ft/s
Velocity Head	0.25	ft
Specific Energy	1.05	ft
Froude Number	0.76	
Maximum Discharge	2.97	ft^3/s
Discharge Full	2.76	ft^3/s
Slope Full	0.00579	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	80.38	%
Downstream Velocity	Infinity	ft/s

Pipe No. 2

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.80	ft
Critical Depth	0.71	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00808	ft/ft

Cross Section for Pipe No. 2

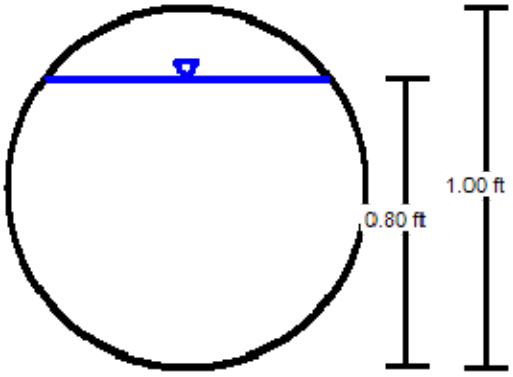
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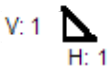
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Normal Depth	0.80	ft
Diameter	1.00	ft
Discharge	2.71	ft³/s

Cross Section Image





Pipe No. 9

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.01270	ft/ft
Diameter	1.00	ft
Discharge	3.35	ft^3/s

Results

Normal Depth	0.70	ft
Flow Area	0.59	ft^2
Wetted Perimeter	1.98	ft
Hydraulic Radius	0.30	ft
Top Width	0.92	ft
Critical Depth	0.78	ft
Percent Full	69.8	%
Critical Slope	0.00967	ft/ft
Velocity	5.72	ft/s
Velocity Head	0.51	ft
Specific Energy	1.21	ft
Froude Number	1.26	
Maximum Discharge	4.32	ft^3/s
Discharge Full	4.01	ft^3/s
Slope Full	0.00884	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	69.83	%
Downstream Velocity	Infinity	ft/s

Pipe No. 9

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.70	ft
Critical Depth	0.78	ft
Channel Slope	0.01270	ft/ft
Critical Slope	0.00967	ft/ft

Cross Section for Pipe No. 9

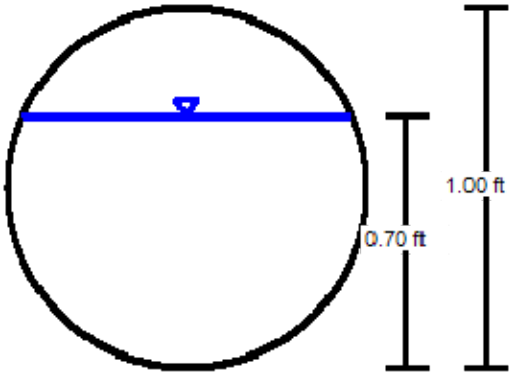
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.01270	ft/ft
Normal Depth	0.70	ft
Diameter	1.00	ft
Discharge	3.35	ft³/s

Cross Section Image



V: 1
H: 1

Pipe No. 13

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.01910	ft/ft
Diameter	1.00	ft
Discharge	2.58	ft^3/s

Results

Normal Depth	0.51	ft
Flow Area	0.41	ft^2
Wetted Perimeter	1.60	ft
Hydraulic Radius	0.25	ft
Top Width	1.00	ft
Critical Depth	0.69	ft
Percent Full	51.4	%
Critical Slope	0.00782	ft/ft
Velocity	6.34	ft/s
Velocity Head	0.63	ft
Specific Energy	1.14	ft
Froude Number	1.75	
Maximum Discharge	5.30	ft^3/s
Discharge Full	4.92	ft^3/s
Slope Full	0.00524	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	51.41	%
Downstream Velocity	Infinity	ft/s

Pipe No. 13

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.51	ft
Critical Depth	0.69	ft
Channel Slope	0.01910	ft/ft
Critical Slope	0.00782	ft/ft

Cross Section for Pipe No. 13

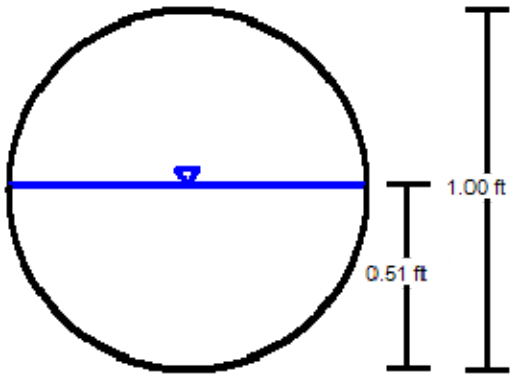
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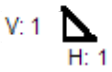
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.01910	ft/ft
Normal Depth	0.51	ft
Diameter	1.00	ft
Discharge	2.58	ft³/s

Cross Section Image





Pipe No. 4

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Diameter	1.25	ft
Discharge	4.06	ft³/s

Results

Normal Depth	0.85	ft
Flow Area	0.89	ft²
Wetted Perimeter	2.43	ft
Hydraulic Radius	0.37	ft
Top Width	1.16	ft
Critical Depth	0.82	ft
Percent Full	68.4	%
Critical Slope	0.00683	ft/ft
Velocity	4.54	ft/s
Velocity Head	0.32	ft
Specific Energy	1.18	ft
Froude Number	0.91	
Maximum Discharge	5.38	ft³/s
Discharge Full	5.00	ft³/s
Slope Full	0.00395	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	68.36	%
Downstream Velocity	Infinity	ft/s

Pipe No. 4

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.85	ft
Critical Depth	0.82	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00683	ft/ft

Cross Section for Pipe No. 4

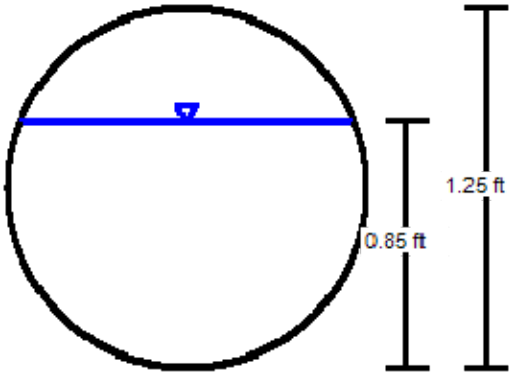
Project Description

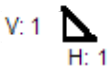
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00600	ft/ft
Normal Depth	0.85	ft
Diameter	1.25	ft
Discharge	4.06	ft³/s

Cross Section Image





Pipe No. 6

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.012	
Channel Slope	0.00600	ft/ft
Diameter	1.25	ft
Discharge	4.06	ft^3/s

Results

Normal Depth	0.81	ft
Flow Area	0.84	ft^2
Wetted Perimeter	2.33	ft
Hydraulic Radius	0.36	ft
Top Width	1.20	ft
Critical Depth	0.82	ft
Percent Full	64.6	%
Critical Slope	0.00582	ft/ft
Velocity	4.84	ft/s
Velocity Head	0.36	ft
Specific Energy	1.17	ft
Froude Number	1.02	
Maximum Discharge	5.83	ft^3/s
Discharge Full	5.42	ft^3/s
Slope Full	0.00337	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	64.57	%
Downstream Velocity	Infinity	ft/s

Pipe No. 6

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.81	ft
Critical Depth	0.82	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00582	ft/ft

Cross Section for Pipe No. 6

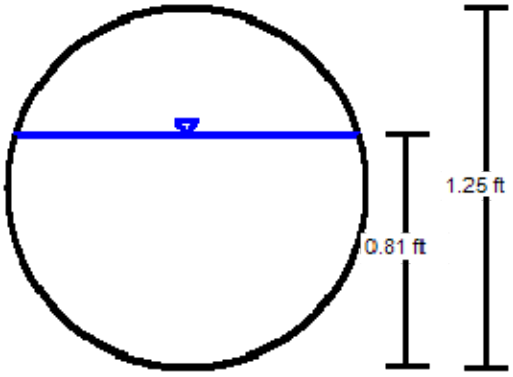
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.012	
Channel Slope	0.00600	ft/ft
Normal Depth	0.81	ft
Diameter	1.25	ft
Discharge	4.06	ft³/s

Cross Section Image



V: 1
H: 1

Pipe No. 10

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.012	
Channel Slope	0.00600	ft/ft
Diameter	1.75	ft
Discharge	9.99	ft³/s

Results

Normal Depth	1.13	ft
Flow Area	1.65	ft²
Wetted Perimeter	3.27	ft
Hydraulic Radius	0.50	ft
Top Width	1.67	ft
Critical Depth	1.18	ft
Percent Full	64.7	%
Critical Slope	0.00538	ft/ft
Velocity	6.07	ft/s
Velocity Head	0.57	ft
Specific Energy	1.70	ft
Froude Number	1.08	
Maximum Discharge	14.30	ft³/s
Discharge Full	13.30	ft³/s
Slope Full	0.00339	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	64.71	%
Downstream Velocity	Infinity	ft/s

Pipe No. 10

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	1.13	ft
Critical Depth	1.18	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00538	ft/ft

Cross Section for Pipe No. 10

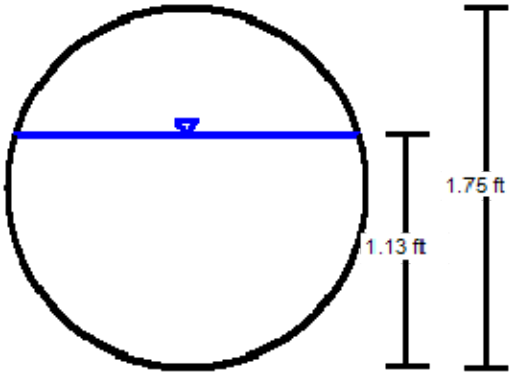
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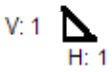
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.012	
Channel Slope	0.00600	ft/ft
Normal Depth	1.13	ft
Diameter	1.75	ft
Discharge	9.99	ft³/s

Cross Section Image





Pipe No. 14

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.012	
Channel Slope	0.00600	ft/ft
Diameter	1.75	ft
Discharge	12.58	ft^3/s

Results

Normal Depth	1.36	ft
Flow Area	2.00	ft^2
Wetted Perimeter	3.77	ft
Hydraulic Radius	0.53	ft
Top Width	1.46	ft
Critical Depth	1.32	ft
Percent Full	77.5	%
Critical Slope	0.00636	ft/ft
Velocity	6.29	ft/s
Velocity Head	0.61	ft
Specific Energy	1.97	ft
Froude Number	0.95	
Maximum Discharge	14.30	ft^3/s
Discharge Full	13.30	ft^3/s
Slope Full	0.00537	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	77.51	%
Downstream Velocity	Infinity	ft/s

Pipe No. 14

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	1.36	ft
Critical Depth	1.32	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.00636	ft/ft

EXHIBIT 8

INLET PONDING CALCULATION

INLET PONDING CALCULATION			
AREA OF INLET (FT^2)			1.2
CLOGGING FACTOR			0.5
PERIMETER OF GRATE (FT)			6.0
INLET PONDING	ORIFICE CONTROL	WIER CONTROL	INLET
DEPTH (IN)	FLOW (CFS)	FLOW (CFS)	NO.
0.5	0.66	0.08	
1.0	0.93	0.24	
1.5	1.14	0.44	
2.0	1.32	0.68	
2.08	1.35	0.72	#3
2.5	1.48	0.95	
3.0	1.62	1.25	
3.5	1.75	1.57	
4.0	1.87	1.92	
4.5	1.98	2.29	
4.87	2.06	2.58	#12
5.0	2.09	2.69	
5.03	2.09	2.71	#1
5.5	2.19	3.10	
5.77	2.24	3.33	#8
6.0	2.29	3.53	
6.5	2.38	3.98	
7.0	2.47	4.45	
7.5	2.56	4.94	
8.0	2.64	5.44	
8.5	2.72	5.96	
9.0	2.80	6.49	
9.5	2.88	7.04	
10.0	2.95	7.60	
10.5	3.02	8.18	
11.0	3.09	8.77	
11.5	3.16	9.37	
12.0	3.23	9.99	

NOTE: AREA OF INLET IN SQUARE FEET AND WEIR PERIMETER IN FEET FOUND FROM EITHER THE NEENAH FOUNDARY OR EAST JORDAN CATELOGS

EXHIBIT 9

MAINTENANCE PLAN

215 W. Calhoun Street
Woodstock, Illinois 60098
alschmittengineering.com

STORMWATER MANAGEMENT SYSTEM
MAINTENANCE PLAN FOR NEW FACILITIES

Subject: Lot 2 of Crystal Lake Business Park
P.I.N.: 19-04-301-024
Property Address: 290 Congress Parkway Crystal Lake, IL 60014

Responsibilities:
Adequate provisions for maintenance of the stormwater system are an essential aspect of long-term drainage performance. Responsibility for the overall maintenance shall rest with Stateline Dream Homes, or current owner.

Purpose and Objective:
Detention and water quality treatment facilities, storm sewers, swales and native vegetation/buffer areas define a development's stormwater management system. When land is altered to build homes and other developments, the natural system of trees and plants is replaced with impervious surfaces like sidewalks, streets, decks, roofs, driveways, or lawns over highly compacted soils. As a result, more rain water / storm water flows off the land at a faster rate and less rain water is absorbed into the soil. This can lead to streambank erosion, downstream flooding and increased concentrations of pollutants. The storm water management system was designed to help slow the rate of runoff from the development and improve the quality of the storm water leaving the site.

Interpretation as to Requirements Under This Maintenance Plan:
The requirement for this Maintenance Plan is generated by the McHenry County Stormwater Management Ordinance. Therefore, the interpretation of the maintenance requirements set forth in this Maintenance Plan shall be interpreted on the basis of the intent and requirements of said Ordinance.

Inspection Frequency:
Inspection experience will determine the required cleaning frequencies for the components of the stormwater management system. At a minimum, the attached checklist items should be inspected annually.

Maintenance Considerations:
Whenever possible, maintenance activities should be performed during the inspection. These activities should be supplemented by repair / replacement as required. A Registered Professional Engineer (PE) or a certified professional in erosion and Sediment Control (CPESC) shall be hired for design resolution of specific items as indicated on the checklist below.

Cost Considerations:
Frequent maintenance program work execution will lead to less frequent and less costly long-term maintenance and repair. The attached checklist items may need to be amended based on experience recorded over the initial period of occupancy of the subdivision.

Record Keeping:
Separate and distinct records shall be maintained by the responsible party for all tasks performed associated with this plan. The records shall include the dates of maintenance visits, who performed the inspection, and a description of the work performed.

_____, the owner's agent, has caused these presents to be signed and acknowledged, this _____ day of _____, 2_____.

By: _____

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Post-Construction Stormwater Management System Inspection Checklist

The following checklist describes the suggested routine inspection items and recommended measures to be taken to ensure that the Stormwater Management System functions as designed. When hiring a PE or CPESC is the recommended measure, the PE of CPESC shall inspect, evaluate and recommend corrective actions. The General section outlines items that should be taken into consideration during inspection and maintenance activities. While performing an overall inspection of your system, please check for the following items:

General

- Litter and debris shall be controlled.
- Accumulated sediment shall be disposed of properly, along with any wastes generated during maintenance operations.
- Riprap areas shall be repaired with the addition of new riprap, as necessary, of adequate size and shape.
- Roads and parking lots shall be swept or vacuumed on a periodic basis.
- Access path to storm water management facilities should be free from obstructions (woodpiles, sheds, vegetation).
- Fences, gates and posts shall be maintained.
- Signs shall be maintained.

Outlet & Inlet Structures

____ Obstructions blocking outlet pipe, restrictors, channel or spillway, remove obstructions immediately.
____ Separation of Joints, Repair as needed.
____ Cracks, breaks, or deterioration of concrete, repair as needed.
____ Scour and erosion at outlet, if observed, repair or consider additional or alternative stabilization methods.
____ Condition of trash racks, remove any collected debris.
____ Outlet channel conditions downstream, stabilize soil or remove obstructions as needed.

Storm Sewers

____ System is free draining into collection channels or catch basins. If concerned, clean or repair.
____ Catch basins, remove sediment when more than 50% of the basin sump is filled.
____ Siltation in culvert, culverts shall be checked for siltation deposit, clean out as necessary.

Swales

____ Verify systems (both drainage ditches and side yard swales) are maintaining originally constructed design slope and cross-sectional area. If fill or sediment contributes to elevation changes in swale, re-grading and re-shaping shall be performed. Licensed surveyors shall be hired to lay-out and check grades. No landscaping, earthen fill, gardens, or other obstructions (including sheds and other structures) shall be allowed in the swales that would impede design drainage flow patterns.

Vegetated Areas

____ Need for planting, reseeding or sodding of native areas. Supplement alternative native vegetation if a significant portion has not established (50% of the surface area). Reseed with alternative grass species if original grass cover has not successfully established.
____ Need for planting, reseeding or sodding of turf areas. Supplement alternative native vegetation if a significant portion has not established (75% of the surface area). Reseed with alternative grass species if original grass cover has not successfully established.
____ Invasive vegetation (refer to the Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois, or hire an environmental or landscape specialist). Remove as necessary.

SNOUT Device with Bio-Skirt

1. Frequency of Inspections:

____ Inspection should occur following rain events greater than ½" (13 mm).

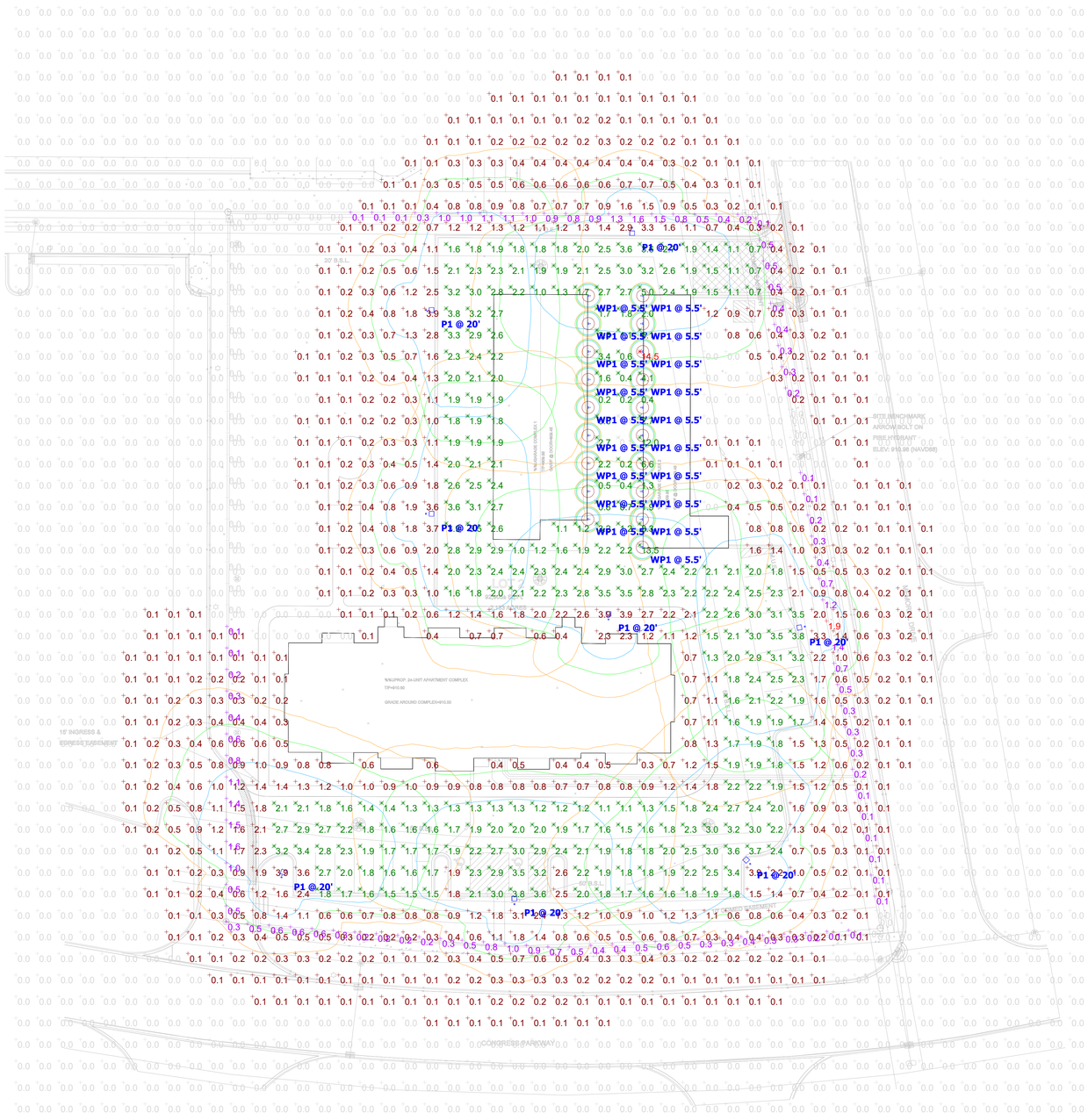
____ Filter inspections should occur a minimum of three times per year, and in snowfall affected regions, inspections prior to and after snowfall season.
____ Industrial application site inspections (loading ramps, wash racks & maintenance facilities) to be scheduled on a recurring basis no less than four times per year or as needed.

2. Maintenance Guidelines:

____ Empty the filter bag manually or by industrial vacuum taking care not to damage the geotextile bag when more than half filled or during scheduled inspection period.
____ Remove compacted silt from sediment bag and flush with medium spray.
____ "PCP" style bags should be pressed or wrung to recover retained oils.
____ Oil skimmer pouches solidify and darken when saturated, indicating time for replacement.
____ Dispose of all oil-contaminated products and recovered oils in accordance with EPA guidelines. Oil skimmer pouches, since a solidifier, will not leach and can be disposed of directly.
____ Inspect and replace bag if torn or punctured.

3. Filter Bag Replacement

____ Remove the bag by loosening or cutting off clamping band.
____ Take the new correctly sized sediment bag and secure hose clamping band to the frame channel as previously removed.
____ Ensure bag is secure and there is no slack around perimeter.


P1 @ 20'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
WP1 @ 5.5'
P1 @ 20'
P1 @ 20'
P1 @ 20