OWNER:
HEARTLAND REAL ESTATE PARTNERS
1535 NORTH ELSTON AVENUE
CHICAGO, ILLINOIS 60642
(773) 489-7600

Proposed Improvements for US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

FOR MIXED USE DEVELOPMENT
CITY OF CRYSTAL LAKE, ILLINOIS

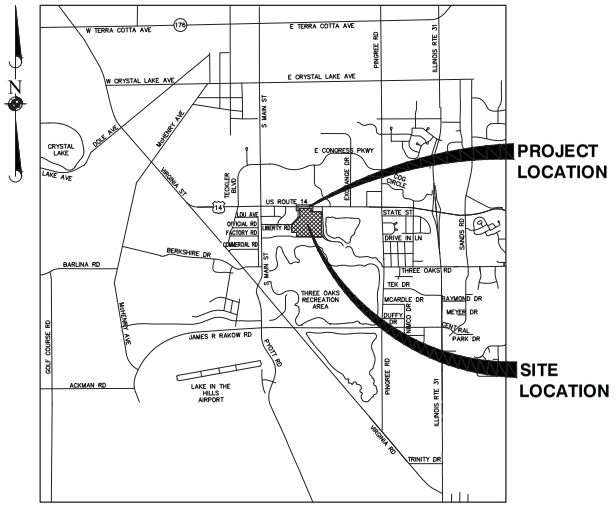
STANDARD SYMBOLS

EXISTING		PROPOSED
	STORM SEWER	
	SANITARY SEWER	
	COMBINED SEWER	
—FM—	FORCEMAIN	—FM—
	DRAINTILE	
—W—	WATER MAIN	—W—
—E—	ELECTRIC	—E—
—G—	GAS	—G—
—T—	TELEPHONE	—T—
—OH—	OVERHEAD WIRES	—OH—
	SANITARY MANHOLE	
	STORM MANHOLE	
	CATCH BASIN	
	STORM INLET	
	CLEANOUT	
	HAY BALES	
	RIP RAP	
	VALVE IN VAULT	
	VALVE IN BOX	
	FIRE HYDRANT	
	BUFFALO BOX	
	FLARED END SECTION	
	STREET LIGHT	
	SUMMIT / LOW POINT	
790.20	RIM ELEVATION	795.25
790.25	INVERT ELEVATION	790.20
	DITCH OR SWALE	
	DIRECTION OF FLOW	
	OVERFLOW RELIEF SWALE	
764	1 FOOT CONTOURS	764
	CURB AND GUTTER	
	DEPRESSED CURB AND GUTTER	
	REVERSE CURB AND GUTTER	
	SIDEWALK	
	DETECTABLE WARNINGS	
	PROPERTY LINE	
	EASEMENT LINE	
	SETBACK LINE	
	MAIL BOX	
	SIGN	
	TRAFFIC SIGNAL	
	POWER POLE	
	GUY WIRE	
	GAS VALVE	
	HANDHOLE	
E	ELECTRICAL EQUIPMENT	
T	TELEPHONE EQUIPMENT	
	CHAIN-LINK FENCE	
792.8	SPOT ELEVATION	792.8 G
	BRUSH/TREE LINE	
24"	DECIDUOUS TREE WITH TRUNK DIA. IN INCHES (TBR)	24"
25'	CONIFEROUS TREE WITH HEIGHT IN FEET (TBR)	25'
S	SILT FENCE	S
	RETAINING WALL	
	WETLAND	

ABBREVIATIONS

ADJ	ADJUST	F/L	FLOW LINE	R.O.W.	RIGHT-OF-WAY
AGG.	AGGREGATE	FM	FORCE MAIN	RCP	REINFORCED CONCRETE PIPE
ARCH	ARCHITECT	G	GROUND	REM	REMOVAL
B.A.M.	BITUMINOUS AGGREGATE MIXTURE	G/F	GRADE AT FOUNDATION	REV	REVERSE
B-B	BACK TO BACK	GW	GUY WIRE	RR	RAILROAD
B/C	BACK OF CURB	HDWL	HEADWALL	RT	RIGHT
B/P	BOTTOM OF PIPE	HH	HANDHOLE	SAN	SANITARY
B/W	BACK OF WALK	HWL	HIGH WATER LEVEL	SF	SQUARE FOOT
B-BOX	BUFFALO BOX	HYD	HYDRANT	SHLD.	SHOULDER
BIT.	BITUMINOUS	INL	INLET	SL	STREET LIGHT
BM	BENCHMARK	INV	INVERT	SMH	SANITARY MANHOLE
B.O.	BY OTHERS	IP	IRON PIPE	ST	STORM
C.E.	COMMERCIAL ENTRANCE	LT	LEFT	STA.	STATION
CB	CATCH BASIN	MAX.	MAXIMUM	STD	STANDARD
℄	CENTERLINE	MB	MAILBOX	SW	SIDEWALK
CMP	CORRUGATED METAL PIPE	M/E	MEET EXISTING	SY	SQUARE YARDS
CNTRL	CONTROL	MH	MANHOLE	TBR	TO BE REMOVED
CO	CLEANOUT	MIN.	MINIMUM	T	TELEPHONE
CONC.	CONCRETE	NWL	NORMAL WATER LEVEL	T-A	TYPE A
CY	CUBIC YARD	P.E.	PRIVATE ENTRANCE	T/C	TOP OF CURB
D	DITCH	PC	POINT OF CURVATURE	T/F	TOP OF FOUNDATION
DIA.	DIAMETER	PCC	POINT OF COMPOUND CURVE	T/P	TOP OF PIPE
DIP	DUCTILE IRON PIPE	PGL	PROFILE GRADE LINE	T/W	TOP OF WALK
DWM	DUCTILE IRON WATER MAIN	PI	POINT OF INTERSECTION	T/WALL	TOP OF WALL
DS	DOWNSPOUT	ℙ	PROPERTY LINE	TEMP	TEMPORARY
DT	DRAIN TILE	PP	POWER POLE	TRANS	TRANSFORMER
E	ELECTRIC	PROP.	PROPOSED	V.B.	VALVE BOX
E-E	EDGE TO EDGE	PT	POINT OF TANGENCY	VCP	VITRIFIED CLAY PIPE
ELEV.	ELEVATION	PVC	POLYVINYL CHLORIDE PIPE	V.V.	VALVE VAULT
E/P	EDGE OF PAVEMENT	PVC	POINT OF VERTICAL CURVATURE	WL	WATER LEVEL
EX.	EXISTING	PVI	POINT OF VERTICAL INTERSECTION	WM	WATER MAIN
F.O.	FIELD ENTRANCE	PVT	POINT OF VERTICAL TANGENCY		
F-F	FACE TO FACE	P	PAVEMENT		
F.F.	FINISHED FLOOR	P.U.D.E.	PUBLIC UTILITY & DRAINAGE EASEMENT		
FES	FLARED END SECTION	R	RADIUS		

MANHARD CONSULTING, LTD. IS NOT RESPONSIBLE FOR THE SAFETY OF ANY PARTY AT OR ON THE CONSTRUCTION SITE. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ANY OTHER PERSON OR ENTITY PERFORMING WORK OR SERVICES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR THE JOB SITE SAFETY OF PERSONS ENGAGED IN THE WORK OR THE MEANS OR METHODS OF CONSTRUCTION.



LOCATION MAP
N.T.S.

US ROUTE 14 STA. 594+38.12 TO STA. 600+37.32
(TOTAL LENGTH: 599.20 FEET 0.1135 MI)

LIBERTY ROAD STA. 197+00.00 TO STA. 199+59.19
(TOTAL LENGTH: 259.19 FEET 0.0491 MI)

WATERS EDGE BOULEVARD STA. 97+00.00 TO STA. 99+59.28
(TOTAL LENGTH: 259.28 FEET 0.0491 MI)

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 20 ft.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Manhard CONSULTING
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Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

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INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	EXISTING CONDITIONS
4	OVERALL PLAN
5	TYPICAL SECTIONS
6	DEMOLITION PLAN
7	PLAN AND PROFILE – US ROUTE 14 – STA.593+50 TO STA.597+50
8	PLAN AND PROFILE – US ROUTE 14 – STA.597+50 TO STA.601+50
9	PLAN AND PROFILE – LIBERTY ROAD – STA.196+50 TO STA.200+00
10	PLAN AND PROFILE – WATERS EDGE BLVD – STA.96+50 TO STA.100+00
11	INTERSECTION PLAN
12	INTERSECTION PLAN
13	INTERSECTION PLAN
14	INTERSECTION PLAN
15	PAVEMENT MARKING PLAN
16	EROSION CONTROL PLAN
17	EROSION CONTROL PLAN DETAILS
18	CROSS SECTION – US ROUTE 14 – STA.594+00 TO STA.599+50
19	CROSS SECTION – US ROUTE 14 – STA.600+00 TO STA.600+50
20	CROSS SECTION – LIBERTY ROAD – STA.196+50 TO STA.199+00
21	CROSS SECTION – WATERS EDGE BLVD – STA.96+50 TO STA.99+00
22	CONSTRUCTION DETAILS
23	CONSTRUCTION DETAILS
24	CONSTRUCTION DETAILS
25	CONSTRUCTION DETAILS
26	CONSTRUCTION DETAILS
27	CONSTRUCTION DETAILS
28	CONSTRUCTION DETAILS
29	CONSTRUCTION DETAILS

NOTE:
THE BOUNDARY LINES AND TOPOGRAPHY FOR THIS PROJECT ARE BASED ON A FIELD SURVEY COMPLETED BY MANHARD CONSULTING, LTD. ON OCTOBER 22, 2021 AND APRIL 14, 2023. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY MANHARD CONSULTING AND THE CLIENT IN WRITING OF ANY DIFFERING CONDITIONS.

BENCHMARKS:
REFERENCE BENCHMARK:
ELEVATIONS AND SITE BENCHMARKS SHOWN HEREON WERE ESTABLISHED UTILIZING A TRIMBLE RAPID STATIC GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) AND THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION'S (NOAA'S) ONLINE POSITIONING USER SERVICE (OPUS). THE OBSERVED ELEVATIONS, AS REFINED BY OPUS, IS THE BASIS FOR ALL ELEVATIONS SHOWN HEREON AND THIS INFORMATION HAS NOT BEEN DIRECTLY COMPARED TO ANY OTHER KNOWN OR FIXED BENCHMARK. ALL ELEVATIONS ARE BASED ON NAVD 88 DATUM (GEOID18).

SITE BENCHMARK #1:
CUT SQUARE ON NORTH SIDE OF CONCRETE LIGHT POLE BASE LOCATED APPROXIMATELY 529 FEET SOUTHERLY OF THE CENTERLINE OF LIBERTY ROAD AND APPROXIMATELY 521 FEET EASTERLY OF THE CENTERLINE OF CRYSTAL POINT ROAD.
ELEVATION=885.17 DATUM=NAVD88–GEOID 18

SITE BENCHMARK #2:
CUT SQUARE ON NORTH SIDE OF CONCRETE LIGHT POLE BASE LOCATED APPROXIMATELY 1,348 FEET SOUTHERLY OF THE CENTERLINE OF US ROUTE 14 AND APPROXIMATELY 998 FEET EASTERLY OF THE CENTERLINE OF LIBERTY ROAD AS MEASURED ALONG THE CENTERLINE OF US ROUTE 14.
ELEVATION=897.67 DATUM=NAVD88–GEOID 18

SITE BENCHMARK #3:
CUT SQUARE ON EAST SIDE OF CONCRETE LIGHT POLE BASE LOCATED APPROXIMATELY 1,127 FEET SOUTHERLY OF THE CENTERLINE OF US ROUTE 14 AND APPROXIMATELY 1,097 FEET EASTERLY OF THE CENTERLINE OF LIBERTY ROAD AS MEASURED ALONG THE CENTERLINE OF US ROUTE 14.
ELEVATION=897.81 DATUM=NAVD88–GEOID 18

SITE BENCHMARK #4:
CUT SQUARE ON EAST SIDE OF CONCRETE LIGHT POLE BASE LOCATED APPROXIMATELY 277 FEET SOUTHERLY OF THE CENTERLINE OF US ROUTE 14 AND APPROXIMATELY 1,056 FEET EASTERLY OF THE CENTERLINE OF LIBERTY ROAD.
ELEVATION= 906.50 DATUM=NAVD88–GEOID 18

SITE BENCHMARK #5:
EAST BOLT ON FIRE HYDRANT LOCATED APPROXIMATELY 59 FEET NORTHERLY OF THE CENTERLINE OF US ROUTE 14 AND APPROXIMATELY 1,057 FEET EASTERLY OF THE CENTERLINE OF LIBERTY ROAD AS MEASURED ALONG THE CENTERLINE OF US ROUTE 14.
ELEVATION= 908.68 DATUM=NAVD88–GEOID 18

SITE BENCHMARK #6:
CUT SQUARE ON SOUTH SIDE OF CONCRETE LIGHT POLE BASE LOCATED APPROXIMATELY 68 FEET NORTHERLY OF THE CENTERLINE OF US ROUTE 14 AND APPROXIMATELY 122 FEET WESTERLY OF THE CENTERLINE OF LIBERTY ROAD.
ELEVATION=903.59 DATUM=NAVD88–GEOID 18

SITE BENCHMARK #7:
EAST BOLT ON FIRE HYDRANT LOCATED APPROXIMATELY 277 FEET SOUTHERLY OF THE CENTERLINE OF US ROUTE 14 AND APPROXIMATELY 69 FEET WESTERLY OF THE CENTERLINE OF LIBERTY ROAD.
ELEVATION=898.38 DATUM=NAVD88–GEOID 18

SITE BENCHMARK #8:
EAST BOLT ON FIRE HYDRANT LOCATED APPROXIMATELY 23 FEET NORTHERLY OF THE CENTERLINE OF LIBERTY ROAD AND APPROXIMATELY 380 FEET EASTERLY OF THE CENTERLINE OF CRYSTAL POINT ROAD.
ELEVATION=896.07 DATUM=NAVD88–GEOID 18

UTILITY CONTACTS

ELECTRIC COMMONWEALTH EDISON 350 SOUTH SECOND STREET ELGIN, IL 60123 (630) 639-3532 CONTACT: SUSAN WEYHRAUCH	WATER AND SEWER CITY OF CRYSTAL LAKE 100 W. WOODSTOCK STREET CRYSTAL LAKE, IL 60014 (815) 356-3614 CONTACT: ANDREW RESEK
GAS NICOR GAS 1844 FERRY ROAD NAPERVILLE, IL 60563 (630) 399-0600 CONTACT: FORAM SHAH	TELEPHONE AT&T 2004 MINER STREET DES PLAINES, IL 60016 (847) 888-6864 CONTACT: HECTOR SUAREZ

LICENSED AS A PROFESSIONAL ENGINEER
062-070455
LICENSED PROFESSIONAL ENGINEER
STATE OF ILLINOIS
SEAL

DRAWN BY	DESCRIPTION	DATE

06-01-16

MANHARD CONSULTING
STANDARD SPECIFICATIONS

GENERAL CONDITIONS
CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S covenants stated herein.

DEFINITION OF TERMS
a. "CLIENT" shall mean FIDUCIARY REAL ESTATE DEVELOPMENT, INC., which is the person or entity with whom Manhard Consulting has contracted with to prepare Civil Engineering PLANS and SPECIFICATIONS.
b. "ENGINEER" shall mean Manhard Consulting, a Civil Engineering consultant on the subject project.
c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project.
d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.
e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

INTENT OF THE PLANS AND SPECIFICATIONS
The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work but are not intended to be definitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, standard or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

INTERPRETATION OF PLANS AND SPECIFICATIONS
a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.
b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.
c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER'S attention shall be called to the same before the work is begun thereon and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

GOVERNING BODIES
All works herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS, if a discrepancy is noted between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES
When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. All the locations wherein detailed positions of these facilities and utilities become necessary to the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR'S responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities.

UNSUITABLE SOILS
The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvements according to the line and grades shown on the PLANS.

PROTECTION OF TREES
All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES
The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL
The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the work will interrupt, interfere or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances where in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT'S construction representative, all costs incurred in providing traffic control shall be borne by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

WORK AREA
The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project or work area specified by the Client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

UTILITY POLES
It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION
It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, or when so directed by the CLIENT so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain tiles, water mains, etc.

CLEANING UP
The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING
The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR'S trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

SAFETY AND PROTECTION
The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR'S duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR'S or the general public's safety in, on, or near the construction site.

HOLD HARMLESS
To the fullest extent permitted by law, any CONTRACTOR, material supplier or other entity by use of these plans and specifications hereby waives any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to or with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as these words are used in the Agreement shall mean and include, but not be limited to (1) injury or damage occurring by reason of the failure of or use or misuse of any hoist, rigging, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any part or entity, including any contractor; (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs for time expended by the indemnified party and its consultants plus costs or travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount of type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

INSURANCE
Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damage arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds under such insurance policy; provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR of ENGINEER shall provide evidence of such certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER'S other applicable coverage is considered secondary. Such insurance shall not limit any liability of any party providing work or services or providing materials.

THIRD PARTY BENEFICIARY
Manhard Consulting, Ltd., the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

Note: These Specifications are for Northern Illinois.

DETAILED SPECIFICATIONS

I. DEMOLITION

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the Utility Company's forces and any fees which are to be paid to the Utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges.

Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials assigned to be relocated on this plan, all other construction materials shall be new.

Prior to demolition occurring, all erosion control devices are to be installed.

All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under drives, on-site roads, parking lots or sidewalks shall be filled with a flowable backfill and end-cap lugged. All existing structures shall be removed. All existing utility lines located under landscape areas shall be left in place and plugged at all structures.

The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by all JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, flumes, foundations, road, parking lots, drives, drainage structures, utilities, etc., such that the improvements shown on these plans can be constructed. All demolition work shall be in accordance with all applicable federal, state and local requirements. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications.

The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company.

CONTRACTOR must protect the public at all times with fencing, barricades, enclosures, and other appropriate best management practices.

Continuous access shall be maintained for surrounding properties at all times during demolition.

All fire access lines within the project area shall remain in service, clean of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and no extra compensation will be provided.

CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc. clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate phase all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations.

CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for ITS removal and repair.

Any existing wells encountered shall be exposed and sealed 2' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of the Illinois Water Well Construction Code, Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

Voids left by any item removed under any proposed building, pavement, walk, etc. or within 2-0" thereof shall be filled and compacted with suitable materials by the CONTRACTOR.

The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings.

Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with County, State and Federal regulations.

CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requested.

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation.

The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution around any anticipated features.

The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system to remain such that the remaining system shall continue to function properly.

The parking lot shall be completed in sections such that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager for work to be performed.

II. EARTHWORK

STANDARDS
This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

SOIL BORING DATA
Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make his own borings, explorations and observations to determine soil and groundwater conditions.

EARTHWORK CALCULATIONS AND CROSS SECTIONS
The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigation as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction tolerances and construction methods that are beyond the control of the ENGINEER.

CLEARING, GRUBBING AND TREE REMOVAL
The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

TOPSOIL STRIPPING
Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

TOPSOIL RESPREAD
Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of six inches (6") of topsoil shall be respread over all unpaved areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

SEEDING
Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

SODDING
Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

EXCAVATION AND EMBANKMENT
Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be hauled, placed (moisture conditioned if necessary) and compacted in the embankment areas. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment.

Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values listed in the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any undercutting that may be required).

Type Material	Percent Compaction Standard	Pavement & Pier Slabs	Grass Areas
Sandy Soils	Modified Proctor	95%	90%
Clayey Soils	Standard Proctor	95%	90%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed.

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site.

For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

1. Any soil whose optimum moisture content exceeds 25%.
2. Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
3. Any soil whose silt content exceeds 60% by weight.
4. Any soil whose maximum density is less than 100 pounds per cubic foot.
5. Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under storm sewer inlets and outlets. It is the intent of these PLANS and SPECIFICATIONS that the CONTRACTOR shall prepare the lake bottoms, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed ½ inch per week.

Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in construction of the embankments.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints wrapped with fabric, the CONTRACTOR shall install the same.

During excavation and embankment, grades may be adjusted to achieve an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this prior to beginning mass excavation.

EROSION CONTROL
Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

UNDERCUTTING DURING EARTHWORK
If the subgrade cannot be dried adequately by disking as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

MISCELLANEOUS CONTRACT ITEMS
The following items may be required at the CLIENT'S option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY:

(1) **GEOTEXTILE FABRIC**
Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards.

(2) **EROSION CONTROL BLANKET**
Erosion control blanket or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY for the stabilization of disturbed areas. Erosion control blanket shall meet the material specifications of and shall be installed in accordance with the above standards, the Illinois Urban Manual and/or the details shown on the PLANS.

III. UNDERGROUND IMPROVEMENTS

A. GENERAL

STANDARDS
All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL
Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASIN, INLETS & VALVE VAULTS
All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C-478. All joints between sections and frames (except sanitary manholes, see Section IIIB Manholes, below) shall be sealed with mastic type bituminous jointing compound. CONTRACTOR shall remove all excess mastic on inside of structure and butter joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a reinforced concrete flat top section shall be used, and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 8" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous ½" steel reinforcement as manufactured by MA Industries, or approved equal.

AUGER BORING AND CASING
Casing pipe shall be welded steel pipe, installed where shown on the PLANS. The carrier pipe shall be securely blocked and banded and sanitary and storm sewers shall maintain the specified gradient. Upon installing the carrier pipe the ends shall be sealed with hydraulic cement.

AUGER (OPEN BORE)
The CONTRACTOR shall auger (open bore) where noted on PLANS.

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS
Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Illinois Section 41-2.01A and 41-2.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

STRUCTURE ADJUSTMENTS
Structures shall be adjusted to the finished grade as shown on PLANS.

* B. SANITARY SEWERS AND APPURTENANCES - INTENTIONALLY OMITTED

C. WATER MAINS AND APPURTENANCES

WATER MAIN PIPE (3" AND LARGER)
Water main pipe shall conform to the following:

(1) Ductile iron pipe shall be per ANSI/AWWA C151/A21.51, Thickness Class 52, minimum 150 psi working pressure, cement lined in accordance with ANSI/AWWA C104/A21.4, with "push on" type joints.(2)
(2) Polyvinyl Chloride Pipe (PVC) conforming to the latest revision of ANSI/AWWA C900 (4-inch thru 12-inch) or ANSI/AWWA C905 (14-inch thru 48-inch) with a pressure rating of 235 psi, SDR 18 in accordance with ASTM D2241. Joints shall be pressure rated in accordance with ASTM D3139 with elastomeric seals in accordance with ASTM F477.

Installation shall be in accordance with ANSI/AWWA C600 (Ductile Iron) or ANSI/AWWA C605 (PVC). All water main shall have mechanical joint cast iron or ductile iron fittings in accordance with ANSI/AWWA C110/A21.10 or compact ductile iron fittings in accordance with ANSI/AWWA C153/A21.53 with 250 psi working pressure.

Poured or monolithic concrete thrust blocks are required to brace all tees, plugs, caps, and bends of 11 1/4 degree deflection or greater. Minimum cover for all water mains, including services, shall be 5'-6" from the finished grade. Water main shall include bedding and backfilling.

WATER VALVES
All valves shall be resilient wedge gate valves conforming to the latest revision of ANSI/AWWA C515, with a rated working pressure of 200 psi in accordance with JURISDICTIONAL GOVERNING ENTITY requirements, except that butterfly valves conforming to ANSI/AWWA C504 shall be constructed on all water mains 16" diameter and larger. Valves shall be non-rising stem and shall close by turning clockwise.

VALVE VAULTS
Valve vaults shall be constructed in conformance with Section IIIA Manholes, etc. above. Frame and lids shall be as approved by the JURISDICTIONAL GOVERNING ENTITY and shall be imprinted "WATER".

VALVE BOXES
Valve boxes shall be constructed in conformance with the standard detail. Valve boxes shall be cast iron extension screw type having lids imprinted with the letters "WATER".

FIRE HYDRANTS
Fire Hydrants shall be per JURISDICTIONAL GOVERNING ENTITY requirements. All fire hydrants shall be located as shown on the PLANS and shall be painted in a manner acceptable to the JURISDICTIONAL GOVERNING ENTITY after installation and shall be adjusted to final grade.

TAP, STOPS AND BOX
The CONTRACTOR shall determine from the JURISDICTIONAL GOVERNING ENTITY as to the exact style, type, and manufacture of corporation stops, ground key stops and services boxes preferred by the JURISDICTIONAL GOVERNING ENTITY and shall furnish same.

SMALL WATER SERVICES (2" DIAMETER OR LESS)
Water services shall be type K copper size as shown on PLANS, and constructed where shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted blue. The CONTRACTOR shall keep accurate records of tap locations and service box locations, as well as the service lengths and furnish same to CLIENT. Water services shall include bedding and backfilling.

DISINFECTION
Disinfections shall meet all of the requirements of the State of Illinois, Environmental Protection Agency, Public Water Supplies Division. The safe quality of the water supply shall be demonstrated by bacteriological analysis of samples collected at sampling taps on at least two consecutive days following disinfection of the mains and copies of the said report submitted to the JURISDICTIONAL GOVERNING ENTITY and the CLIENT.

PRESSURE TEST
Allowable leakage, test pressure and duration shall be as per the requirements of the JURISDICTIONAL GOVERNING ENTITY.

PRESSURE CONNECTION TO EXISTING WATER MAIN
The CONTRACTOR shall maintain system pressure on existing water main at all times. Existing water main shall be located and material excavated, and valve basin slab and main supports installed. The existing water main shall be cleaned and the exterior disinfected prior to installing the tapping tee (material to conform to AWWA C110). The tapping valve shall be installed (valve to conform to AWWA C509) and the pressure tap completed in accordance with the detail on the plans. Valve shall be constructed in conformance with the detail. Payment for pressure connection to existing water main shall include disinfection, tapping valve and tee, valve vault, frame and lid, bedding, and trench backfill.

DRY CONNECTION TO EXISTING WATER MAIN
A dry connection to existing water main shall include a connection to an existing water main stub where shown on the PLANS. The CONTRACTOR shall obtain approval of the JURISDICTIONAL GOVERNING ENTITY to shut down any main, including submittal of a schedule of the time of shut off and the time the line will be returned to service. All mains shut down that are opened to atmosphere must be disinfected prior to returning main into service.

POLYETHYLENE ENCASEMENT (FOR DUCTILE IRON WATER MAIN ONLY)
The CLIENT, or JURISDICTIONAL GOVERNING ENTITY may request that portions of the water main be enclosed in a polyethylene encasement in accordance with ANSI/AWWA C105/A21.5 should soil conditions so warrant it.

FOUNDATION, BEDDING AND HAUNCHING
Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TRACER WIRE
If the distance between valves when installing PVC pipe exceeds 1,000', tracer wire stations will be required for current induction. Tracer wire stations in grass areas will be Rhino TriView Flex Tracing Wire Station or approved equal. In paved areas, they will be Valvco Tracer Wire Access Box for H20 loading or approved equal.

For open cut construction, using PVC pipe, a continuous, insulated, 12 gauge copper wire suitable for direct burial shall be taped on top of all piping to provide for locating following construction. This wire shall be securely terminated inside every valve vault or stainless steel hardware with a separated lead of at least 12". A mechanically secure and soldered connection shall be provided for all wire splices. Where construction is by directional drilling or similar trenchless technology the tracer wire shall be 3/16" 7x19 PVC coated stainless steel aircraft cable with minimum breaking strength of 3,700 lbs (Lexco, Chicago, IL). Or Tracer-Safe water blocking tracewire RT series 19 gauge conductor (RT 1902 W water, RT 1903 W sewer).

Before final approval of any water main, there will be a monitored tracer wire continuity test in order to confirm proper installation of any tracer wire.

D. STORM SEWERS AND APPURTENANCES

*** STORM SEWER PIPE**
Storm sewer pipe shall conform to the following:

(1) Reinforced concrete pipe minimum Class IV in conformance with the latest revision of ASTM designation C76 with O-443 flexible gasket joints, except that bituminous mastic joints may be used in grass areas.

Precast tees, bends, and manholes may be used if permitted by the JURISDICTIONAL GOVERNMENTAL ENTITY.

Storm sewer shall include bedding and trench backfill.

MANHOLES, INLETS & CATCH BASINS
Manholes, Inlets and Catch Basins shall be constructed in conformance with Section IIIA Manholes, etc. above. The space between connecting pipes and the wall of the manhole shall be completely filled with non-shrink hydraulic cement mortar. Frames and lids shall be Neenah or approved equal unless specified otherwise on the PLANS. All frames and grates shall be provided such that the flange fully covers the opening plus 2" of the structure as a minimum. * Provide "**Vane**" Type frame & grate for all structures located in curb where gradient exceed 2.0%. Manholes shall include steps, frame & grate, bedding and trench backfill.

FLARED END SECTION
Flared end sections shall be pre-cast reinforced concrete flared end section with an end block cast separate as per the Illinois Department of Transportation Standard 542201 and shall be installed where shown on the PLANS. All flared end sections for storm sewers 12" in diameter and larger shall be installed with a grating per Standard 542311 and/or as detailed on the PLANS. Work shall include end block.

RIP RAP
Stone rip rap consisting of pieces of * A" quality stone 4" to 8" in diameter shall be furnished and installed in accordance with IDOT Specifications and shall be placed where shown on the plans, to a minimum thickness of 1/2" and a width as indicated on the plans. Broken concrete or concrete blocks will not be acceptable.

FOUNDATION, BEDDING AND HAUNCHING
Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

UNDERDRAINS
Pipe underdrains shall be corrugated flexible plastic pipe conforming to AASHTO Designation M252 perforated corrugated polyethylene pipe (PE) with a smooth interior of the diameter indicated on the PLANS and wrapped in a soil filter fabric supplied by the CONTRACTOR. Perforations may be circular or slotted, but shall provide a minimum inlet area of 1.0 square inch per 2.0 linear feet of pipe. CONTRACTOR shall submit fabric and pipe catalogue Specifications for approval by the CLIENT. CONTRACTOR shall bed and backfill the underdrain in one of the following IDOT gradations of aggregate (CA-5, CA-7, CA-11, CA-14 or CA-15).

MISCELLANEOUS
(1) All existing field drainage tile or storm sewers encountered or damaged during construction shall either be restored to their original condition, properly rerouted and/or connected to the storm sewer system.
(2) Footing drains shall be connected to sump pumps or discharged directly into storm sewers. Footing drain or drainage tile shall not be connected to the sanitary sewer.

CONNECTION FOR STORM SERVICE TO STORM MAIN
Connections of storm sewer services to storm sewer mains should be made with manufactured tees when available. Availability of manufactured tees will be a function of the storm sewer material and pipe diameter size of the service sewer and main. If manufactured tees are not reasonably available, connections should be made in accordance with manufacturer's recommendations for all storm sewer other than concrete pipe. For concrete pipe connections without manufactured tees the storm sewer main shall be machine cored and the service sewer connected using non-shrink grout for the void between pipes. The service sewer shall be cut flush with the inside wall of the sewer main and not extend into the inside flow area of the main or otherwise impede flow.

IV. ROADWAY AND PARKING LOT IMPROVEMENTS

STANDARDS
Work shall be completed in accordance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition (hereinafter referred to collectively as the "Standard Specifications") except as modified below and except that payment will be defined as detailed in the contract documents between the CLIENT and the CONTRACTOR. Supplementing the Standard Specifications shall be the applicable sections of the latest editions of the "Supplemental Specifications and Recurring Special Provisions", the "Manual on Uniform Traffic Control Devices for Streets and Highways" and the Illinois Supplement thereto, (hereinafter referred to collectively as the "MUTCD"). Any references to "ENGINEER" in the "Standard Specifications" shall be interpreted as the CLIENT or CLIENT'S Construction Representative.

SUBGRADE PREPARATION
The CONTRACTOR shall be responsible for all subgrade compaction and preparation to the lines and grades shown on the plans.

AGGREGATE BASE COURSE TYPE 'B'
Aggregate Base Course Type B shall be limited to CA-6 or CA-10 gradation. Aggregate base courses shall be proof rolled as outlined below.

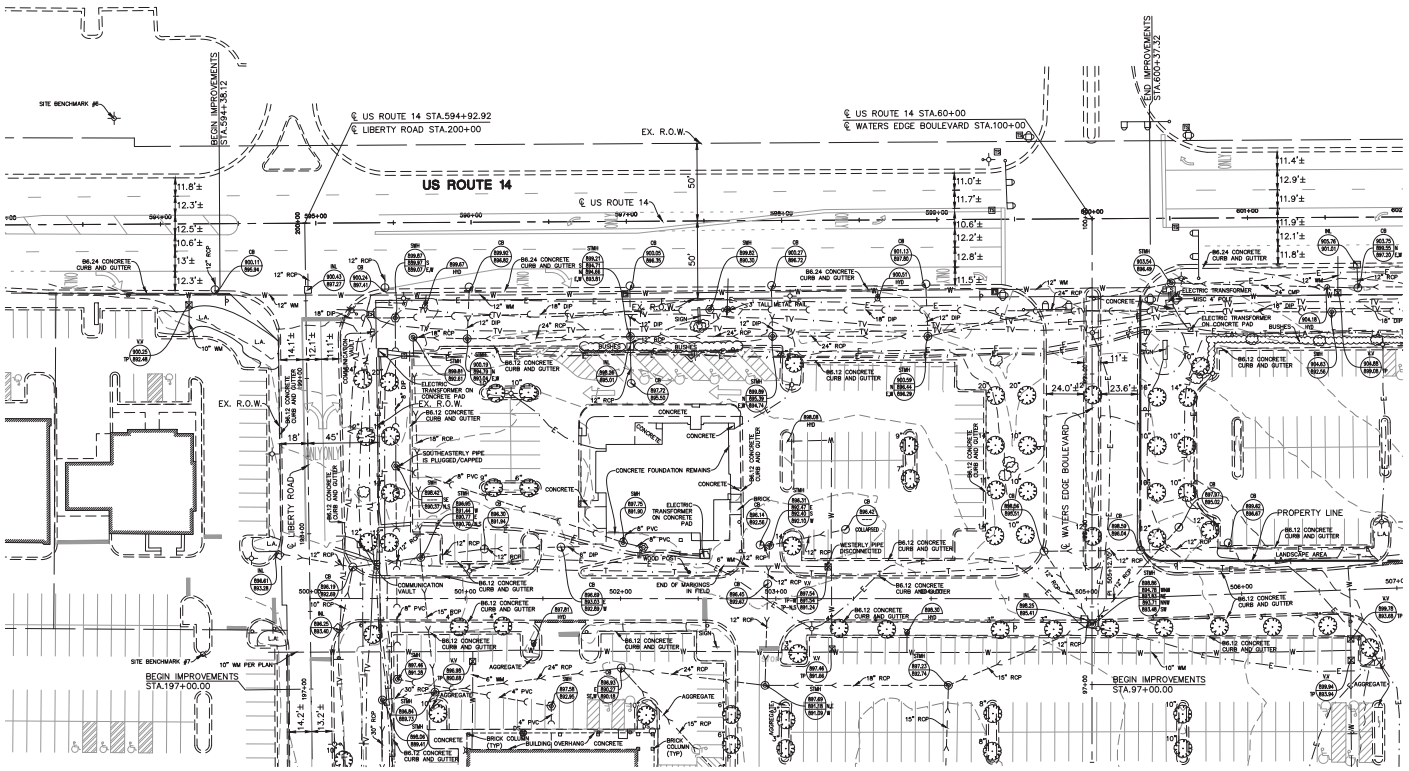
PROOF ROLL
The CONTRACTOR shall proof roll the subgrade with either a 2-axle truck loaded to 27,000 lbs. Or a 3-axle truck loaded to 45,000 lbs. or as specified by the JURISDICTIONAL GOVERNING ENTITY. The CLIENT and JURISDICTIONAL GOVERNING ENTITY shall observe and approve the proof rolling of the subgrade and the base course. Proof rolling tolerances shall be a maximum deflection of 1" for the subgrade and ½" for the base course. The above criteria is intended as a maximum deflection standard and that proof rolling of a majority of the area will have less deflection than specified above. In any case of deficiency, the subgrade and/or base course shall be repaired and retested before proceeding with the pavement construction.

Pavement subgrade material shall not be removed, placed or disturbed after proof roll testing has been completed prior to the pavement construction. Additional testing will be required if the pavement subgrade is disturbed and/or material is removed from or placed on the pavement subgrade after proof rolling approval.

Trucks or heavy equipment shall not travel on any pavement subgrade after final testing prior to pavement construction.

HOT-MIX ASPHALT BASE COURSE
HMA Base Course shall meet the requirements of IDOT or N50 mix design as indicated and shown on the plans. The maximum amount of recycled asphalt pavement allowed shall be 30% in a N30 mix design and 25% in a N50 mix design.

HOT-MIX ASPHALT BINDER AND SURFACE COURSE
HMA binder and surface courses, shall be constructed to the compacted thickness as shown on the PLANS. The base course shall be cleaned and primed in accordance with the JURISDICTIONAL GOVERNING ENTITY. The surface course shall be placed after the base and courses have gone through one winter season, or as directed by the CLIENT. Before applying the surface course, the binder course shall be thoroughly cleaned and primed in accordance with the JURISDICTIONAL G



EXISTING CONDITIONS PLAN

EXISTING CONDITIONS NOTES:

1. EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING, LTD. ON OCTOBER 22, 2021 AND APRIL 14, 2023. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION.
2. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.

Manhard CONSULTING

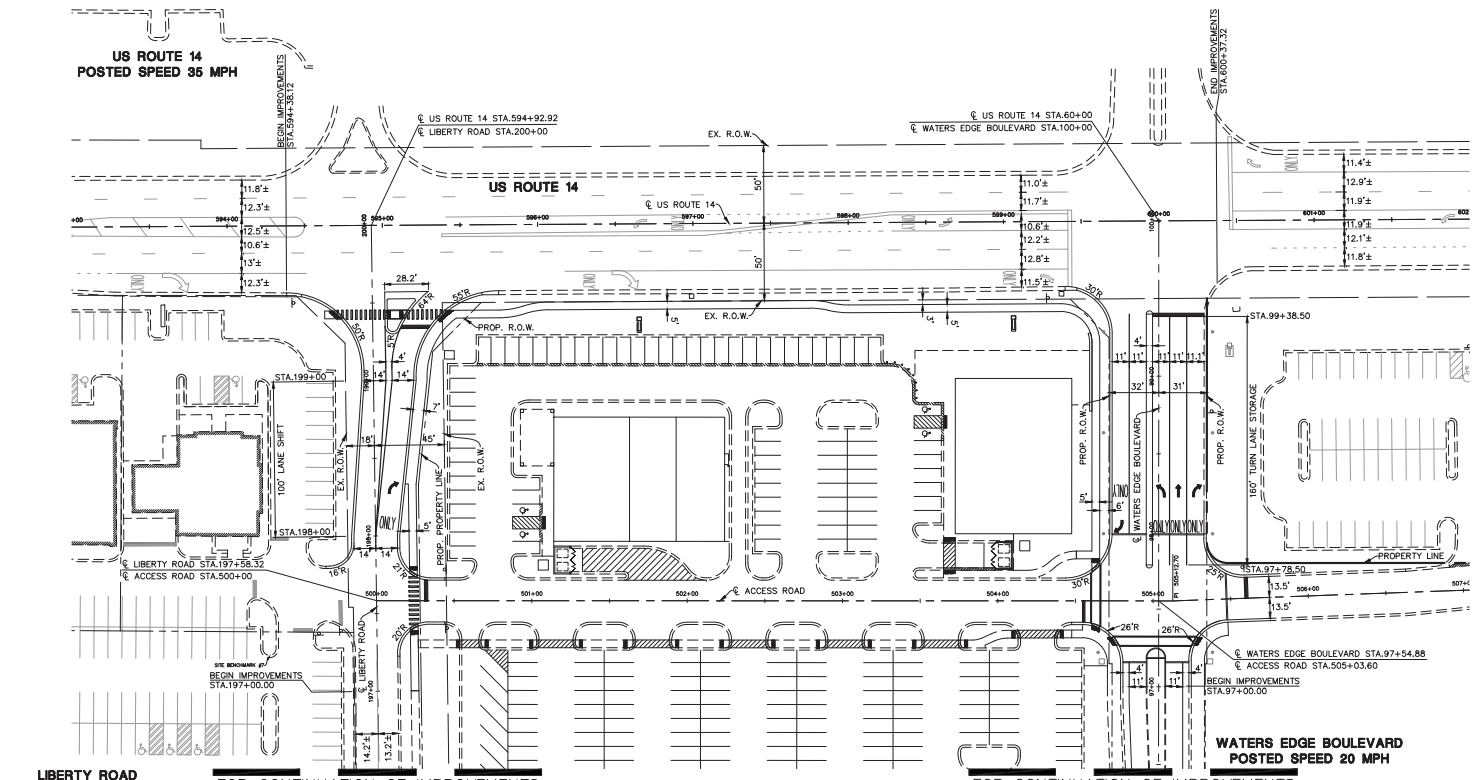
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
EXISTING CONDITIONS

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PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: 1"=40'

SHEET 3 OF 29
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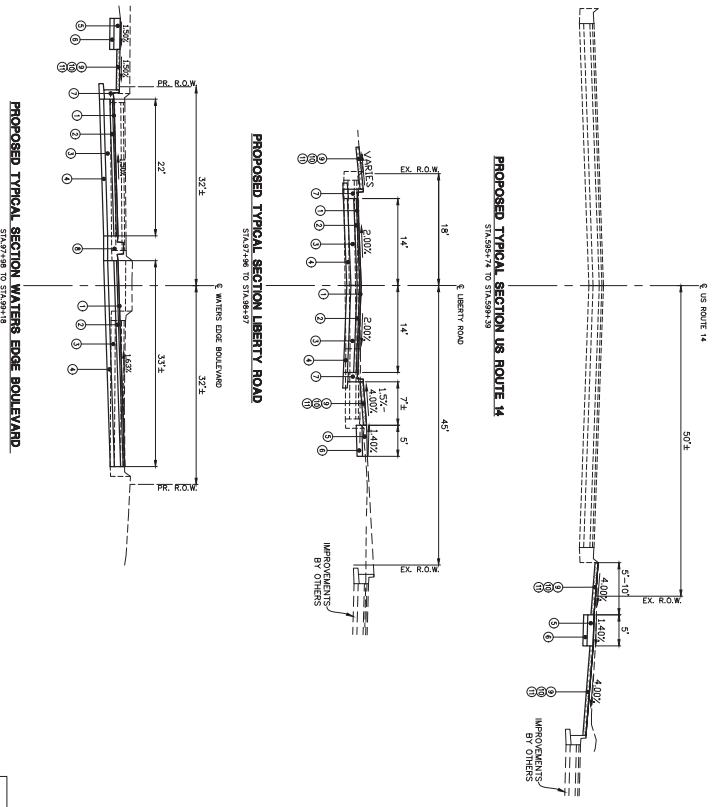


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OVERALL PLAN

NO.	DATE	REVISIONS	DRAWN BY



PAVING LEGEND

① PROP. HMA SURFACE COURSE, 1.5", MIX. C, N50
② PROP. HMA BINDER COURSE, 2.5", IL 19, N50
③ PROP. HMA BASE COURSE, 6"
④ PROP. AGGREGATE BASE COURSE, 4" (CA-6, GRADE #9)
⑤ PROP. PCC SIDEWALK, 6"
⑥ PROP. 4" AGGREGATE SUBGRADE
⑦ PROP. B6.12 CURB AND GUTTER
⑧ PROP. MONOLITHIC MEDIAN
⑨ PROP. AGGREGATE BASE COURSE, TYPE B, 4"
⑩ TOPSOIL 4"
⑪ SEEDING CLASS 2A AND FERTILIZER NUTRIENTS

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PROJ. MGR.	NBA
PROJ. ASSOC.	WH
DRAWN BY	AS
DATE	06-02-23
SCALE	N.T.S.

SHEET 5 OF 29

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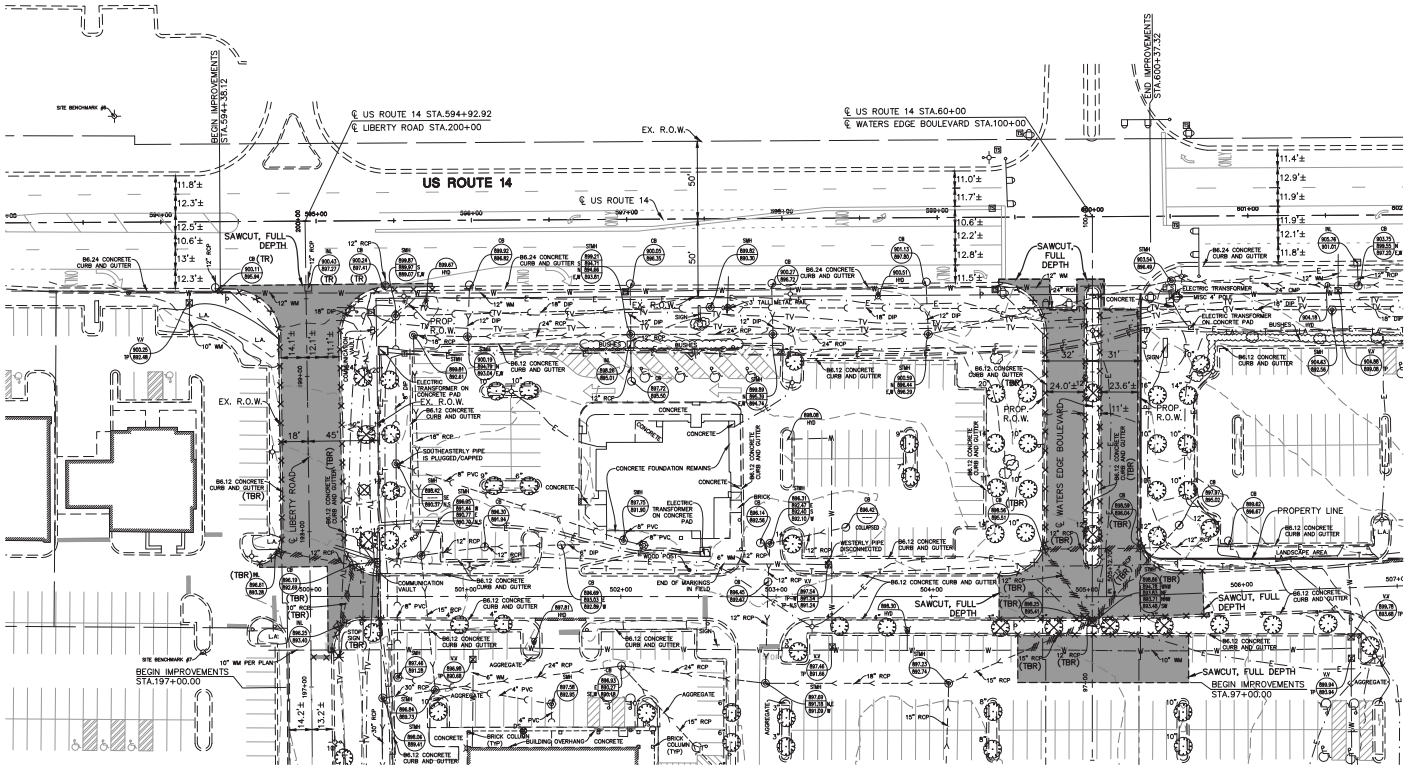
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

TYPICAL SECTIONS

Manhard CONSULTING LTD
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

DATE	REVISIONS	DRAWN BY
07-07-23	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	NBA



DEMO PLAN

DEMOLITION LEGEND

- BITUMINOUS PAVEMENT AND BASE TO BE REMOVED
- CONCRETE PAVEMENT AND BASE TO BE REMOVED
- SAWCUT LINE
- FENCE, RETAINING WALL, RAILROAD TIES, POLES, CURB AND GUTTER, ETC. TO BE REMOVED
- UTILITY STRUCTURE TO BE REMOVED
- UTILITY LINE REMOVAL, FILL OR ABANDONMENT (REFER TO SPECIFICATIONS)
- TREE TO BE REMOVED
- (TBR) TO BE REMOVED
- (TR) TO REMAIN

DEMOLITION NOTES:

1. DEMOLITION PLAN REPRESENT SITE CONDITIONS AS OF OCTOBER 22, 2021 AND APRIL 14, 2023. CONTRACTOR SHALL INSPECT SITE PRIOR TO BIDDING WORK TO VERIFY ACTUAL FIELD CONDITIONS AS PORTIONS OF THE DEMOLITION WORK MAY HAVE SINCE BEEN COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE ALL DEMOLITION WORK AS PER PLANS TO PREPARE THE SITE FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
2. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.
3. THE CONTRACTOR IS RESPONSIBLE FOR DEMOLITION, REMOVAL AND DISPOSAL (IN A LOCATION APPROVED BY ALL JURISDICTIONAL GOVERNING ENTITIES) OF ALL STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, ROAD, PARKING LOTS, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THESE PLANS CAN BE CONSTRUCTED. ALL DEMOLITION WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
4. REFER TO SPECIFICATIONS SHEET FOR DEMOLITION NOTES.

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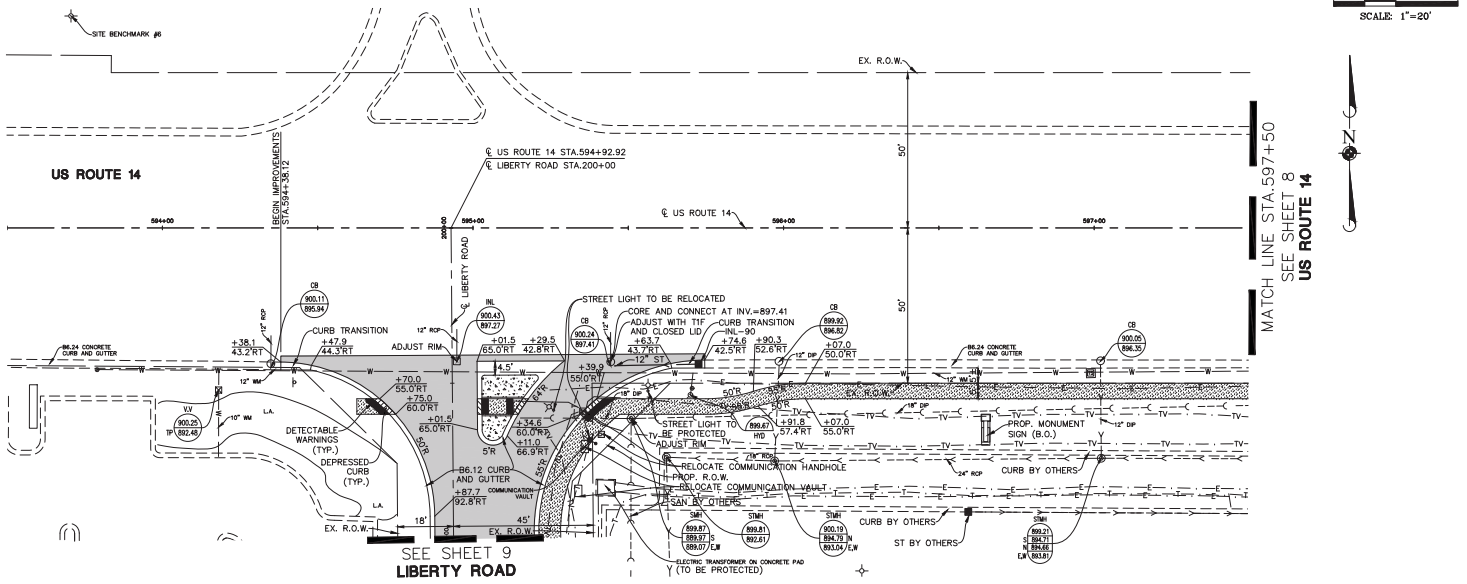
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
DEMOLITION PLAN

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DATE: 06-02-23
SCALE: 1"=40'

SHEET 6 OF 29
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July 7, 2023 - 14:42 Dwg Name: P:\Projects\Varys\Eng\Final Drawings\Plan Set\IDOT (Plan Set)\06-DEMO PLAN.dwg Updated By: NAdderle



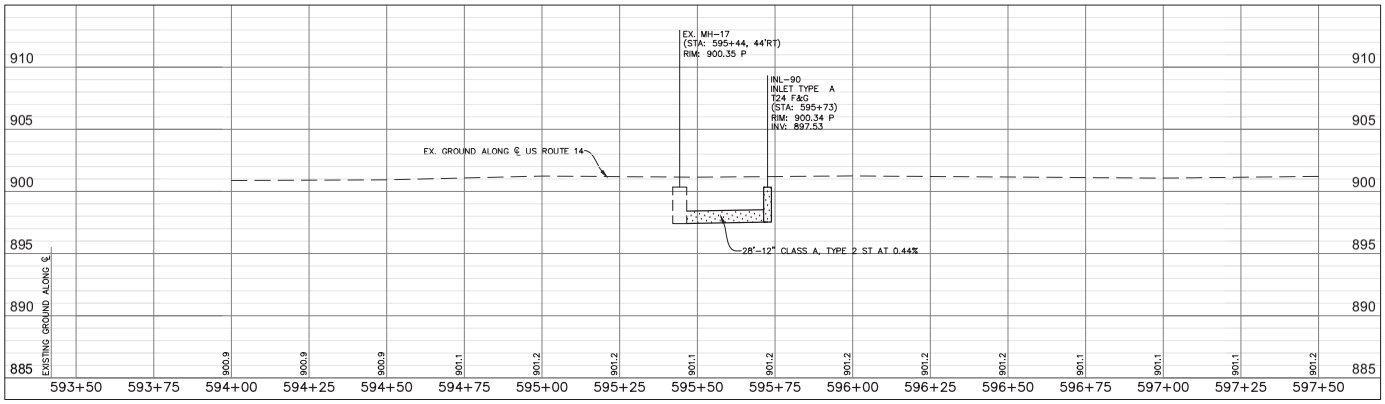
PAVING LEGEND (SEE TYPICAL SECTION FOR MATERIAL)

- CONCRETE SIDEWALK — 6" PCC PAVEMENT, 4" AGGREGATE BASE COURSE
- MILL AND OVERLAY (SEE TYPICAL SECTION FOR MATERIAL)
- ASPHALT WIDENING (SEE TYPICAL SECTION FOR MATERIAL)
- CONCRETE MEDIAN — 6" PCC PAVEMENT, 4" AGGREGATE BASE COURSE
- PAVER SIDEWALK (SEE FINAL LANSCAPE PLAN FOR MATERIAL)
- PAVER DRIVE (SEE FINAL LANSCAPE PLAN FOR MATERIAL)
- STAMPED CONCRETE MEDIAN — 6" PCC PAVEMENT, 4" AGGREGATE BASE COURSE

NOTE:

1. CONTRACTOR TO VERIFY EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AT LOCATIONS OF CONFLICT. CONTRACTOR TO NOTIFY ENGINEER WITH ANY DISCREPANCIES.
2. FOR SIGN REMOVAL, REPLACEMENT AND OR RELOCATION, SEE PAVEMENT MARKING AND SIGNING PLAN.
3. ALL DIMENSIONS TO EDGE OF PAVEMENT.
4. ALL SIDEWALK RAMPS TO BE IN ACCORDANCE WITH ADA REQUIREMENTS.

US ROUTE 14



July 7, 2023 - 15:08 Dwg Name: P:\Projects\Waters Edge\Final Drawings\Plan Set\IDOT (Plan Set)\07-08 P&P-US ROUTE 14.dwg Updated By: Maldante

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NBA	07-07-23	REVISED PER CITY OF CRYSTAL LAKE COMMENTS

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US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

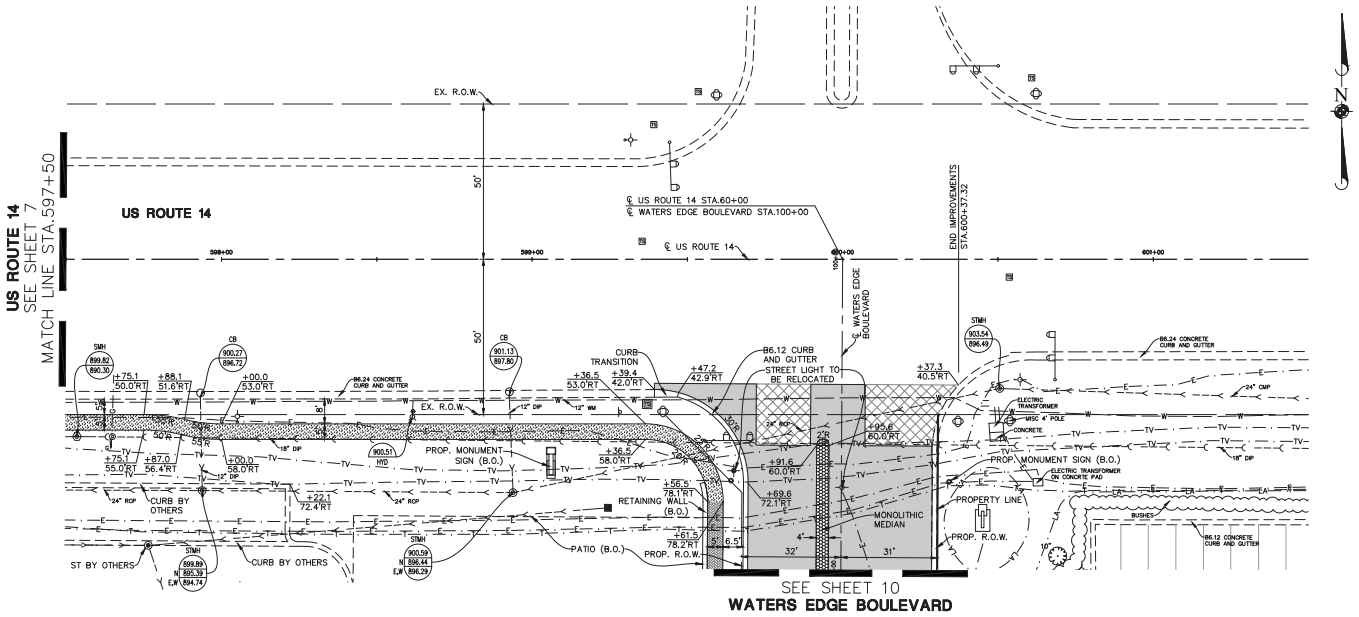
PLAN AND PROFILE - US ROUTE 14 - STA.593+50 TO STA.597+50

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: H:1"=20',V:1"=5'

SHEET 7 OF 29

FRDCLIL01

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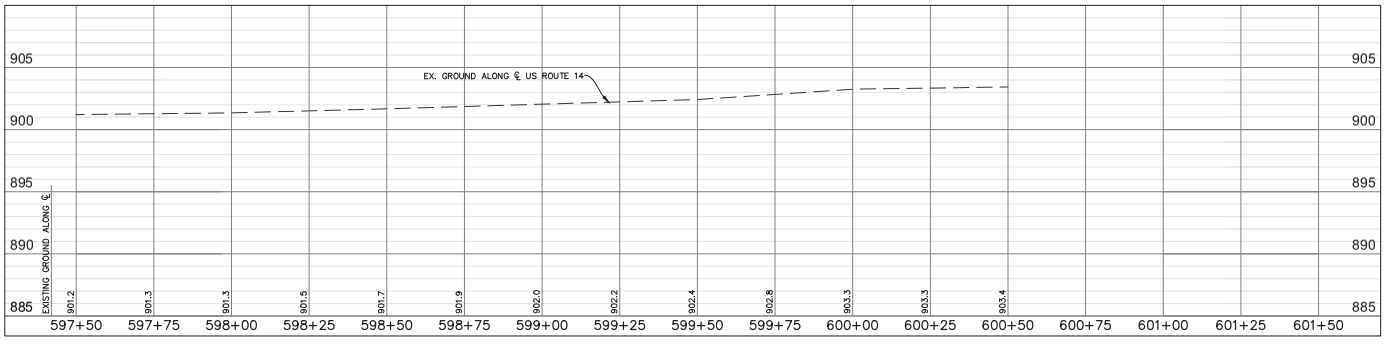
PAVING LEGEND (SEE TYPICAL SECTION FOR MATERIAL)

- CONCRETE SIDEWALK — 6" PCC PAVEMENT, 4" AGGREGATE BASE COURSE
- MILL AND OVERLAY (SEE TYPICAL SECTION FOR MATERIAL)
- ASPHALT WIDENING (SEE TYPICAL SECTION FOR MATERIAL)
- CONCRETE MEDIAN — 6" PCC PAVEMENT, 4" AGGREGATE BASE COURSE
- PAVER SIDEWALK (SEE FINAL LANSCAPE PLAN FOR MATERIAL)
- PAVER DRIVE (SEE FINAL LANSCAPE PLAN FOR MATERIAL)
- STAMPED CONCRETE MEDIAN — 6" PCC PAVEMENT, 4" AGGREGATE BASE COURSE

NOTE:

1. CONTRACTOR TO VERIFY EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AT LOCATIONS OF CONFLICT. CONTRACTOR TO NOTIFY ENGINEER WITH ANY DISCREPANCIES.
2. FOR SIGN REMOVAL, REPLACEMENT AND OR RELOCATION, SEE PAVEMENT MARKING AND SIGNING PLAN.
3. ALL DIMENSIONS TO EDGE OF PAVEMENT.
4. ALL SIDEWALK RAMPS TO BE IN ACCORDANCE WITH ADA REQUIREMENTS.

US ROUTE 14



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NBA	07-07-23	REVISED PER CITY OF CRYSTAL LAKE COMMENTS

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US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

PLAN AND PROFILE - US ROUTE 14 - STA.597+50 TO STA.601+50

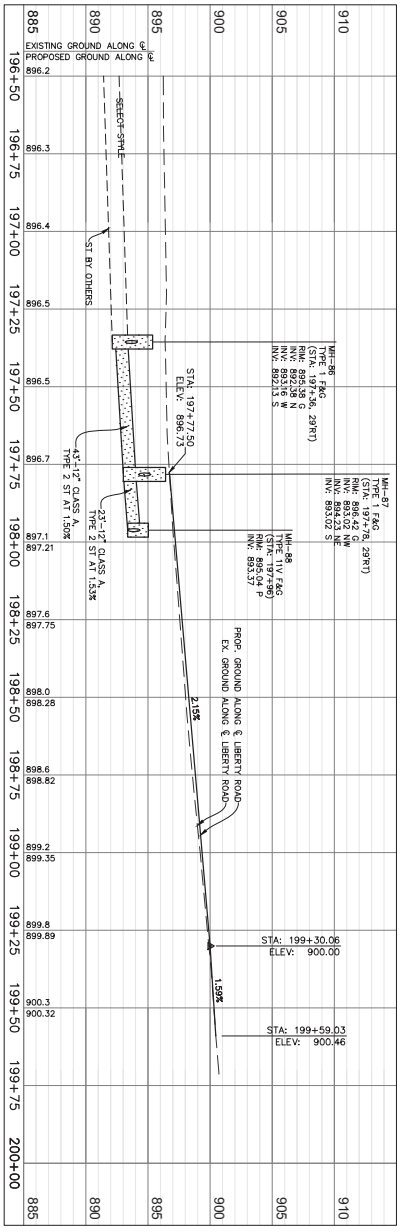
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PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: H:1"=20',V:1"=5'

SHEET 8 OF 29

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July 7, 2023 - 15:08 Dwg Name: P:\Projects\Varies\Engr\Final Drawings\Plan Set\IDOT (Plan Set)\07-06 P&P--US ROUTE 14.dwg Updated By: Maddente



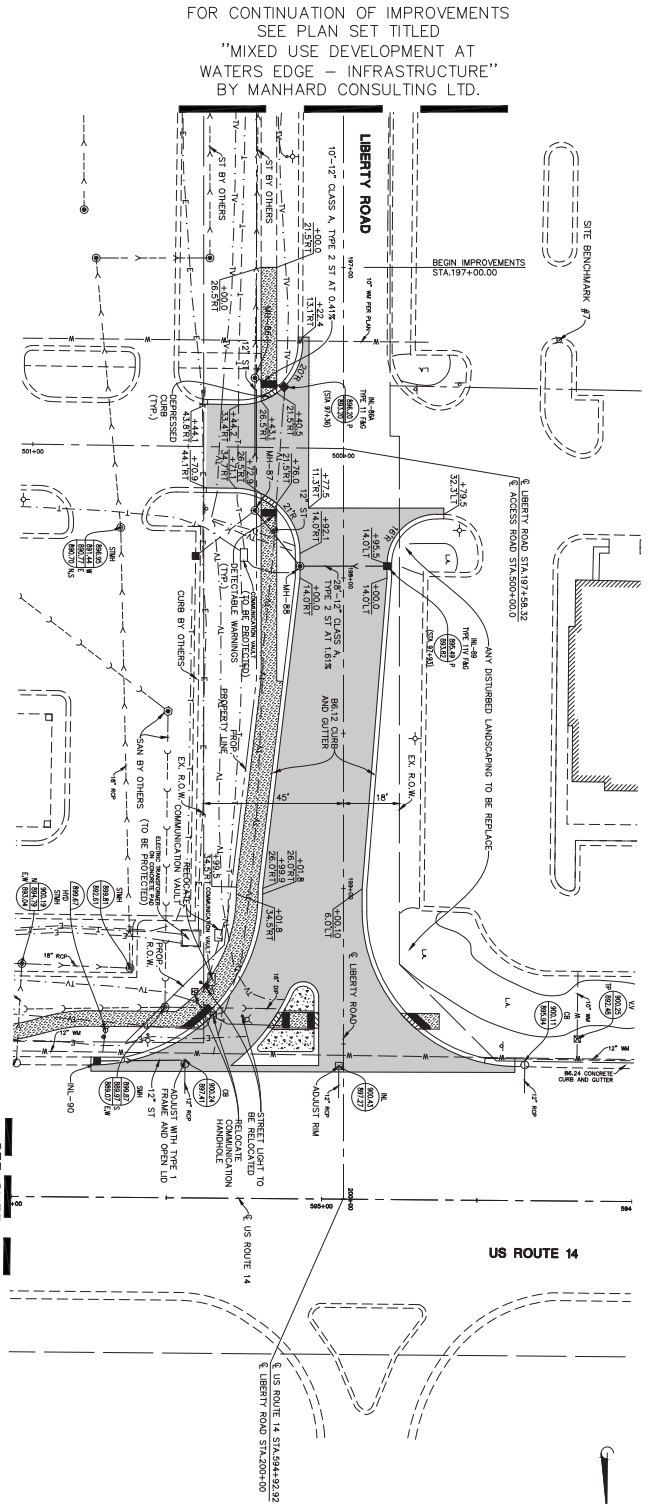
LIBERTY ROAD

PAVING LEGEND (SEE TYPICAL SECTION FOR MATERIAL)

- 6" PCC PAVEMENT, 4" AGGREGATE BASE COURSE (SEE TYPICAL SECTION FOR MATERIAL)
- ASPHALT WIDENING (SEE TYPICAL SECTION FOR MATERIAL)
- CONCRETE MEDIAN 6" PCC PAVEMENT 4" AGGREGATE BASE COURSE (SEE FINAL LANDSCAPE PLAN FOR MATERIAL)
- PAVER BRICK (SEE FINAL LANDSCAPE PLAN FOR MATERIAL)
- STAMPED CONCRETE MEDIAN 6" PCC PAVEMENT 4" AGGREGATE BASE COURSE

NOTE:
1. CONTRACTOR TO VERIFY EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AT LOCATIONS OF CONFLICT/ DISCREPANCIES. NOTIFY ENGINEER WITH ANY DISCREPANCIES.
2. FOR SIGN REMOVAL, REPLACEMENT AND OR RELOCATION, SEE PAVEMENT MARKING AND SIGNING PLAN.
3. ALL DIMENSIONS TO BE OF PAVEMENT.
4. ALL SIDEWALK RAMPS TO BE IN ACCORDANCE WITH ADA REQUIREMENTS.

FOR CONTINUATION OF IMPROVEMENTS SEE PLAN SET TITLED "MIXED USE DEVELOPMENT AT WATERS EDGE - INFRASTRUCTURE" BY MANHARD CONSULTING LTD.



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SHEET	9 OF 29
	FRDCLL01
PROJ. MGR:	NBA
PROJECT NO:	AS
DRAWN BY:	NBA
DATE:	06-02-23
SCALE:	H:1"=20' V:1"=5'

US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

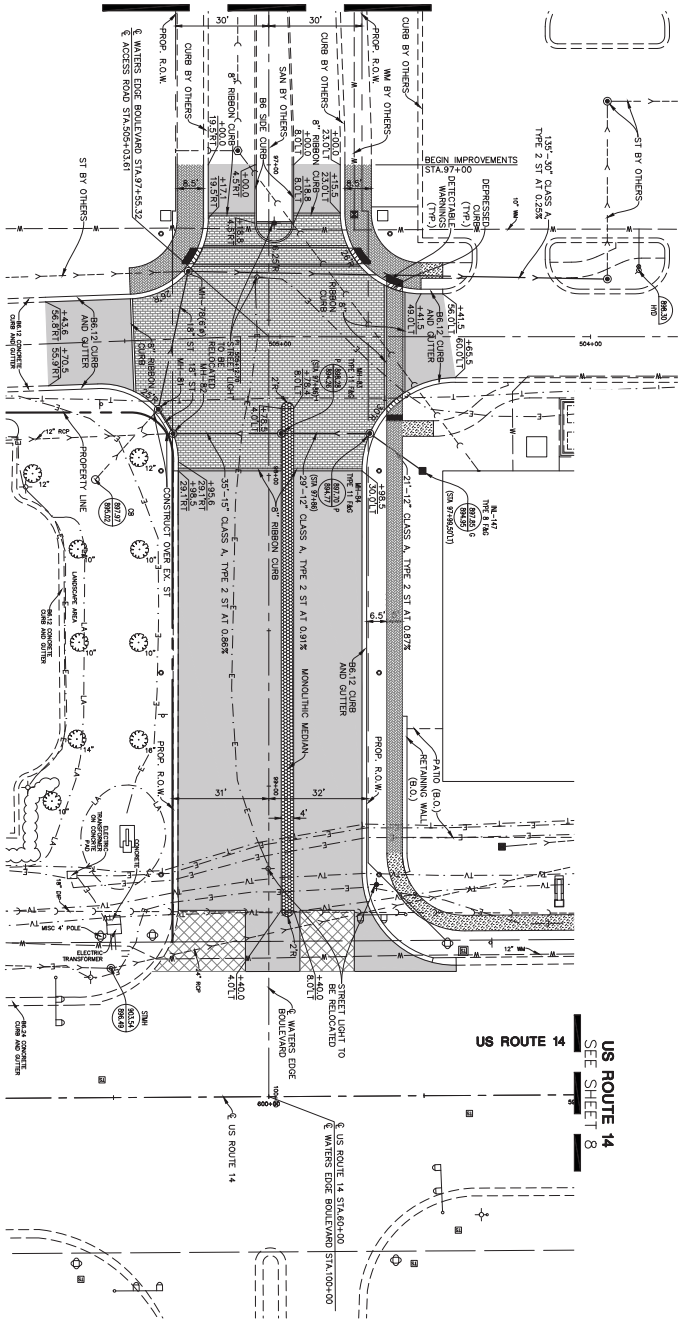
CITY OF CRYSTAL LAKE, ILLINOIS

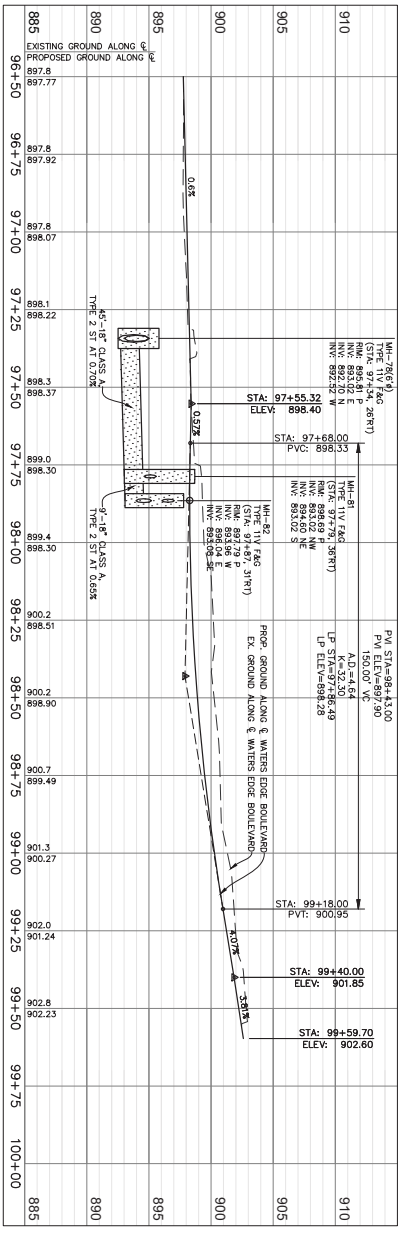
PLAN AND PROFILE - LIBERTY ROAD - STA.196+50 TO STA.200+00

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SEE PLAN SET TITLED
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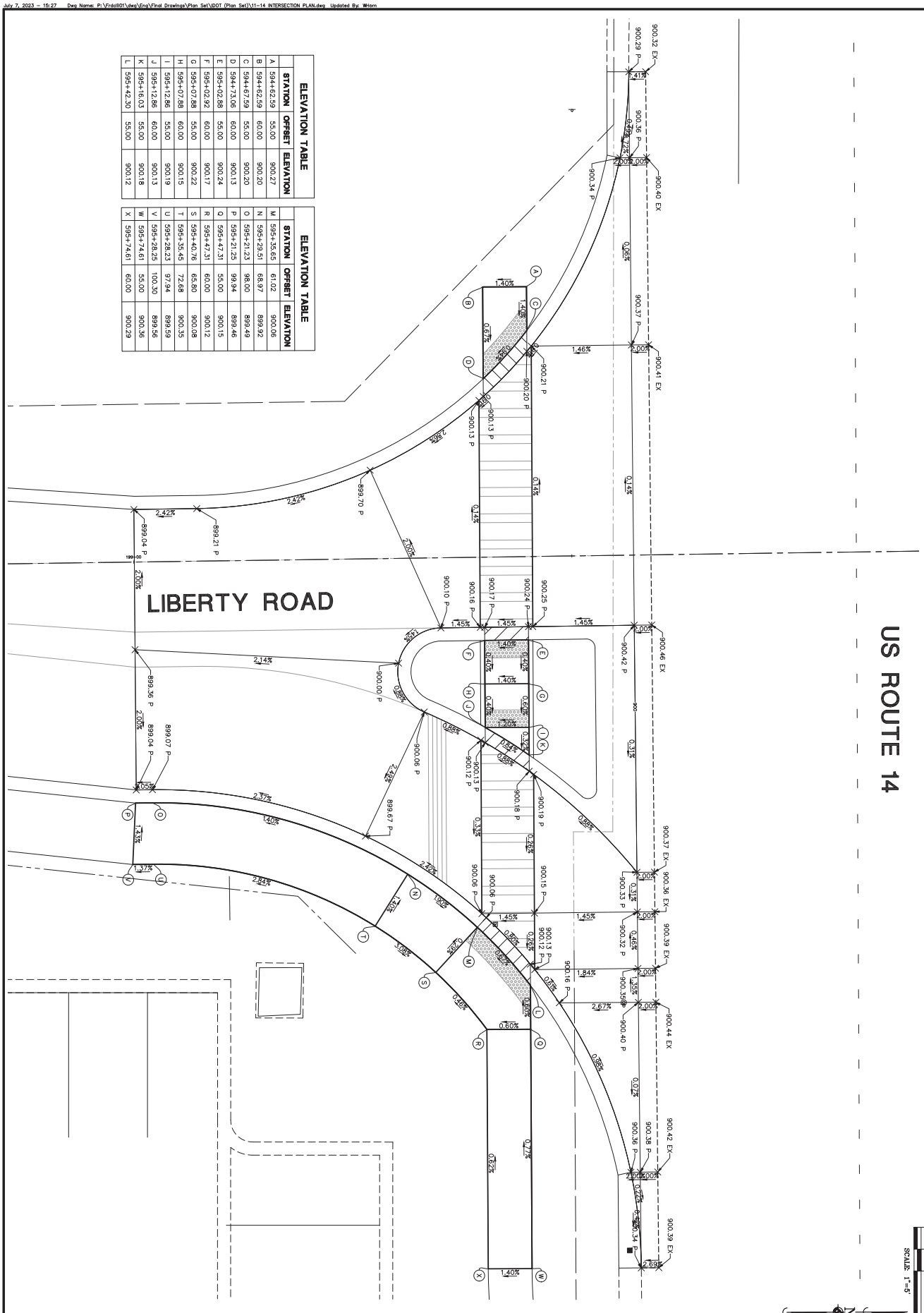
WATERS EDGE BOULEVARD

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SHEET 10 OF 29 FRDCIL01	US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD	Manhard CONSULTING
PROJ. MGR.: NBA PROJECT NO.: 23-0000 DRAWN BY: AS DATE: 06-02-23 SCALE: H:1"=20' V:1"=5'	CITY OF CRYSTAL LAKE, ILLINOIS	7550 Meridian Circle, Lombard, IL 60148 ph 630.623.6300 fax 630.623.6555 manhard.com Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers Construction Managers • Environmental Scientists • Landscape Architects • Planners
	PLAN AND PROFILE - WATERS EDGE BLVD - STA.96+50 TO STA.100+00	

DATE	REVISIONS	DRAWN BY
07-07-23	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	NBA

SCALE: 1"=20'



ELEVATION TABLE			
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A	594+62.59	55.00	900.27
B	594+62.59	60.00	900.20
C	594+67.59	55.00	900.20
D	594+73.06	60.00	900.13
E	595+02.88	55.00	900.24
F	595+02.92	60.00	900.17
G	595+07.88	55.00	900.22
H	595+07.88	60.00	900.15
I	595+12.86	55.00	900.19
J	595+12.86	60.00	900.13
K	595+16.03	55.00	900.18
L	595+42.30	55.00	900.12

ELEVATION TABLE			
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M	595+35.65	61.02	900.06
N	595+29.91	68.97	899.92
O	595+21.23	98.00	899.49
P	595+21.25	99.94	899.46
Q	595+47.31	55.00	900.15
R	595+47.31	60.00	900.12
S	595+40.76	65.80	900.08
T	595+35.45	72.68	900.35
U	595+28.23	97.94	899.59
V	595+28.25	100.30	899.56
W	595+74.61	55.00	900.36
X	595+74.61	60.00	900.29

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SHEET	11 OF 29
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PROJECT NO.	361
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DATE:	05-02-23
SCALE:	1"=5'

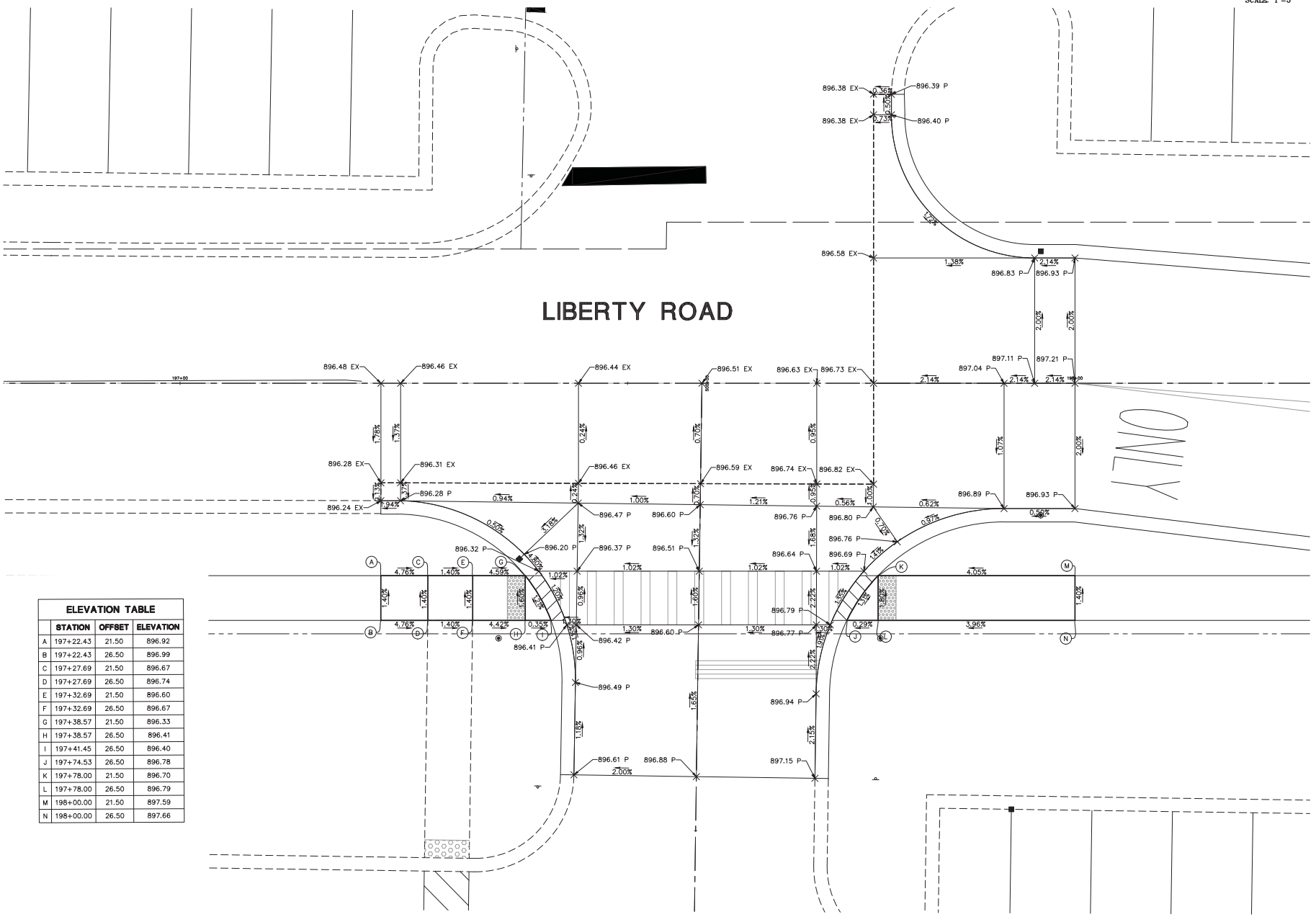
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

INTERSECTION PLAN

Manhard CONSULTING
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

DATE	REVISIONS	DRAWN BY
07-07-23	REVISED PER CITY OF CRYSTAL LAKE COMMENTS	NBA



ELEVATION TABLE			
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A	197+22.43	21.50	896.92
B	197+22.43	26.50	896.99
C	197+27.69	21.50	896.67
D	197+27.69	26.50	896.74
E	197+32.69	21.50	896.60
F	197+32.69	26.50	896.67
G	197+38.57	21.50	896.33
H	197+38.57	26.50	896.41
I	197+41.45	26.50	896.40
J	197+74.53	26.50	896.78
K	197+78.00	21.50	896.70
L	197+78.00	26.50	896.79
M	198+00.00	21.50	897.59
N	198+00.00	26.50	897.66

DRAWN BY	REVISIONS	DATE	
		07-07-23	REVISED PER CITY OF CRYSTAL LAKE COMMENTS NBA

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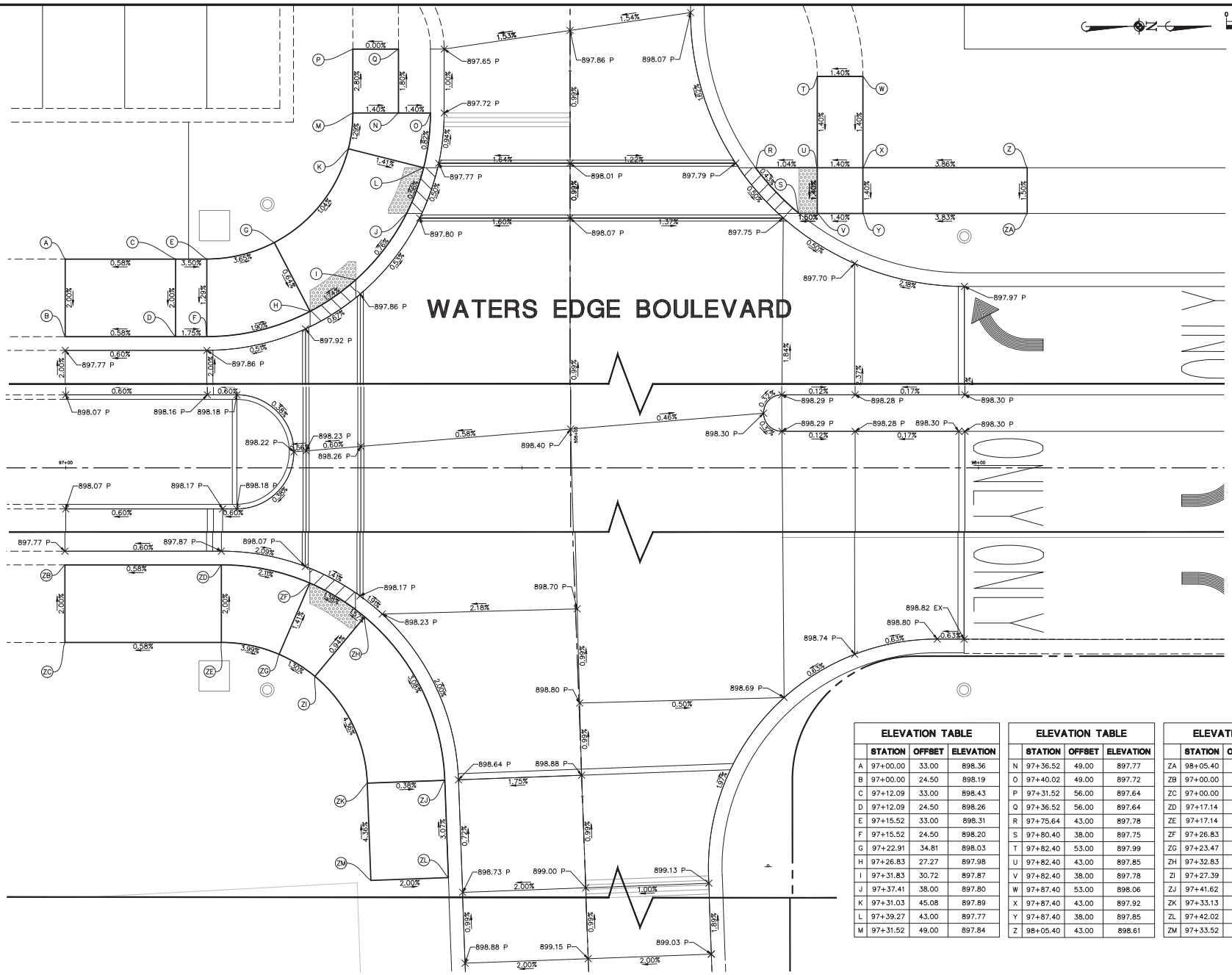
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
INTERSECTION PLAN

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: WH
DATE: 06-02-23
SCALE: 1"=5'

SHEET
12 OF 29
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ELEVATION TABLE			
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A	97+00.00	33.00	898.36
B	97+00.00	24.50	898.19
C	97+12.09	33.00	898.43
D	97+12.09	24.50	898.26
E	97+15.52	33.00	898.31
F	97+15.52	24.50	898.20
G	97+22.91	34.81	898.03
H	97+26.83	27.27	897.98
I	97+31.83	30.72	897.87
J	97+37.41	38.00	897.80
K	97+31.03	45.08	897.89
L	97+39.27	43.00	897.77
M	97+31.52	49.00	897.84

ELEVATION TABLE			
	STATION	OFFSET	ELEVATION
N	97+36.52	49.00	897.77
O	97+40.02	49.00	897.72
P	97+31.52	56.00	897.64
Q	97+36.52	56.00	897.64
R	97+75.64	43.00	897.78
S	97+80.40	38.00	897.75
T	97+82.40	53.00	897.99
U	97+82.40	43.00	897.85
V	97+82.40	38.00	897.78
W	97+87.40	53.00	898.06
X	97+87.40	43.00	897.92
Y	97+87.40	38.00	897.85
Z	98+05.40	43.00	898.61

ELEVATION TABLE			
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ZA	98+05.40	38.00	898.54
ZB	97+00.00	21.00	898.19
ZC	97+00.00	29.50	898.36
ZD	97+17.14	21.00	898.29
ZE	97+17.14	29.50	898.46
ZF	97+26.83	23.00	898.08
ZG	97+23.47	30.81	898.20
ZH	97+32.83	26.69	898.18
ZI	97+27.39	33.22	898.26
ZJ	97+41.62	44.60	898.81
ZK	97+33.13	44.91	898.84
ZL	97+42.02	55.25	899.14
ZM	97+33.52	55.57	899.31

NO.	DATE	REVISIONS	DRAWN BY
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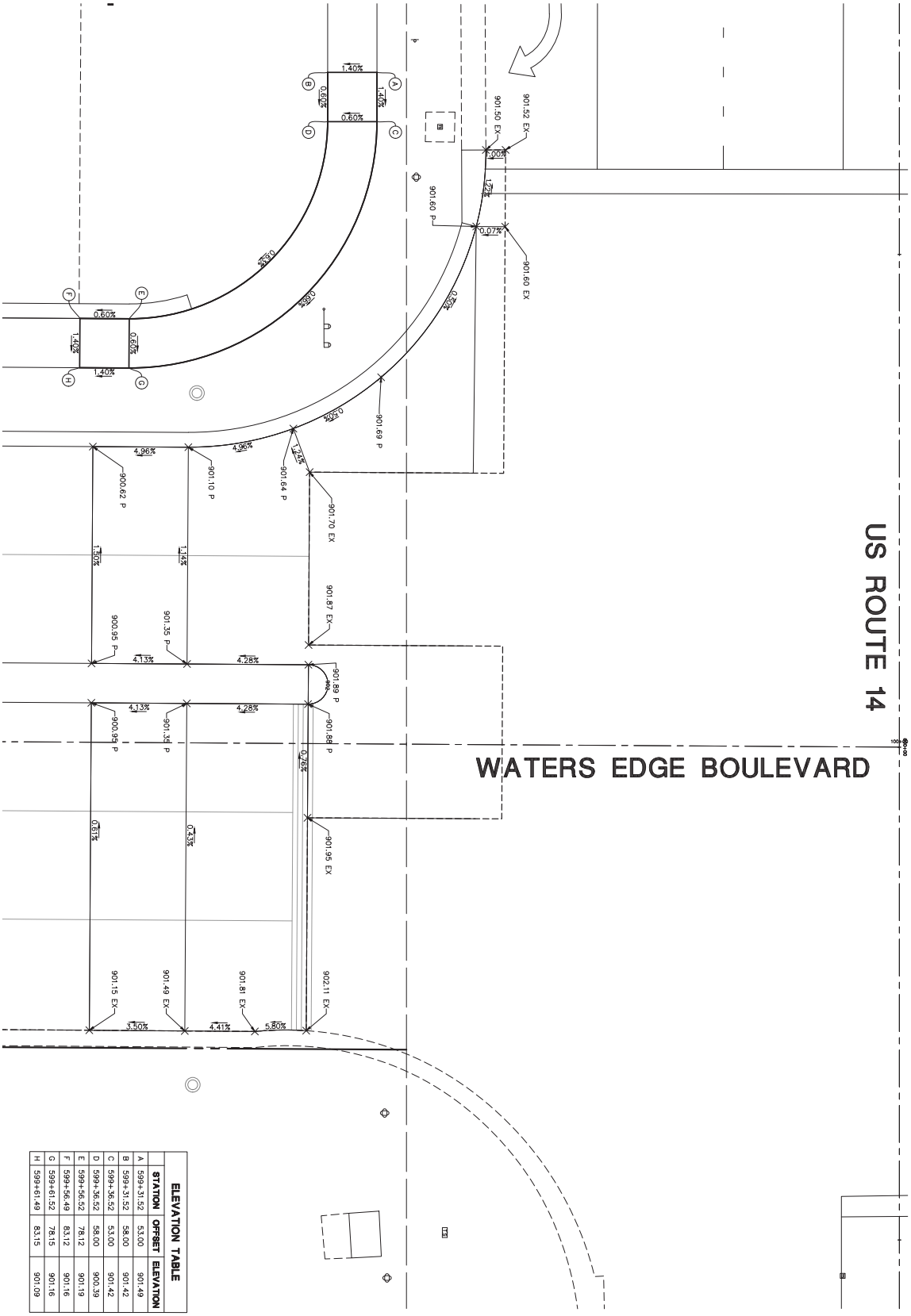
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
INTERSECTION PLAN

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: WH
DATE: 06-02-23
SCALE: 1"=5'

SHEET
13 OF 29
FRDCLIL01

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ELEVATION TABLE			
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B	599+31.52	58.00	901.42
C	599+36.52	53.00	901.42
D	599+36.52	58.00	900.39
E	599+56.52	78.12	901.19
F	599+56.49	83.12	901.16
G	599+61.52	78.15	901.16
H	599+61.49	83.15	901.09

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FRDCIL01 SHEET 14 OF 29

PROJ. MGR.: NBA
PROJECT NO.: 361
DRAWN BY: WH
DATE: 05-02-23
SCALE: 1"=5'

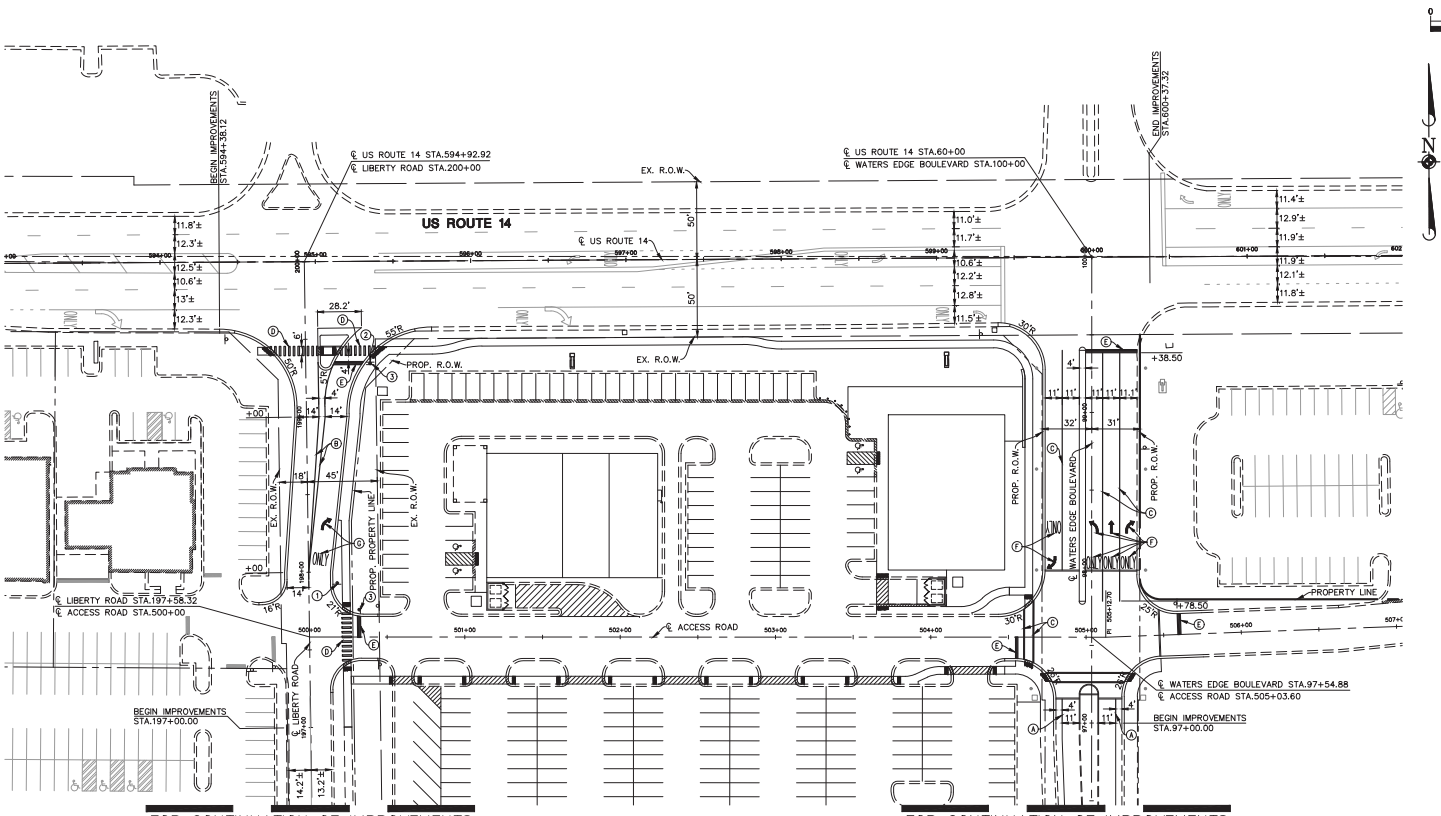
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

INTERSECTION PLAN

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DATE	REVISIONS	DRAWN BY
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FOR CONTINUATION OF IMPROVEMENTS
SEE PLAN SET TITLED
"MIXED USE DEVELOPMENT AT
WATERS EDGE – INFRASTRUCTURE"
BY MANHARD CONSULTING LTD.

FOR CONTINUATION OF IMPROVEMENTS
SEE PLAN SET TITLED
"MIXED USE DEVELOPMENT AT
WATERS EDGE – INFRASTRUCTURE"
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PAVEMENT MARKING PLAN

SIGN LEGEND



R3-5R 36"X36" ①
R5-1 30"X30" ②
R1-1 36"X36" ③

NOTES:
1. PROPOSED TRAFFIC SIGNS ARE SHOWN FOR INFORMATION ONLY. ALL SIGNS ARE TO BE INSTALLED BY THE CONTRACTOR.
2. EXISTING SIGNS TO BE RELOCATED SHALL BE REMOVED AND STORED ON SITE IN A PROTECTED AREA FOR PICK UP BY IDOT.
3. SIGNS SHALL NOT BE REMOVED UNTIL THE PROGRESS OF WORK NECESSITATES IT.

PAVEMENT MARKING LEGEND

- Ⓐ 4" WHITE EDGE LINE
- Ⓑ 4" DOUBLE YELLOW AT 12" C-C
- Ⓒ 6" WHITE
- Ⓓ 12" WHITE (3' C-C)
- Ⓔ 24" WHITE
- Ⓕ LETTERS AND SYMBOLS

NOTES:
1. ALL PAVEMENT MARKINGS ON HMA PAVEMENT TO BE THERMOPLASTIC IN CONFORMANCE WITH SECTION 780 OF THE STANDARD SPECIFICATIONS.
2. EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH SECTION 783 OF THE STANDARD SPECIFICATIONS.
3. EXISTING RAISED REFLECTIVE PAVEMENT MARKERS WHICH CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS SHALL HAVE THE LENSES REMOVED.
4. RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED IN CONFORMANCE WITH THE APPLICABLE ARTICLES OF SECTION 781 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH THE MUTCD, LATEST EDITION.

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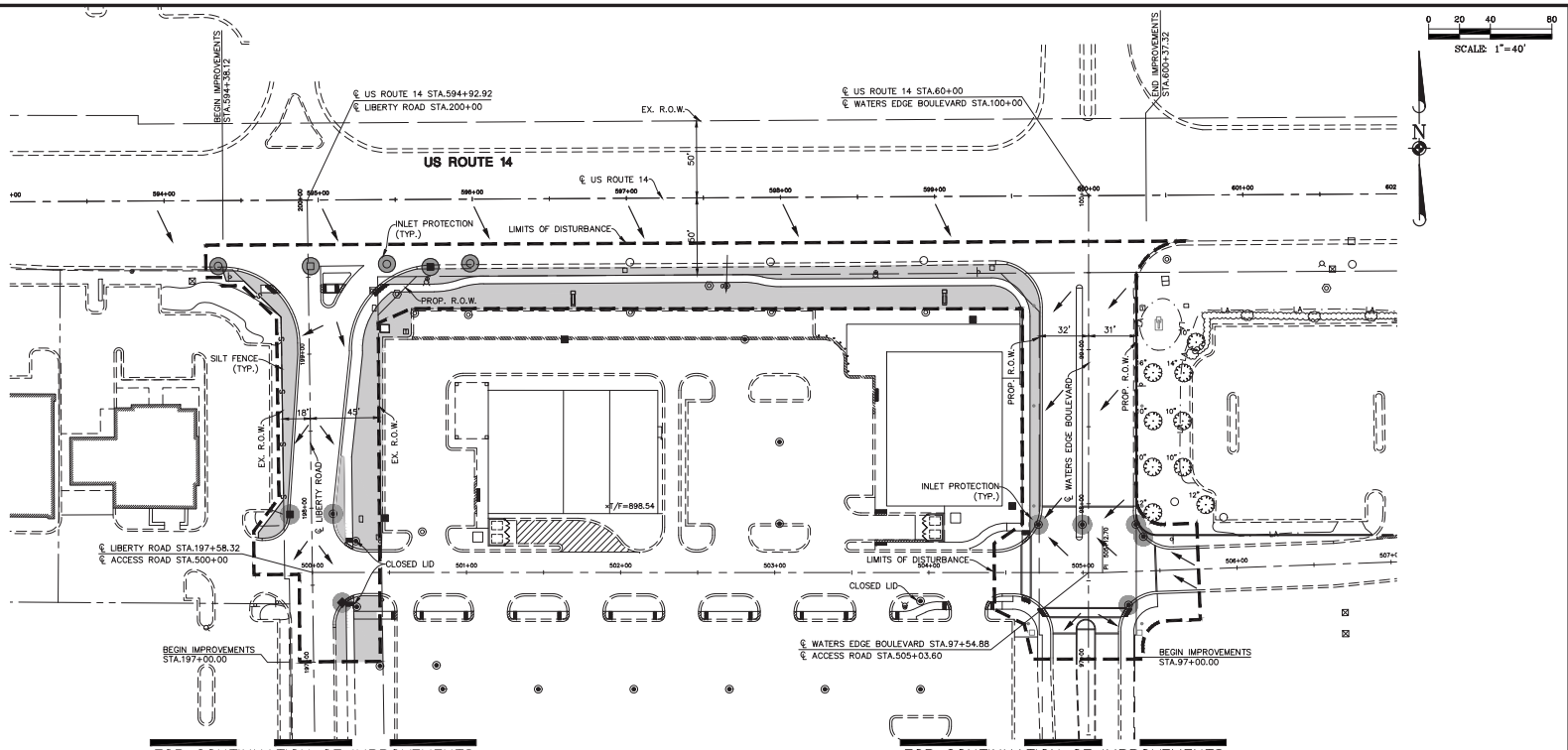
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
PAVEMENT MARKING PLAN

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: 1"=40'

SHEET 15 OF 29
FRDCLIL01

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08-01-16

SOIL EROSION AND SEDIMENTATION CONTROL GENERAL NOTES:

1. ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL".
2. MAINTENANCE AND REPLACEMENT OF EROSION CONTROL ITEMS, WHEN DIRECTED BY THE OWNER, SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
3. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF SAID MEASURES SHALL BE MADE IMMEDIATELY.
4. INSTALL ALL PERIMETER SILT FENCING PRIOR TO ANY CLEARING OR GRADING. ONSITE SEDIMENT CONTROL MEASURES AS SHOWN AND SPECIFIED BY THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO INITIATING CLEARING, GRADING, STRIPPING, EXCAVATION OR FILLING ACTIVITIES ON THE SITE.
5. IF STORMWATER DETENTION IS NOT REQUIRED THE CONTRACTOR SHALL CONSTRUCT DITCHES, SWALES, SEDIMENT TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW ONTO ADJACENT PROPERTY.
6. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED WITHIN 1 WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NOT LATER THAN 14 DAYS FROM THE INITIATION OF STABILIZATION WORK IN AN AREA.
7. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT 64 LBS/ACRE.
8. INLET PROTECTION SHALL BE INSTALLED UNDER THE GRATING OF EACH DRAINAGE STRUCTURE.
9. STABILIZATION OF TOPSOIL STOCKPILES SHALL BE INITIATED IMMEDIATLEY UPON COMPLETION UNLESS THEY WILL BE DISTURBED WITHIN FOURTEEN (14) CALENDAR DAYS. STABILIZATION OF STOCKPILES MUST BE INITIATED WITHIN 1 WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NOT LATER THAN 14 DAYS FROM THE INITIATION OF STABILIZATION WORK IN AN AREA. ALL SOIL STORAGE PILES SHALL BE PROTECTED FROM EROSION WITH SILT FENCE ON THE DOWN SLOPE SIDE OF THE PILES.
10. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO SILT TRAPS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
11. WATER PUMPED DURING CONSTRUCTION OPERATION SHALL BE FILTERED.
12. DUST CONTROL SHALL BE PERFORMED ON A DAILY BASIS USING WATER DISPERSED FROM A TRUCK MOUNTED TANK WITH STANDARD DISCHARGE HEADER TO PROVIDE A UNIFORM RATE OF APPLICATION.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED, ADJUSTED OR RELOCATED AS NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
14. ANY LOOSE MATERIAL THAT IS DEPOSITED IN THE FLOW LINE OF ANY GUTTER OR DRAINAGE STRUCTURE DURING CONSTRUCTION OPERATIONS SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY.
15. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE CLIENT OR OTHER JURISDICTIONAL GOVERNMENTAL ENTITIES.
16. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL JURISDICTIONAL GOVERNMENTAL AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.

SOIL PROTECTION CHART

STABILIZATION CHART	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDINGS			A						*			
DORMANT SEEDINGS	B										B	
TEMPORARY SEEDINGS			C									
TEMPORARY SEEDINGS	D											
SODDING			E									
MULCHING	F											

A – KENTUCKY BLUEGRASS 90 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 30 LBS./AC.
B – KENTUCKY BLUEGRASS 135 LBS./AC. MIXED WITH PERENNIAL RYEGRASS 45 LBS./AC. 2 TONS STRAW MULCH PER ACRE
C – SPRING OATS
D – WHEAT OR CEREAL RYE
E – SOD (NURSERY GROWN, KENTUCKY BLUEGRASS)
F – STRAW MULCH 2 TONS PER ACRE
* IRRIGATION NEEDED DURING JUNE, JULY AND SEPTEMBER
** IRRIGATION NEEDED FOR 2–3 WEEKS AFTER SODDING

NOTE: THIS CHART IS A GUIDE TO ASSISTS THE CONTRACTOR IN UNDERSTANDING OPTIONS FOR SOIL STABILIZATION. THE LANDSCAPE PLAN SHALL TAKE PRECEDENCE OVER THIS CHART. ANY CONFLICT SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.

08-01-16

CONSTRUCTION SEQUENCE:

1. INSTALL SILT FENCE AT LOCATIONS AS INDICATED ON THE PLANS.
2. CUT AND FILL SITE TO PLAN SUB–GRADE.
3. CONSTRUCT UNDERGROUND IMPROVEMENTS, i.e. SANITARY SEWER WATERMAIN AND STORM SEWER**, ETC.
4. CONSTRUCT PAVEMENT IMPROVEMENTS PER PLAN.
5. COMPLETE CONSTRUCTION OF SITE WITH PERMANENT STABILIZATION.
6. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

** INSTALL INLET PROTECTION AROUND DRAINAGE STRUCTURES AS CONSTRUCTED.

08-01-16

LEGEND

- —S—S— TEMPORARY SILT FENCE (PERIMETER EROSION BARRIER)
- EROSION CONTROL BLANKET (NORTH AMERICAN GREEN DS 75) (SEEDING PER LANDSCAPE PLAN)
- TEMPORARY STORM STRUCTURE PROTECTION
- PAVEMENT DRAINAGE FLOW
- SWALE DRAINAGE FLOW
- LIMITS OF DISTURBANCE/CONSTRUCTION

"THESE EROSION CONTROL PLANS ARE A PORTION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) TOTAL REQUIREMENTS FOR A COMPLETE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS REQUIRED BY THE GENERAL NPDES PERMIT NO. ILR10. CLIENT AND/OR CONTRACTOR WILL BE RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE GENERAL NPDES PERMIT AND COMPILATION OF THE COMPLETE SWPPP."

DRAWN BY	DATE	REVISIONS
NBA	07-07-23	REVISED PER CITY OF CRYSTAL LAKE COMMENTS

Manhard CONSULTING

US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

EROSION CONTROL PLAN

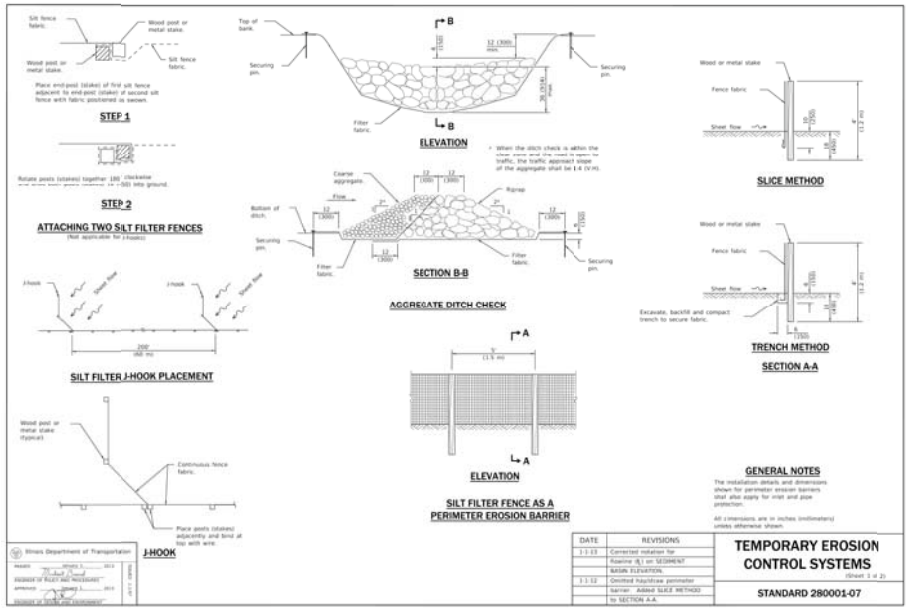
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PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: 1"=40'

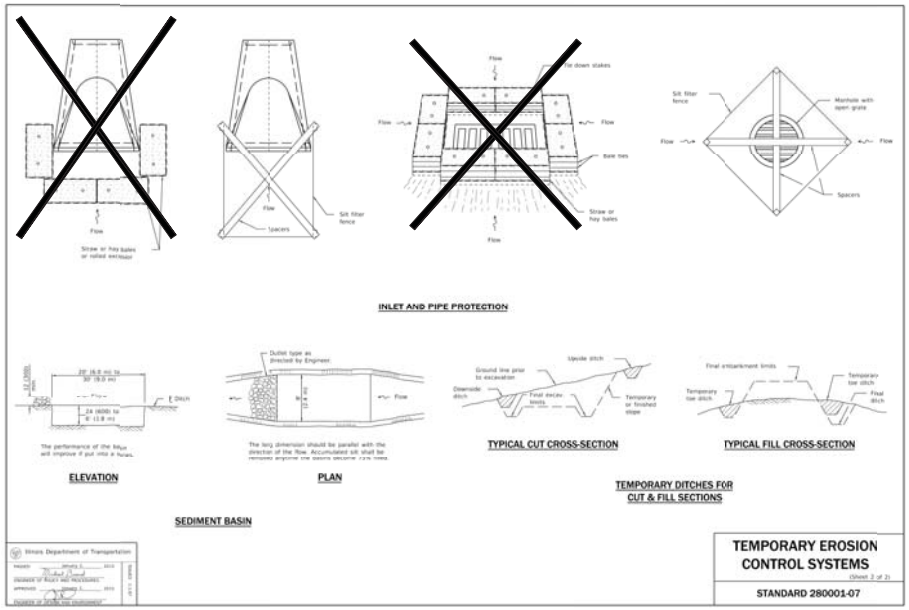
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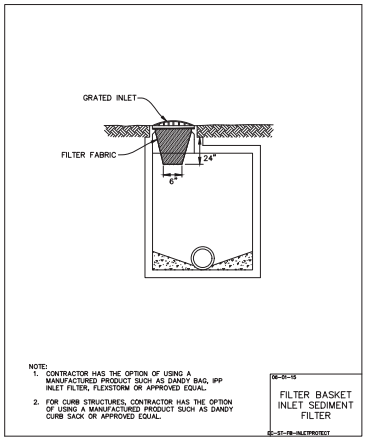
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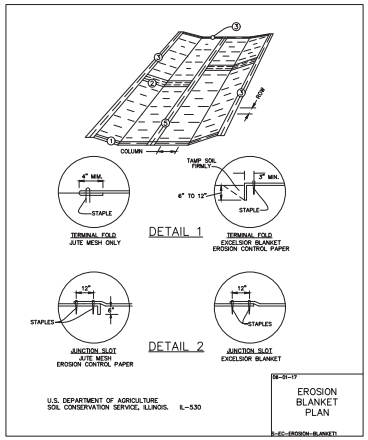
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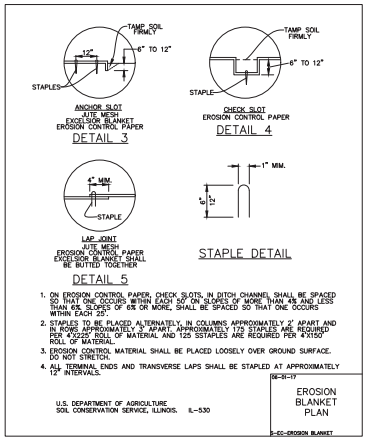
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US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

EROSION CONTROL PLAN DETAILS

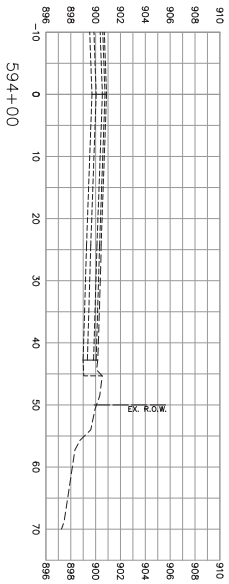
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DATE: 06-02-23
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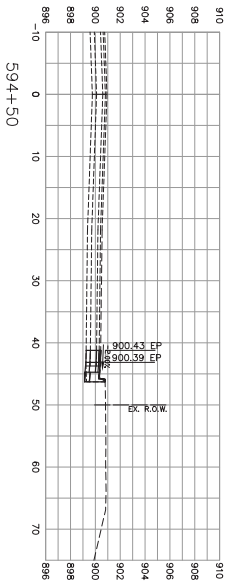
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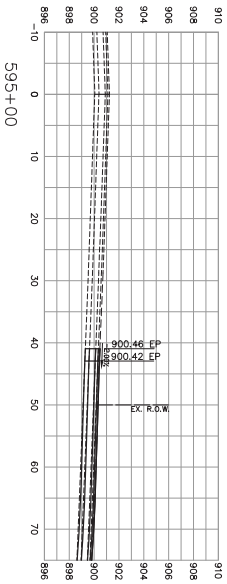
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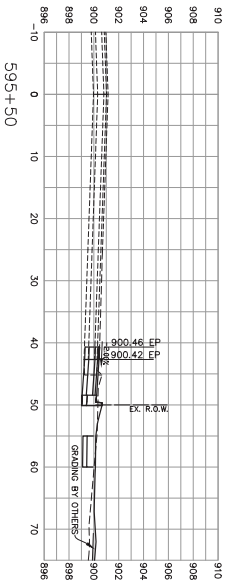
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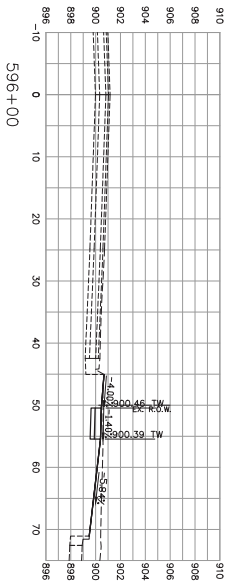
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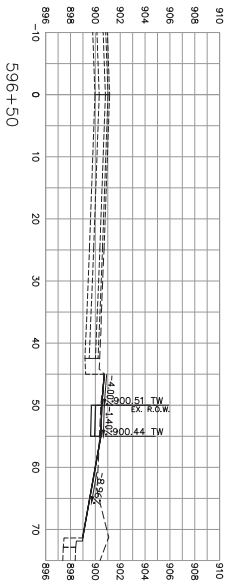


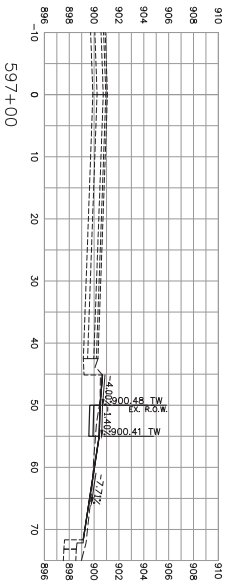


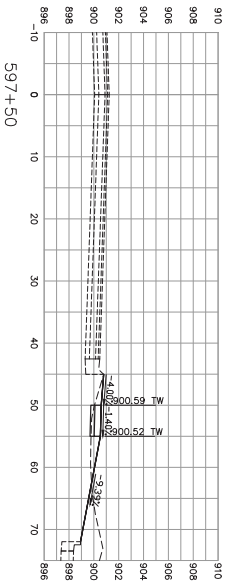












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FRDCIL901

SHEET 18 OF 29 SHEETS

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DATE: 06-02-23

DRAWN BY: AS

PROJ. ASSOC: MH

PROJ. MGR: JBA

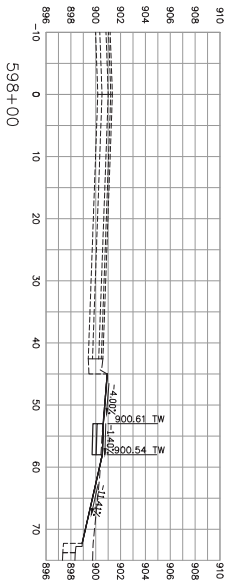
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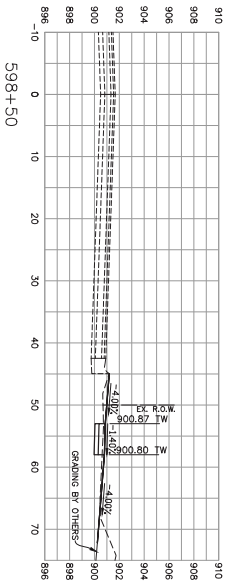
CITY OF CRYSTAL LAKE, ILLINOIS

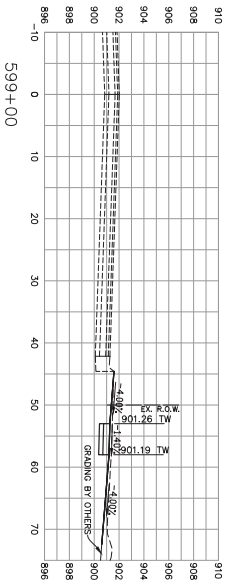
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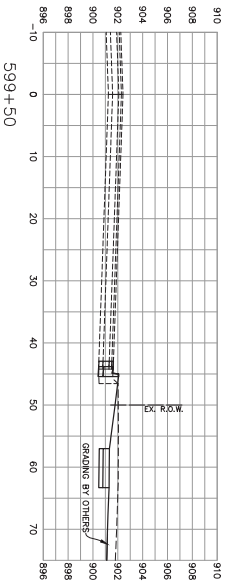
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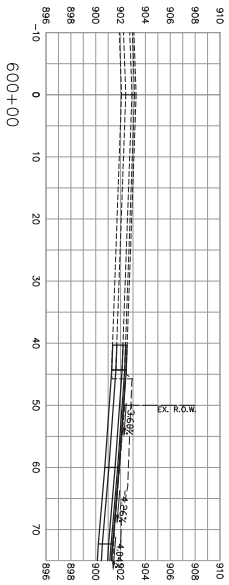
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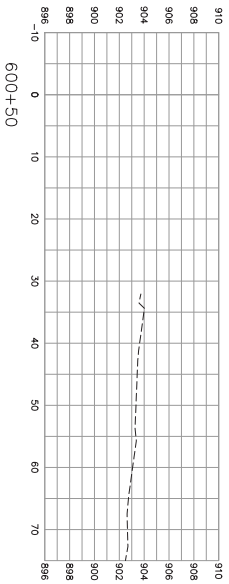












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SCALE:	AS SHOWN
DATE:	06-02-23
DRAWN BY:	AS
PROJ. ASSOC:	MH
PROJ. MGR:	JBA

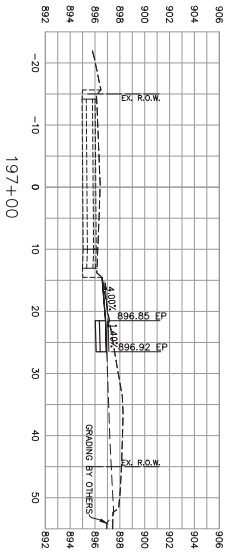
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

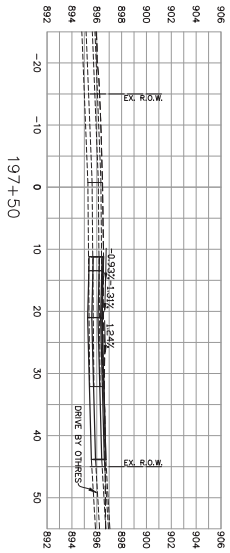
CITY OF CRYSTAL LAKE, ILLINOIS

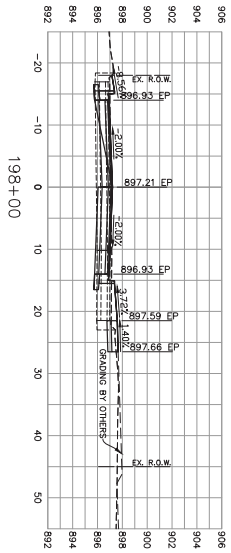
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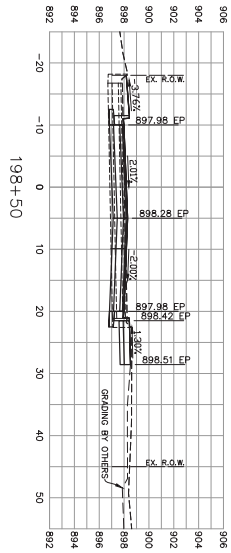
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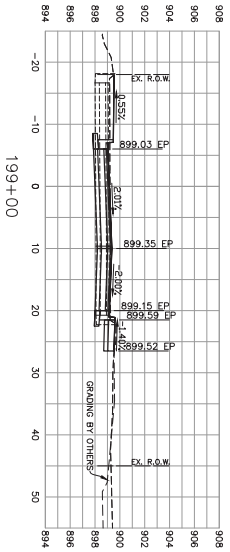
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FRDCL801

SHEET 20 OF 29

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DATE: 06-02-23

DRAWN BY: AS

PROJ. ASSOC: MN

PROJ. MGR: JBA

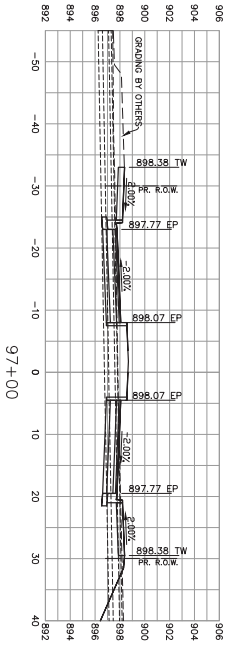
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

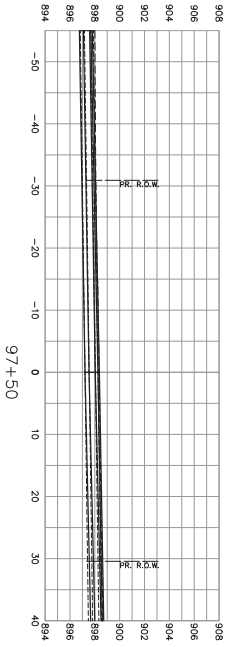
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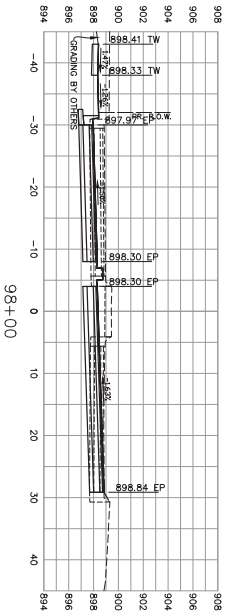
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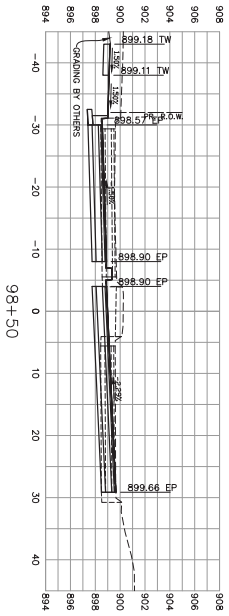
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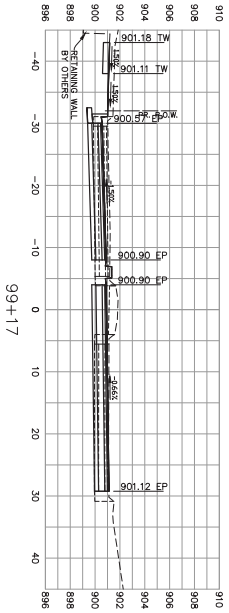
DATE	REVISIONS	DRAWN BY











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FRDCL1101

SHEET 21 OF 29 SHEETS

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DATE: 06-02-23

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PROJ. ASSOC: MH

PROJ. MGR: JBA

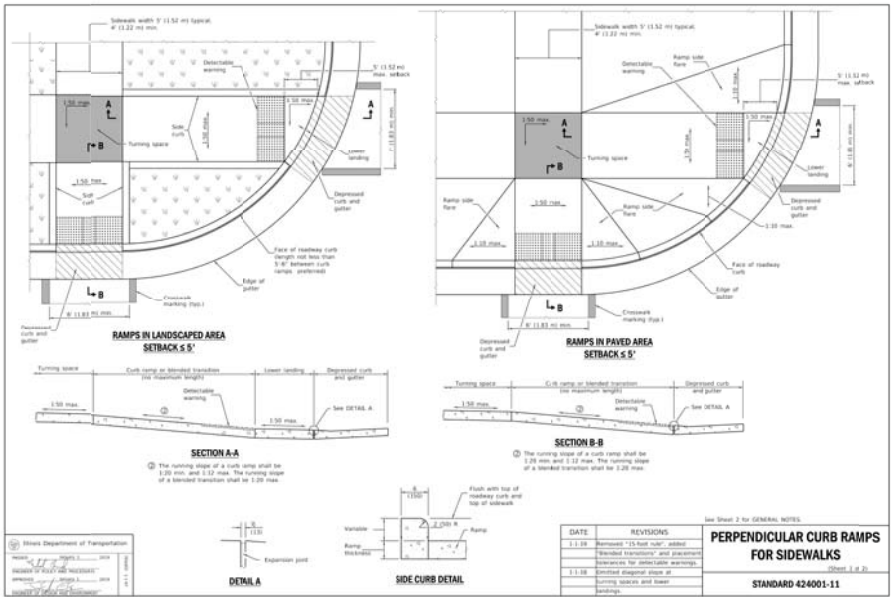
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

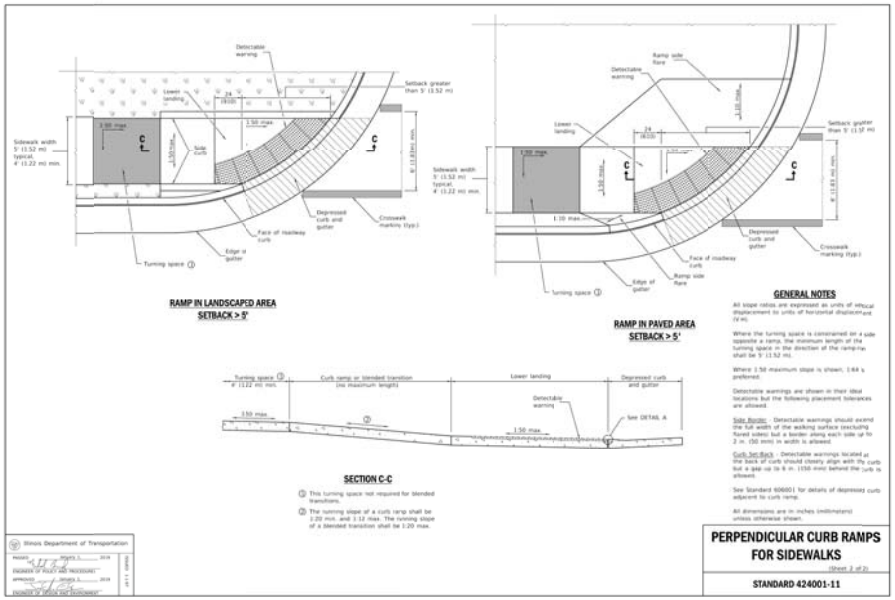
CITY OF CRYSTAL LAKE, ILLINOIS

CROSS SECTION - WATERS EDGE BLVD - STA.96+50 TO STA.99+00

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DATE	REVISIONS	DRAWN BY





GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

Detectable warnings are shown in their ideal locations but the following placement tolerances are allowed.

Side Border - Detectable warnings should extend the full width of the walking surface (excluding flared sides) but a border along each side up to 2 in. (50 mm) in width is allowed.

Curb Set-Back - Detectable warnings located at the back of curb should closely align with the curb but a gap up to 6 in. (150 mm) behind the curb is allowed.

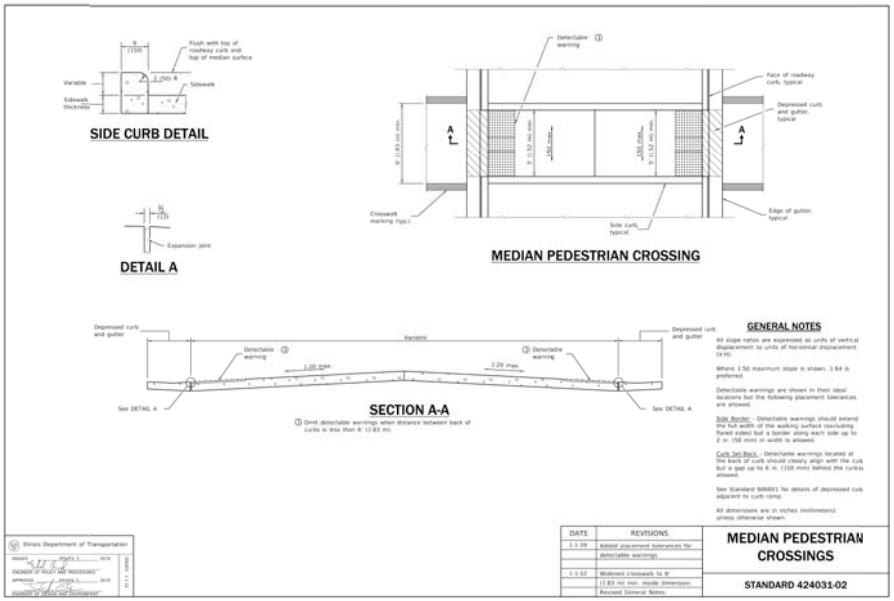
See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Removed "15-foot rule", added "blended transitions" and placement tolerances for detectable warnings.
1-1-18	Omitted diagonal slope at turning spaces and lower landings.

PERPENDICULAR CURB RAMPS FOR SIDEWALKS
(Sheet 1 of 2)
STANDARD 424001-11

(Sheet 2 of 2)
STANDARD 424001-11



GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where 1:50 maximum slope is shown, 1:64 is preferred.

Detectable warnings are shown in their ideal locations but the following placement tolerances are allowed.

Side Border - Detectable warnings should extend the full width of the walking surface (excluding flared sides) but a border along each side up to 2 in. (50 mm) in width is allowed.

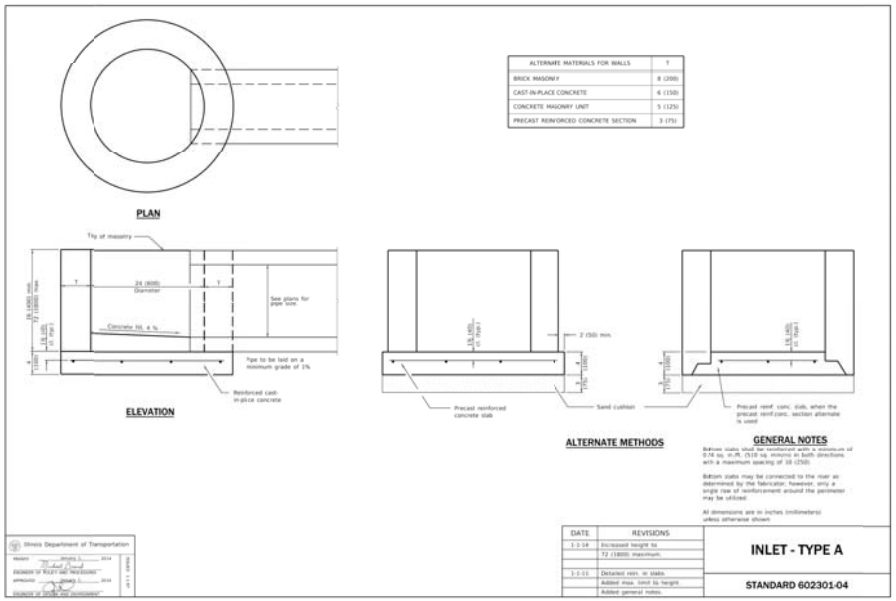
Curb Set-Back - Detectable warnings located at the back of curb should closely align with the curb but a gap up to 6 in. (150 mm) behind the curb is allowed.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Added placement tolerances for detectable warnings.
1-1-17	Widened crosswalk to 6' (1.83 m) min. inside dimension. Revised General Notes.

MEDIAN PEDESTRIAN CROSSINGS
STANDARD 424031-02



ALTERNATE MATERIALS FOR WALLS	T
BRICK MASONRY	8 (200)
CAST-IN-PLACE CONCRETE	6 (150)
CONCRETE MASONRY UNIT	5 (125)
PRECAST REINFORCED CONCRETE SECTION	3 (75)

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.16 sq. in./ft. (310 sq. mm/m) in both directions, with a maximum spacing of 10 (250).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-14	Increased height to 72 (1800) maximum.
1-1-11	Detailed rein. in slabs. Added max. limit to height. Added general notes.

INLET - TYPE A
STANDARD 602301-04

Illinois Department of Transportation

ENGINEER OF POLICY AND PROCEDURES
APPROVED _____ DATE _____
ENGINEER OF BUREAU OR ENVIRONMENT

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DRAWN BY
REVISIONS
DATE

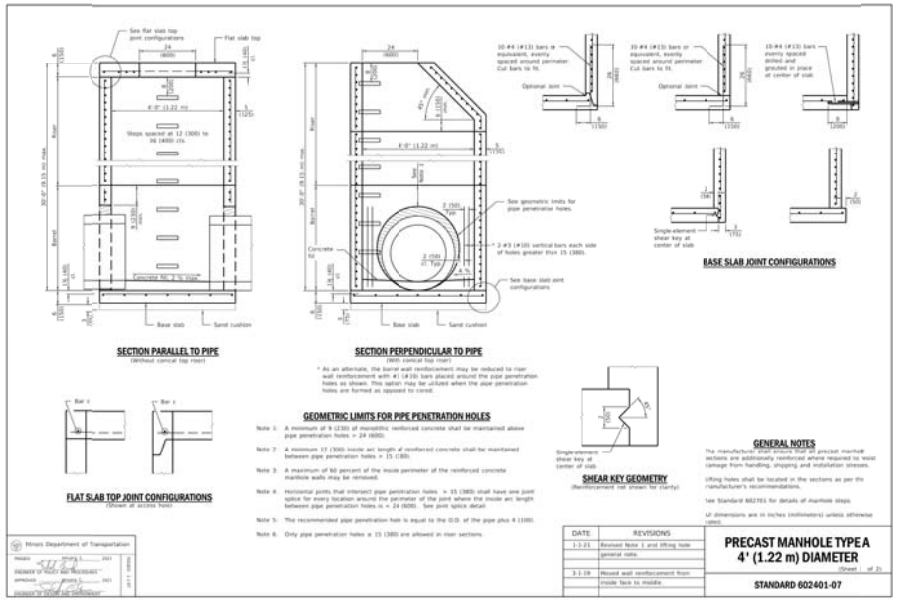
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
CONSTRUCTION DETAILS

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: N.T.S.

SHEET
22 OF 29
FRDCLIL01

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June 22, 2023 – 13:56 Dwg Name: P:\Projects\Land\Final\Plot Drawings\Plan Set\007 (Plan Set)\22-29 (DETAILS).dwg Updated By: ASanchez



SECTION PARALLEL TO PIPE
(Without conical top riser)

SECTION PERPENDICULAR TO PIPE
(With conical top riser)

BASE SLAB JOINT CONFIGURATIONS

FLAT SLAB TOP JOINT CONFIGURATIONS
(Shown at access hole)

SHEAR KEY GEOMETRY
(Reinforcement not shown for clarity)

GEOMETRIC LIMITS FOR PIPE PENETRATION HOLES

Note 1. A minimum of 9 (230) of monolithic reinforced concrete shall be maintained above pipe penetration holes > 24 (600).

Note 2. A minimum 17 (500) inside arc length of reinforced concrete shall be maintained between pipe penetration holes > 15 (380).

Note 3. A maximum of 60 percent of the inside perimeter of the reinforced concrete manhole walls may be removed.

Note 4. Horizontal joints that intersect pipe penetration holes > 15 (380) shall have one joint splice for every location around the perimeter of the joint where the inside arc length between pipe penetration holes is < 24 (600). See joint splice detail.

Note 5. The recommended pipe penetration hole is equal to the O.D. of the pipe plus 4 (100).

Note 6. Only pipe penetration holes ≤ 15 (380) are allowed in riser sections.

GENERAL NOTES

The manufacturer shall ensure that all precast manhole sections are adequately reinforced where required to resist damage from handling, shipping and installation stresses.

Lifting holes shall be located in the sections as per the manufacturer's recommendations.

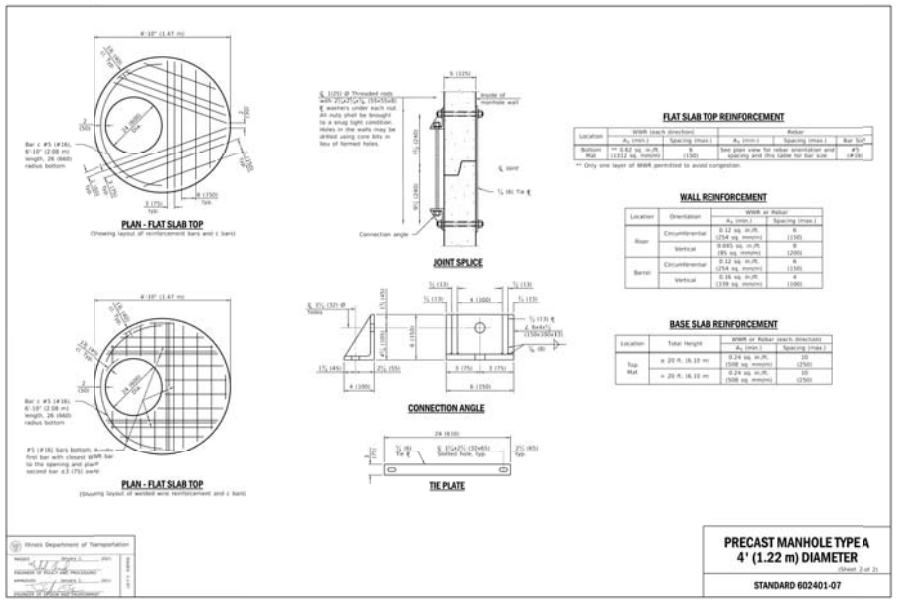
See Standard of 602701 for details of manhole steps.

All dimensions are in inches (millimeters) unless otherwise specified.

DATE	REVISIONS
1-1-21	Revised Note 1 and lifting hole general note.
3-1-19	Moved wall reinforcement from inside face to middle.

PRECAST MANHOLE TYPE A
4' (1.22 m) DIAMETER
(Sheet 1 of 2)

STANDARD 602401-07



PLAN - FLAT SLAB TOP
(Showing layout of reinforcement bars and c bars)

JOINT SPLICE

FLAT SLAB TOP REINFORCEMENT

Location	WWR (each direction)		Rebar		
	A_s (min.)	Spacing (max.)	A_s (min.)	Spacing (max.)	Bar Size
Bottom Mat	** 0.62 sq. in./ft. (1312 sq. mm/m)	6 (150)	See plan view for rebar orientation and spacing and this table for bar size		#5 (#16)

** Only one layer of WWR permitted to avoid congestion.

WALL REINFORCEMENT

Location	Orientation	WWR or Rebar	
		A_s (min.)	Spacing (max.)
Riser	Circumferential	0.12 sq. in./ft. (254 sq. mm/m)	6 (150)
	Vertical	0.045 sq. in./ft. (95 sq. mm/m)	8 (200)
Barrel	Circumferential	0.12 sq. in./ft. (254 sq. mm/m)	6 (150)
	Vertical	0.16 sq. in./ft. (339 sq. mm/m)	4 (100)

BASE SLAB REINFORCEMENT

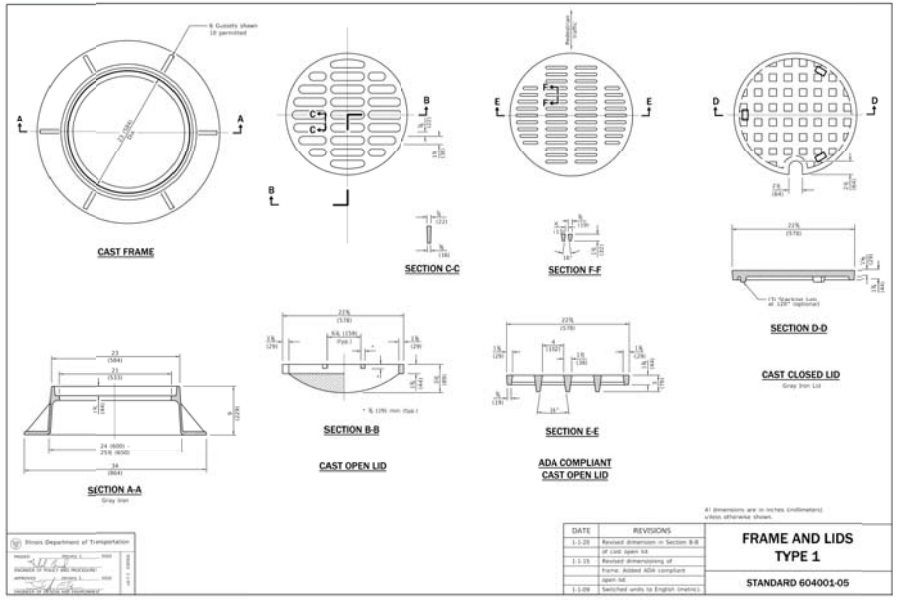
Location	Total Height	WWR or Rebar (each direction)	
		A_s (min.)	Spacing (max.)
Top Mat	≤ 20 ft. (6.10 m)	0.24 sq. in./ft. (508 sq. mm/m)	10 (250)
	> 20 ft. (6.10 m)	0.24 sq. in./ft. (508 sq. mm/m)	10 (250)

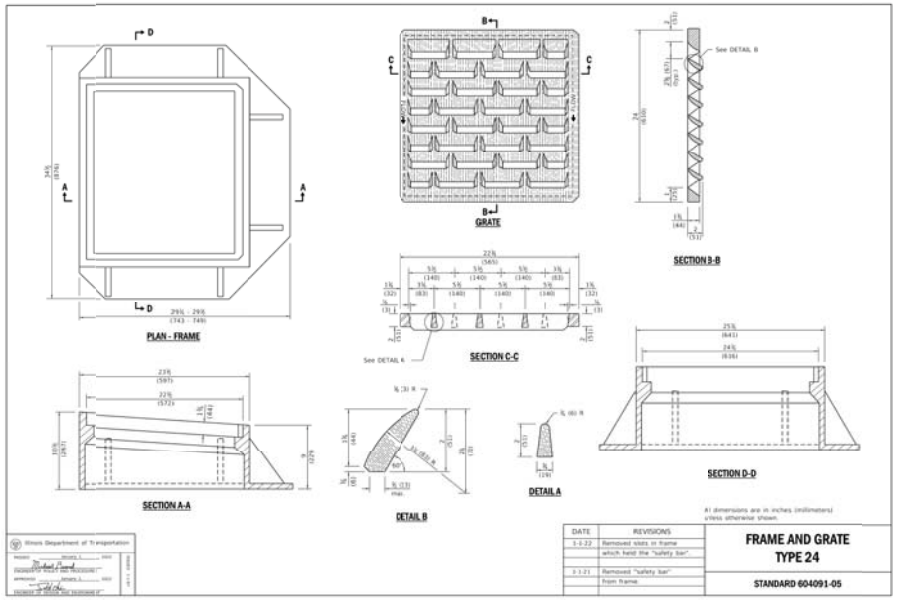
CONNECTION ANGLE

TIE PLATE

PRECAST MANHOLE TYPE A
4' (1.22 m) DIAMETER
(Sheet 2 of 2)

STANDARD 602401-07


9 Gussets shown (6 permitted)
Perimeter
Grate
Curb
Lid
Frame
Seat
Pick hole
Vent hole
Bolt hole
Hinge
Lock
Chain
Pan
Rim
Base
Flange
Web
Rib
Leg
Foot
Handle
Hook
Eye
Pin
Cover
Body
Neck
Shoulder
Throat
Mouth
Lip
Edge
Corner
Side
Top
Bottom
Front
Back
Inside
Outside
Center
Hole
Slot
Groove
Notch
Tab
Boss
Rib
Gusset
Fillet
Chamfer
Radius
Diameter
Thickness
Width
Height
Length
Depth
Section
Detail
Elevation
Plan
Isometric
Exploded
Assembly
Part
Material
Finish
Tolerance
Dimension
Scale
Note
Revision
Date
Drawn
Checked
Approved
Project
Client
Location
Number
Sheet
Total
Standard
Specification
Code
Class
Type
Size
Weight
Capacity
Load
Stress
Strength
Safety
Factor
Design
Analysis
Test
Inspection
Maintenance
Repair
Replacement
Installation
Removal
Disposal
Recycling
Environmental
Sustainability
Energy
Efficiency
Performance
Reliability
Durability
Quality
Control
Assurance
Management
Planning
Scheduling
Budget
Cost
Estimate
Bid
Contract
Agreement
Specification
Drawing
Model
Simulation
Prototype
Mockup
Sample
Material
Finish
Color
Texture
Pattern
Design
Aesthetic
Function
Form
Structure
System
Component
Assembly
Part
Detail
Section



All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-22	Removed slots in frame which held the "safety bar"
1-1-21	Removed "safety bar" from frame.

FRAME AND GRATE TYPE 24

STANDARD 604091-05

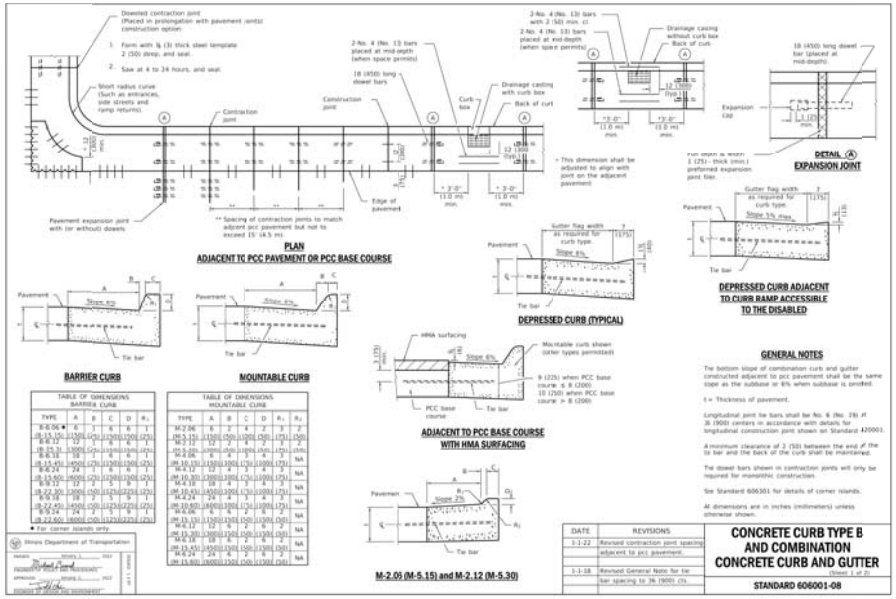


TABLE OF DIMENSIONS BARRIER CURB

TYPE	A	B	C	D	R_1
B-6.06	6	7	6	2	2
B-6.12	12	7	6	2	2
B-6.18	18	7	6	2	2
B-6.24	24	7	6	2	2
B-13.60	24	7	6	2	2
B-13.45	24	7	6	2	2
B-13.30	24	7	6	2	2
B-13.60	24	7	6	2	2
B-22.30	24	7	6	2	2
B-22.45	24	7	6	2	2
B-22.60	24	7	6	2	2
B-22.60	24	7	6	2	2

* For corner islands only.

TABLE OF DIMENSIONS MOUNTABLE CURB

TYPE	A	B	C	D	R_1	R_2
M-2.06	6	7	6	2	2	
M-2.12	12	7	6	2	2	
M-2.18	18	7	6	2	2	
M-2.24	24	7	6	2	2	
M-10.60	24	7	6	2	2	NA
M-10.45	24	7	6	2	2	NA
M-10.30	24	7	6	2	2	NA
M-10.60	24	7	6	2	2	NA
M-15.30	24	7	6	2	2	NA
M-15.45	24	7	6	2	2	NA
M-15.60	24	7	6	2	2	NA
M-15.60	24	7	6	2	2	NA

GENERAL NOTES

The bottom slope of combination curb and gutter constructed adjacent to pcc pavement shall be the same slope as the subbase or 6% when subbase is omitted.

t = Thickness of pavement.

Longitudinal joint tie bars shall be No. 6 (No. 19) at 36 (900) centers in accordance with details for longitudinal construction joint shown on Standard 420001.

A minimum clearance of 2 (50) between the end of the tie bar and the back of the curb shall be maintained.

The dowel bars shown in contraction joints will only be required for monolithic construction.

See Standard 606301 for details of corner islands.

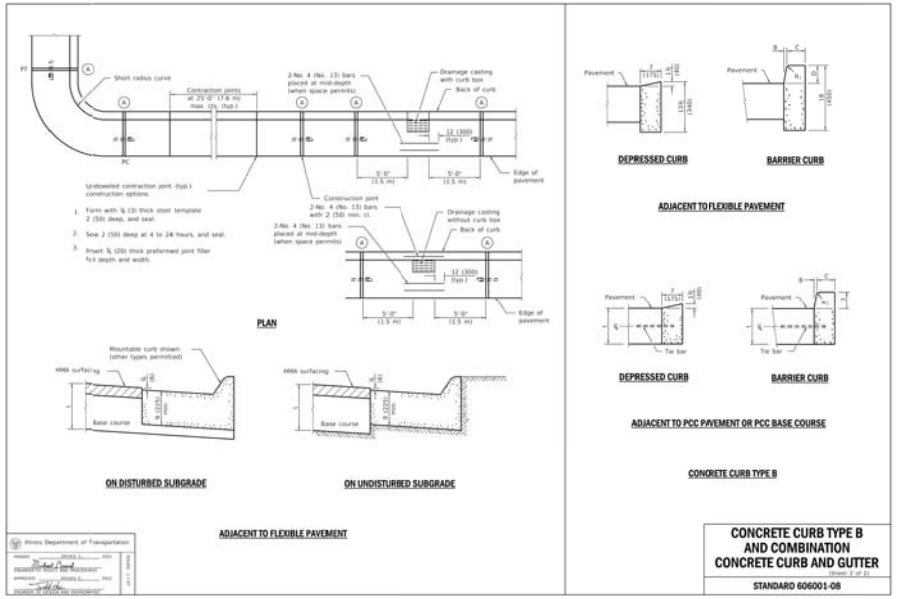
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-22	Revised contraction joint spacing adjacent to pcc pavement.
1-1-18	Revised General Note for tie bar spacing to 36 (900) (t).

CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 1 of 2)

STANDARD 606001-08



CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER

(Sheet 2 of 2)

STANDARD 606001-08

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Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Structural Engineers • Environmental Scientists • Landscape Architects • Planners

DRAWN BY	DATE	REVISIONS

US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

CITY OF CRYSTAL LAKE, ILLINOIS

CONSTRUCTION DETAILS

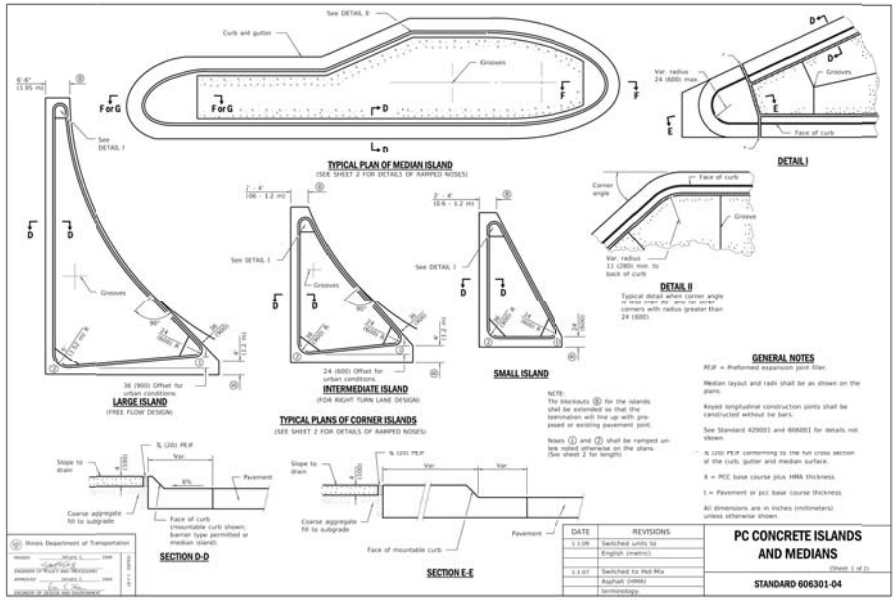
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PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: N.T.S.

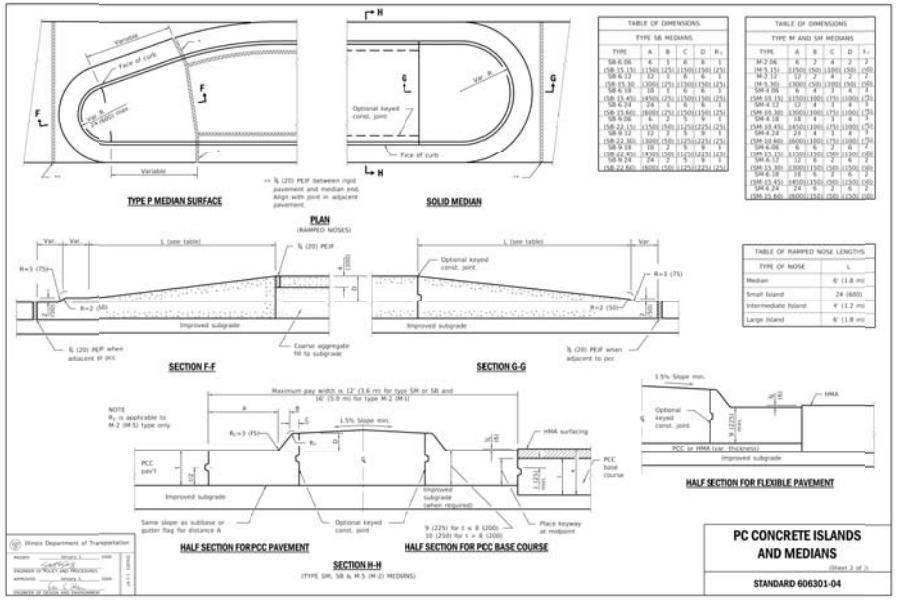
SHEET 24 OF 29

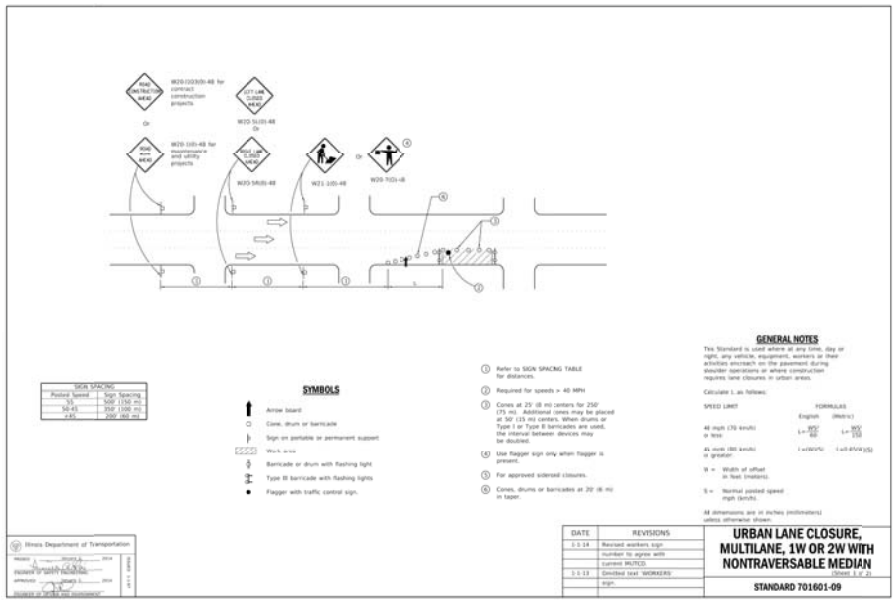
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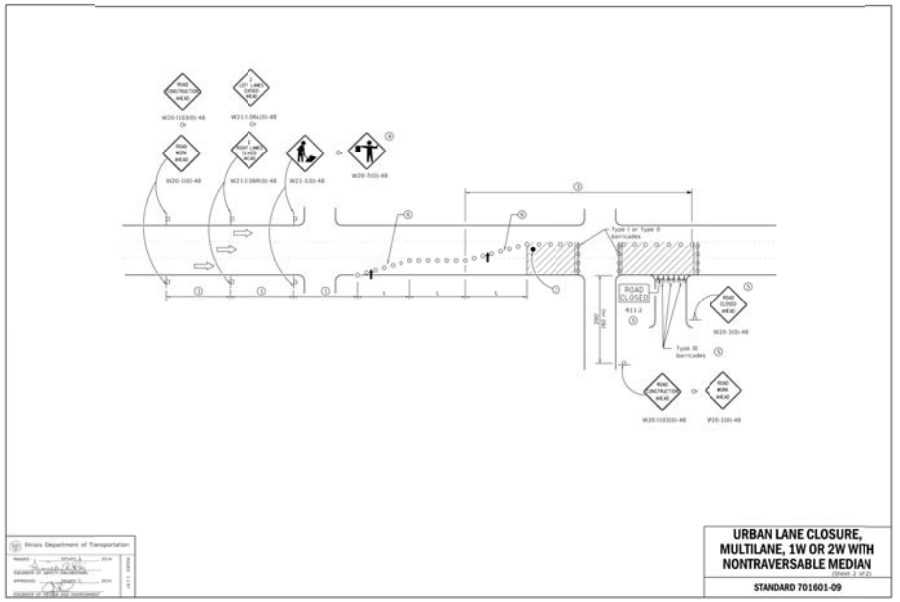
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June 29, 2023 – 13:56 Dwg Name: P:\Frd\ROW\Civil\Final\Plot Drawings\Plan Set\007 (Plan Set)\22-29 (DETAILS.dwg Updated By: ASanchez









US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
CONSTRUCTION DETAILS

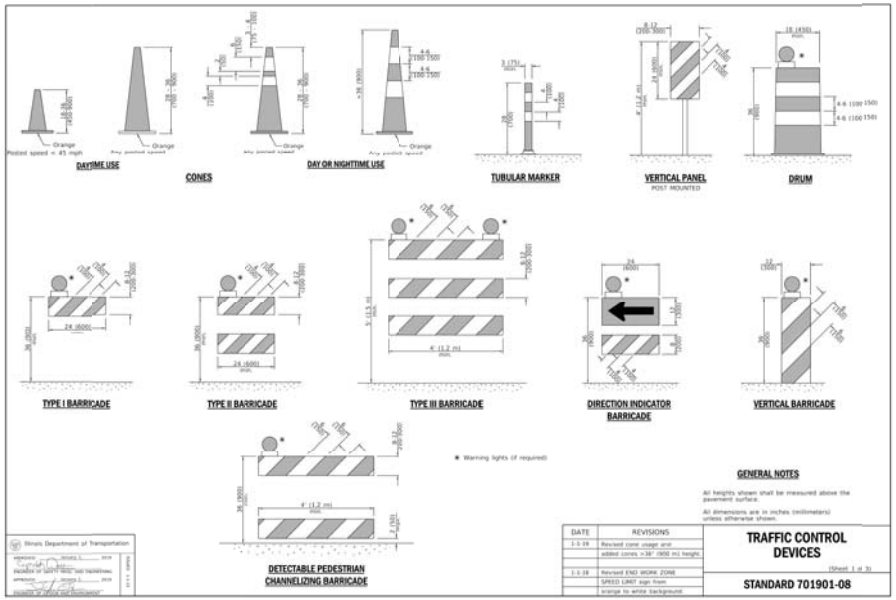
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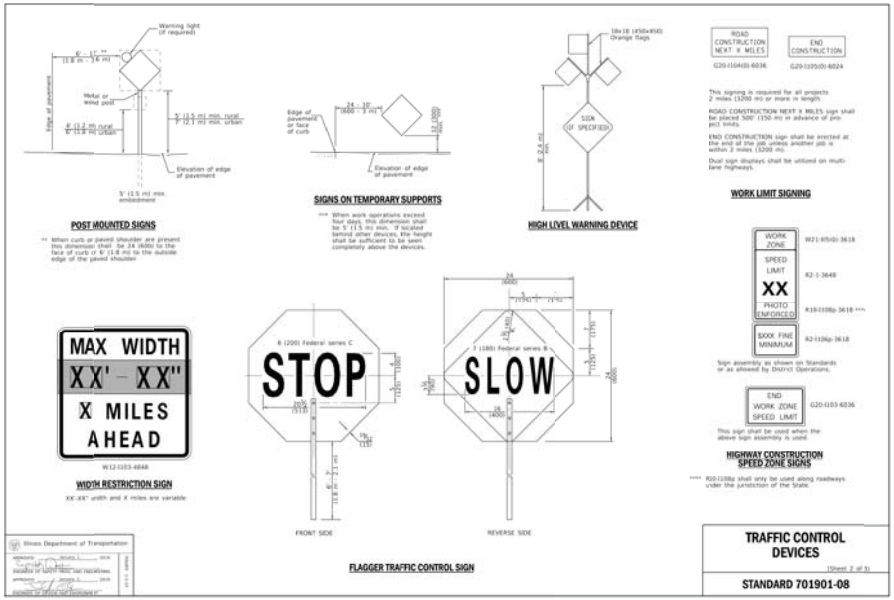
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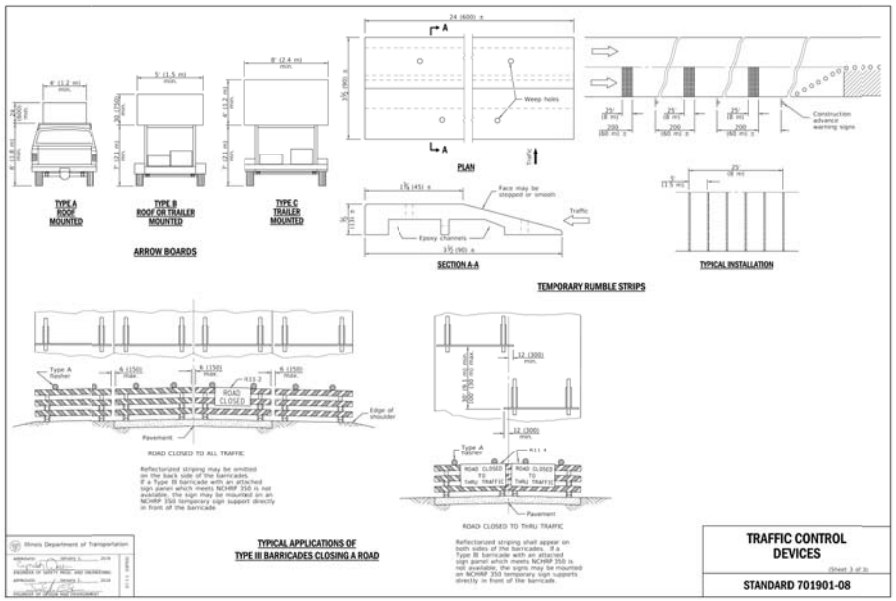
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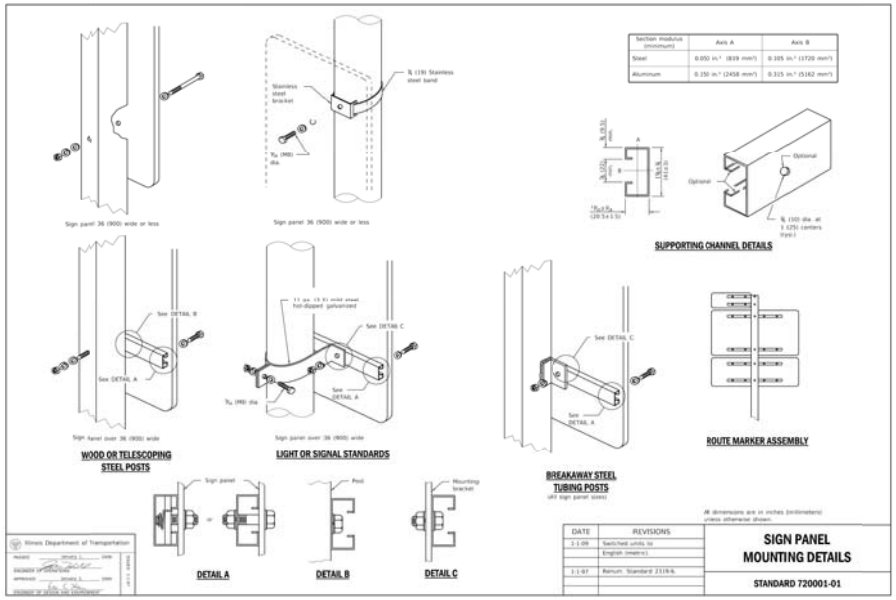
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
CONSTRUCTION DETAILS

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: N.T.S.

SHEET 26 OF 29
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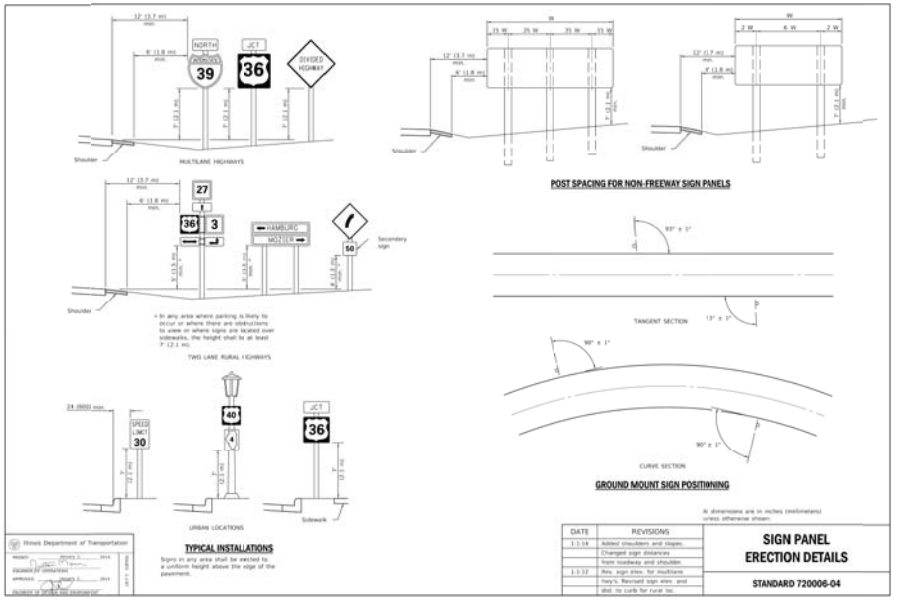
Section modulus (minimum)	Axis A	Axis B
Steel	0.050 in.³ (819 mm³)	0.105 in.³ (1720 mm³)
Aluminum	0.150 in.³ (2458 mm³)	0.315 in.³ (5162 mm³)

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric)
1-1-07	Reinum. Standard 2319-N.

SIGN PANEL MOUNTING DETAILS

STANDARD 720001-01



DATE	REVISIONS
1-1-14	Added shoulders and slopes.
	Changed sign distances
	from roadway and shoulder.
1-1-12	Rev. sign elev. for multilane
	hwy's. Removed sign elev. and
	dist. to curb for rural loc.

SIGN PANEL ERECTION DETAILS

STANDARD 720006-04

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US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD

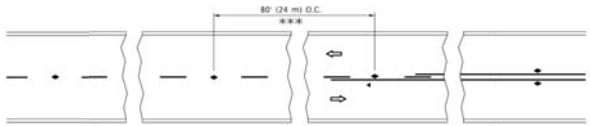
CITY OF CRYSTAL LAKE, ILLINOIS

CONSTRUCTION DETAILS

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: N.T.S.

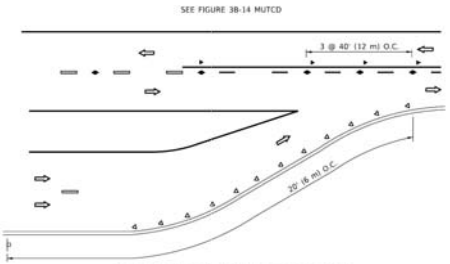
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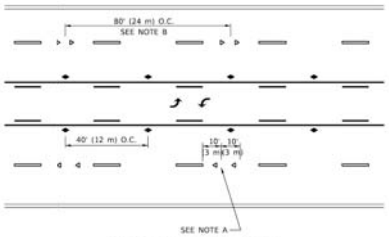


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

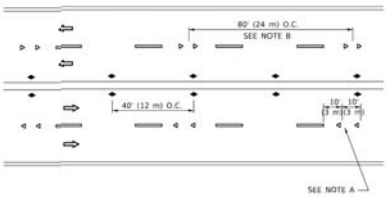
TWO-LANE/TWO-WAY



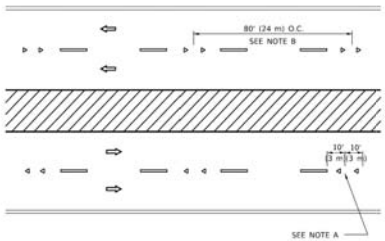
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

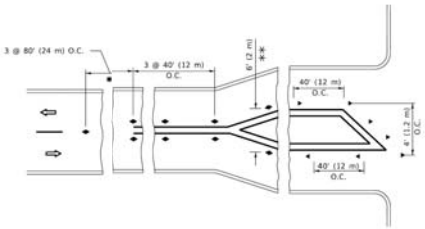
LANE MARKER NOTES

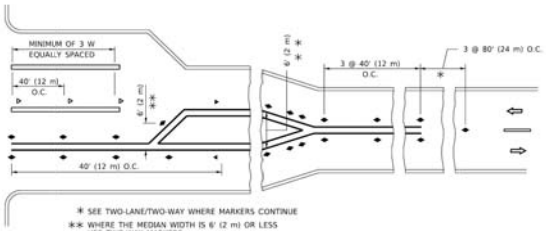
A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.





* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE

** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

TURN LANES

All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = fsoberry	DESIGNED -	REVISED - T. RAMMACHER 03-12-99	
	DRAWN -	REVISED - T. RAMMACHER 01-06-00	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 09-09-09	
PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 07-01-13	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TG-11	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

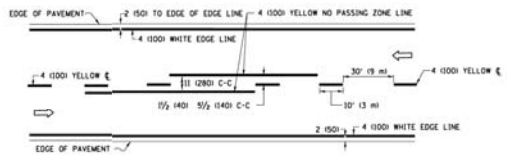
US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
CONSTRUCTION DETAILS

PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: N.T.S.

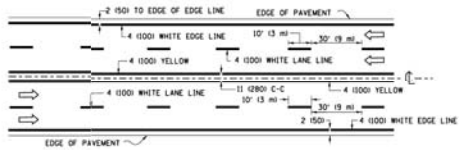
SHEET 28 OF 29
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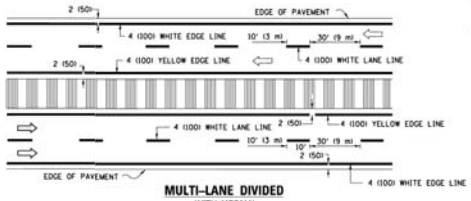
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2–LANE ROADWAY

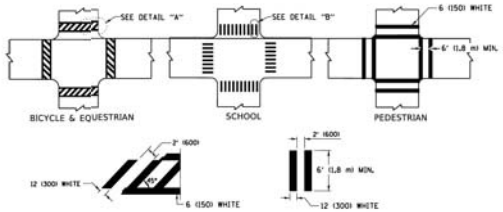


MULTI–LANE UNDIVIDED



MULTI–LANE DIVIDED
WITH MEDIAN

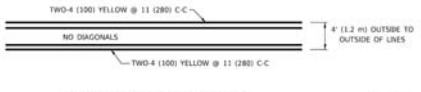
TYPICAL LANE AND EDGE LINE MARKING



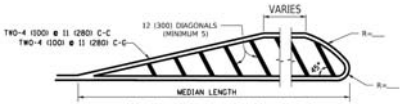
DETAIL "A" **DETAIL "B"**

TYPICAL CROSSWALK MARKING

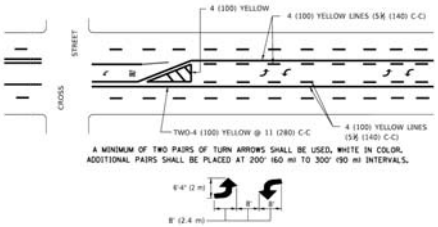
* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



4' (1.2 m) WIDE MEDIANS ONLY

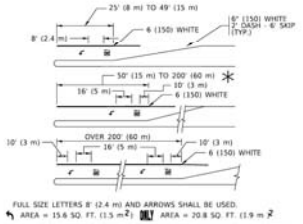


MEDIANS OVER 4' (1.2 m) WIDE



MEDIAN WITH TWO–WAY LEFT TURN LANE

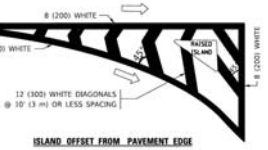
TYPICAL PAINTED MEDIAN MARKING



* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE

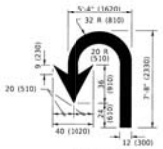


ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

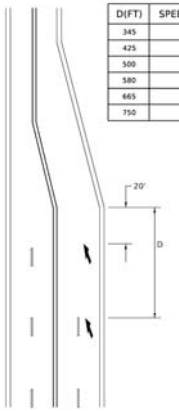


COMBINATION LEFT AND U–TURN



U–TURN

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55



LANE REDUCTION TRANSITION

* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5⅛ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5⅛ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²)EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS _> 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

USER NAME = lsoleny	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE TYPICAL PAVEMENT MARKINGS
	DRAWN -	REVISED - C. JUCIUS 07-01-13		
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 12-21-15		SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.
PLOT DATE = 3/4/2019	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-13	CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

US ROUTE 14, LIBERTY ROAD, WATERS EDGE BOULEVARD
CITY OF CRYSTAL LAKE, ILLINOIS
CONSTRUCTION DETAILS

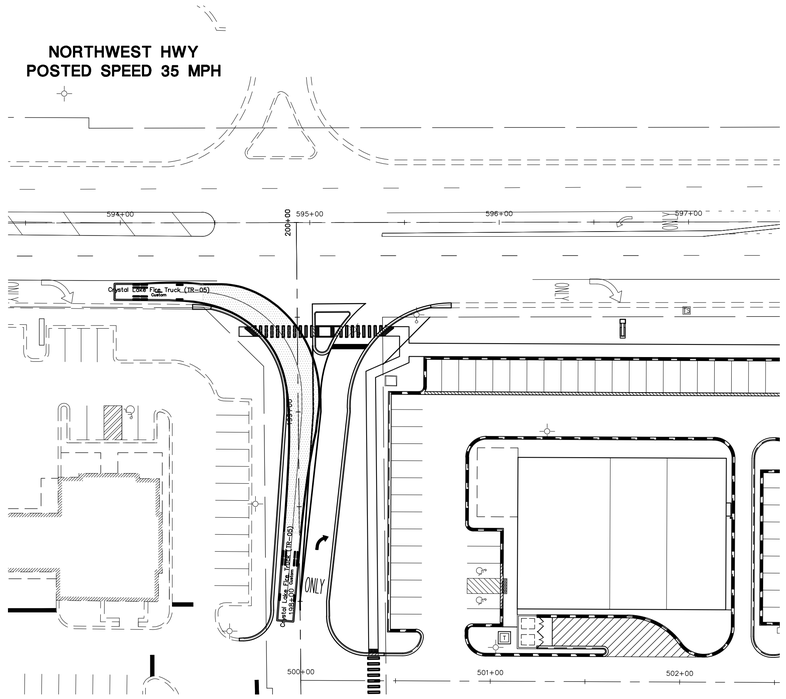
PROJ. MGR.: NBA
PROJ. ASSOC.: WH
DRAWN BY: AS
DATE: 06-02-23
SCALE: N.T.S.

SHEET 29 OF 29
FRDCLIL01

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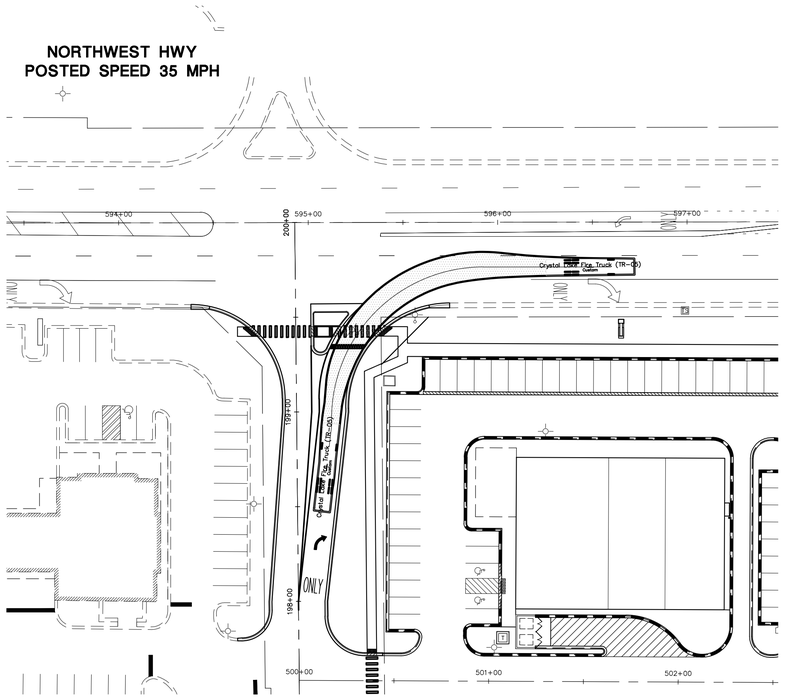
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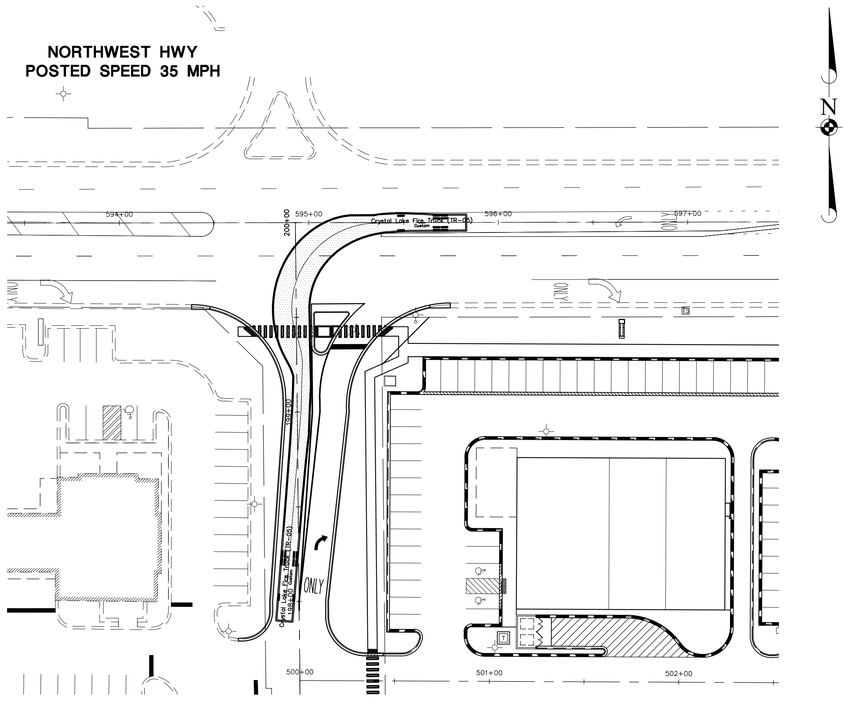




Crystal Lake Fire Truck (TR-05)

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3





0 20 40 80

SCALE: 1"=40'

DRAWN BY	REVISIONS	DATE

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PROPOSED IMPROVEMENTS FOR NORTHWEST HIGHWAY

CITY OF CRYSTAL LAKE, ILLINOIS

AUTOTURN EXHIBIT

PROJ. MGR.:	NBA
PROJ. ASSOC.:	WH
DRAWN BY:	AS
DATE:	04-25-23
SCALE:	1"=40'

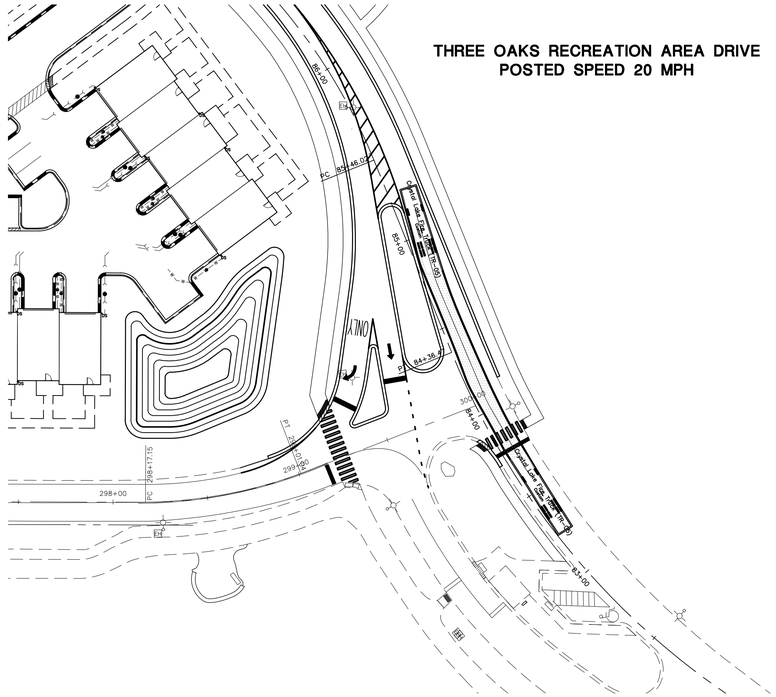
SHEET 1 OF 3

FRDCLIL01

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May 25, 2023 - 13:47 Dwg Name: P:\Fed\001\dwg\Eng\Preliminary\Highway\Autoturn.dwg Updated By: NAdelerle

THREE OAKS RECREATION AREA DRIVE
POSTED SPEED 20 MPH

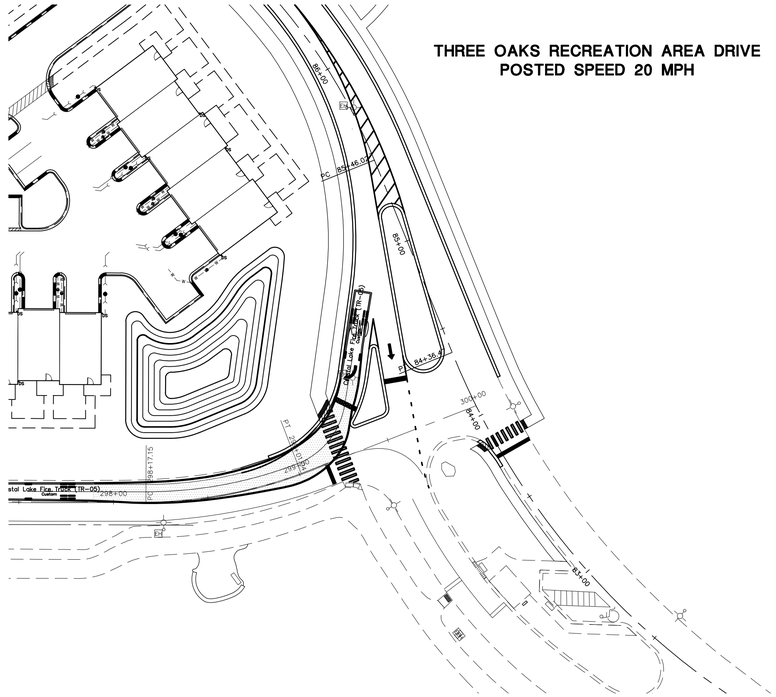




Crystal Lake Fire Truck (TR-05)

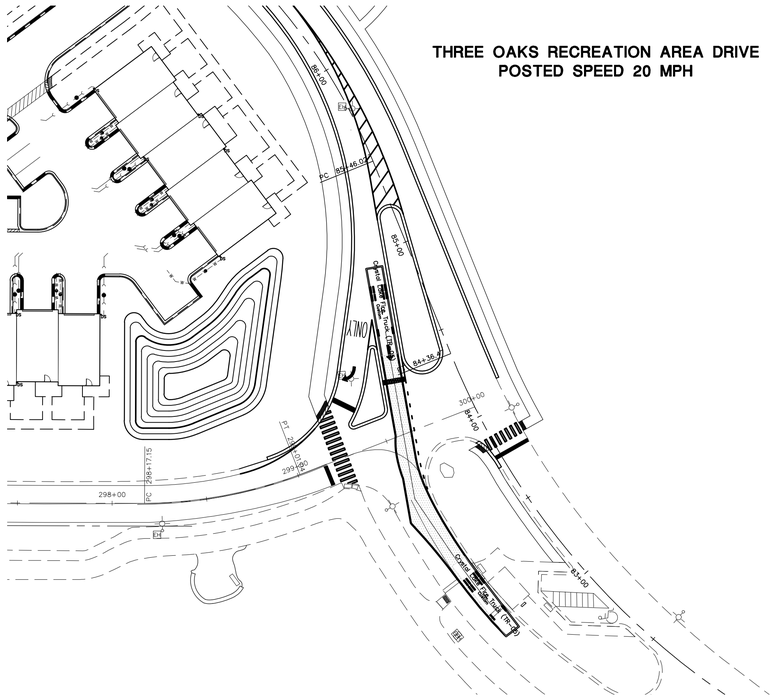
	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

THREE OAKS RECREATION AREA DRIVE
POSTED SPEED 20 MPH



0 20 40 80
SCALE: 1"=40'

THREE OAKS RECREATION AREA DRIVE
POSTED SPEED 20 MPH



DRAWN BY | REVISIONS | DATE

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PROPOSED IMPROVEMENTS FOR NORTHWEST HIGHWAY

CITY OF CRYSTAL LAKE, ILLINOIS

AUTOTURN EXHIBIT

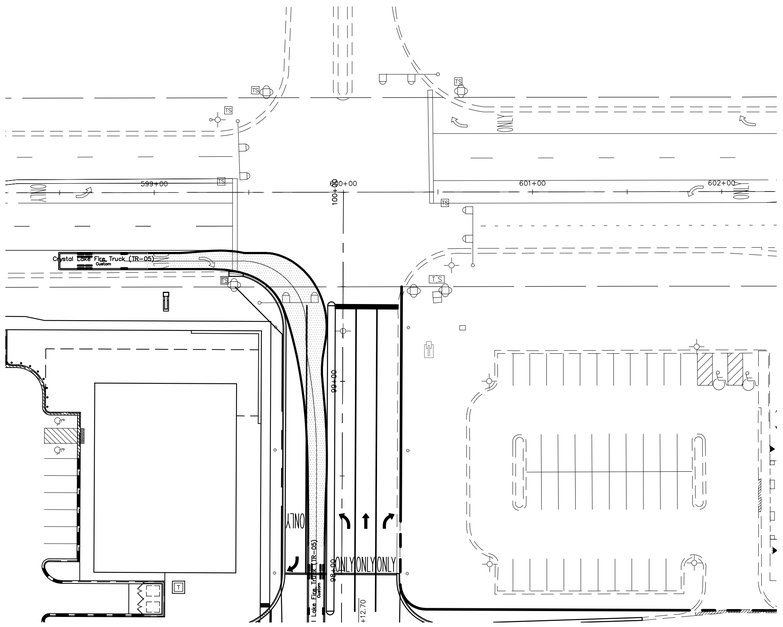
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PROJ. ASSOC.:	WH
DRAWN BY:	AS
DATE:	04-25-23
SCALE:	1"=40'

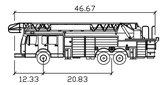
SHEET 2 OF 3

FRDCLIL01

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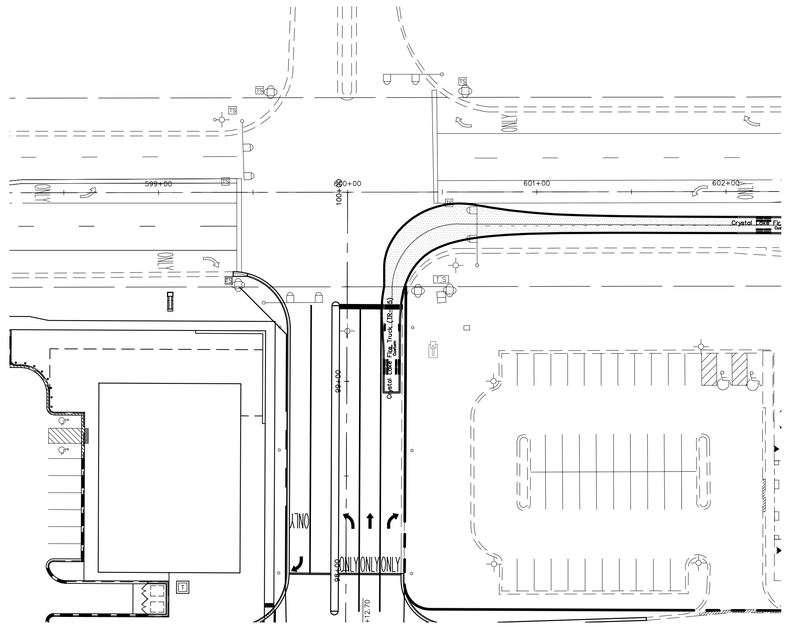
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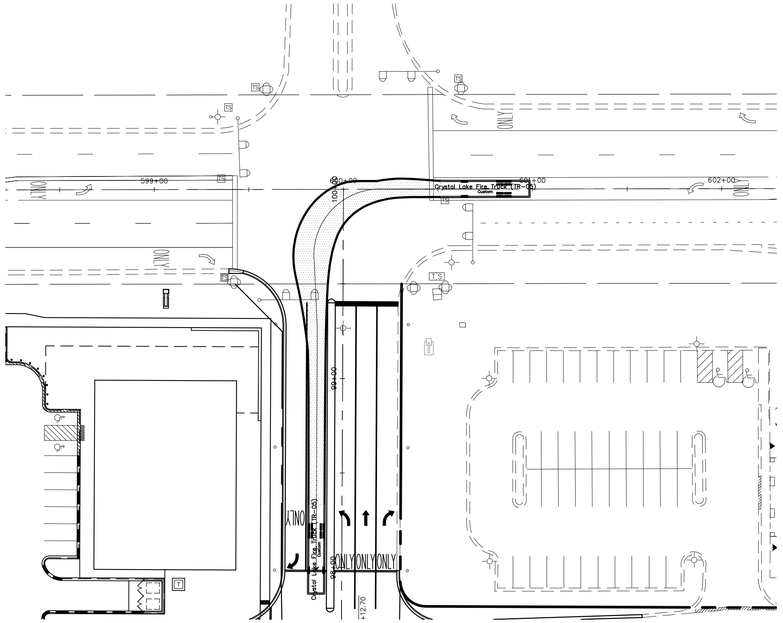




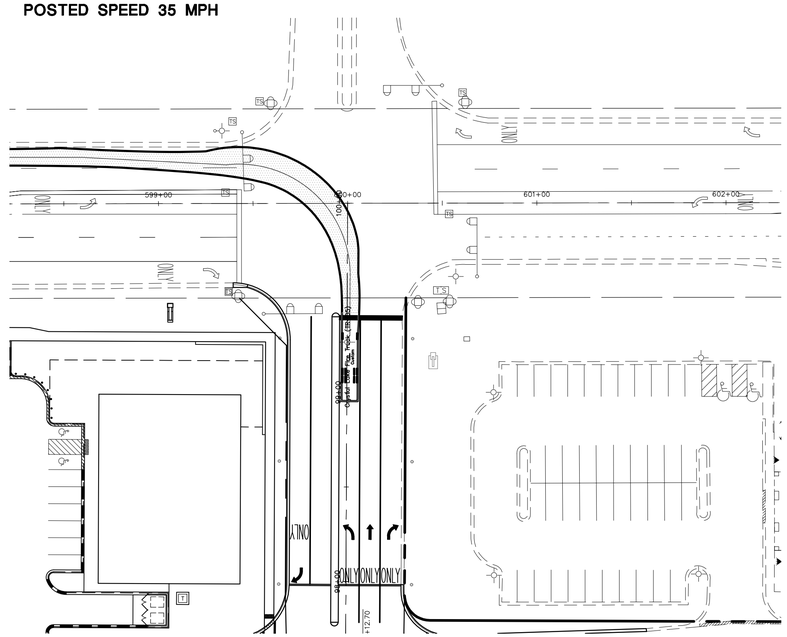
Crystal Lake Fire Truck (TR-05)

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3





NORTHWEST HWY
POSTED SPEED 35 MPH



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DATE	REVISIONS	DRAWN BY

PROPOSED IMPROVEMENTS FOR NORTHWEST HIGHWAY

CITY OF CRYSTAL LAKE, ILLINOIS

AUTOTURN EXHIBIT

PROJ. MGR.:	NBA
PROJ. ASSOC.:	WH
DRAWN BY:	AS
DATE:	05-25-23
SCALE:	1"=40'

SHEET 3 OF 3

FRDCLIL01

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May 25, 2023 - 13:47 Dwg Name: P:\Fnds\01\dwg\Eng\Preliminary\Highway\Autoturn.dwg Updated By: NAdelante

NW BASIN
EXPANSION
NWL 881.00
HWL 893.00
EX. VOL 2.95 AC-FT
PROP. VOL 5.71 AC-FT

LIBERTY ROAD

GARAGE

BUILDING 9
TYPE A
F.F.=896.00
G.F.=895.50

SMALL DOG PARK
4,425 S.F.

LARGE DOG PARK
8,055 S.F.

G.F.=897.50

8,000 S.
F.F.=899
G.F.=898

46.67
12.33
20.83
Crystal Lake Fire Truck (TR-05)
feet
Width : 8.50
Track : 8.50
Lock to Lock Time : 6.0
Steering Angle : 33.3

N

0 20 40 80
SCALE: 1"=40'

BUILDING 8
TYPE B
F.F.=895.00
G.F.=894.50

GARAGE

BUILDING 1
TYPE A
F.F.=895.50
G.F.=895.00

BASIN A
NWL 887.00
HWL 892.00
VOL 0.85 AC-FT

BUILDING 10
TYPE B
F.F.=895.00
G.F.=894.50

GARAGE

HOTEL
9,750 S.F.
F.F.=897.0
G.F.=896.5

WATERS EDGE BOULEVARD

BUILDING 7
TYPE A
F.F.=891.00
G.F.=890.50

GARAGE

ACTIVITY PARK

POOL

CLUBHOUSE
F.F.=894.00
G.F.=893.50

BUILDING 11
TYPE A
F.F.=894.00
G.F.=893.50

BUILDING 2
TYPE B
F.F.=894.00
G.F.=893.50

BASIN B
NWL 885.00
HWL 890.50
VOL 0.26 AC-FT

BUILDING 12
TYPE B
F.F.=893.00
G.F.=892.50

BUILDING 3
TYPE A
F.F.=894.00
G.F.=893.50

BASIN C
NWL 886.00
HWL 892.00
VOL 0.58 AC-FT

BUILDING 13
F.F.=894.50
G.F.=894.00

GARAGE

BUILDING 6
TYPE B
F.F.=891.00
G.F.=890.50

SW BASIN EXPANSION
NWL 868.00
HWL 883.00
X. VOL 31.25 AC-FT PROP.
VOL 33.40 AC-FT

BUILDING 5
TYPE A
F.F.=892.00
G.F.=891.50

BUILDING 4
TYPE B
F.F.=892.50
G.F.=892.00

BUILDING 16
F.F.=894.50
G.F.=894.00

BUILDING
F.F.=894.
G.F.=894.

287+33 288+00 289+00 290+00 291+00 292+04 293+00 294+00 295+00 296+00 297+00

Crystal Lake Fire Truck (TR-05)

THREE OAKS RECREATION AREA DRIVE

DRAWN BY
REVISIONS
DATE

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MIXED USE DEVELOPMENT AT WATER'S EDGE
CITY OF CRYSTAL LAKE, ILLINOIS
CITY OF CRYSTAL LAKE FIRE TRUCK TURNING EXHIBIT

PROJ. MGR.: KRK
PROJ. ASSOC.: KRK
DRAWN BY: KRK
DATE: 05-17-23
SCALE: 1"=40'

SHEET
1 OF 4
FRDCLIL01

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May 31, 2023 - 7:34:46 Dwg Name: P:\Fdc\001\Dwg\Eng\Final Drawings\Exhibits Eng\Fire Truck Turn Exhibit - Onsite.dwg Updated By: KKlawins

LIBERTY ROAD

NW BASIN EXPANSION
NWL 881.00
HWL 893.00
VOL 2.95 AC-FT
EX. VOL 5.71 AC-FT
PROP. VOL 5.71 AC-FT

BUILDING 9
TYPE A
F.F.=896.00
G.F.=895.50

GARAGE

SMALL DOG PARK
4,425 S.F.

LARGE DOG PARK
8,055 S.F.

8,000 S.F.
F.F.=899.0
G.F.=898.5

BUILDING 8
TYPE B
F.F.=895.00
G.F.=894.50

GARAGE

BUILDING 1
TYPE A
F.F.=895.50
G.F.=895.00

BUILDING 10
TYPE B
F.F.=895.00
G.F.=894.50

BASIN A
NWL 887.00
HWL 892.00
VOL 0.25 AC-FT

GARAGE

HOTEL
9,750 S.F.
F.F.=897.0
G.F.=896.5

WATERS EDGE BOULEVARD

BUILDING 7
TYPE A
F.F.=891.00
G.F.=890.50

ACTIVITY PARK

POOL

CLUBHOUSE
F.F.=894.00
G.F.=893.50

BUILDING 11
TYPE A
F.F.=894.00
G.F.=893.50

BUILDING 2
TYPE B
F.F.=894.00
G.F.=893.50

GARAGE

BASIN B
NWL 885.00
HWL 890.50
VOL 0.26 AC-FT

BUILDING 12
TYPE B
F.F.=893.00
G.F.=892.50

BUILDING 3
TYPE A
F.F.=894.00
G.F.=893.50

BASIN C
NWL 886.00
HWL 892.00
VOL 0.58 AC-FT

BUILDING 13
F.F.=894.50
G.F.=894.00

GARAGE

BUILDING 6
TYPE B
F.F.=891.00
G.F.=890.50

SW BASIN EXPANSION
NWL 868.00
HWL 883.00
VOL 31.25 AC-FT PROP.
VOL 33.40 AC-FT

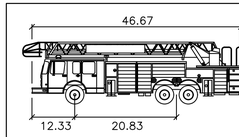
BUILDING 5
TYPE A
F.F.=892.00
G.F.=891.50

BUILDING 4
TYPE B
F.F.=892.50
G.F.=892.00

BUILDING 16
F.F.=894.50
G.F.=894.00

BUILDING 15
F.F.=894.50
G.F.=894.00

THREE OAKS RECREATION AREA DRIVE



Crystal Lake Fire Truck (TR-05)

feet

Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

N

0 20 40 80

SCALE: 1"=40'

DRAWN BY
REVISIONS
DATE

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MIXED USE DEVELOPMENT AT WATER'S EDGE

CITY OF CRYSTAL LAKE, ILLINOIS

CITY OF CRYSTAL LAKE FIRE TRUCK TURNING EXHIBIT

PROJ. MGR.:	KRK
PROJ. ASSOC.:	KRK
DRAWN BY:	KRK
DATE:	05-17-23
SCALE:	1"=40'

SHEET 2 OF 4

FRDCLIL01

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May 31, 2023 - 23:46 Dwg Name: P:\Frdcl\01\Dwg\Eng\Final Drawings\Exhibits Eng\Fire Truck Turn Exhibit - Oncide.dwg Updated By: KKbowers

RETAIL
4,000 S.F.
F.F.=898.00
G.F.=897.50

BUILDING 9
TYPE A
F.F.=896.00
G.F.=895.50

GARAGE

SMALL DOG PARK
4,425 S.F.

LARGE DOG PARK
8,055 S.F.

8,000 S.F.
F.F.=899.0
G.F.=898.5

BUILDING 1
TYPE A
F.F.=895.50
G.F.=895.00

GARAGE

BUILDING 8
TYPE B
F.F.=895.00
G.F.=894.50

BUILDING 10
TYPE B
F.F.=895.00
G.F.=894.50

GARAGE

BASIN A
NWL 887.00
HWL 892.00
VOL 0.25 AC-FT

W BASIN
EXPANSION
NWL 881.00
HWL 893.00
VOL 2.95 AC-FT
EX. VOL 5.71 AC-FT
PROP. VOL

LIBERTY ROAD

BUILDING 7
TYPE A
F.F.=891.00
G.F.=890.50

GARAGE

ACTIVITY PARK

POOL

CLUBHOUSE
F.F.=894.00
G.F.=893.50

BUILDING 11
TYPE A
F.F.=894.00
G.F.=893.50

BUILDING 12
TYPE B
F.F.=893.00
G.F.=892.50

BASIN B
NWL 885.00
HWL 890.50
VOL 0.26 AC-FT

GARAGE

BUILDING 6
TYPE B
F.F.=891.00
G.F.=890.50

BUILDING 5
TYPE A
F.F.=892.00
G.F.=891.50

BUILDING 4
TYPE B
F.F.=892.50
G.F.=892.00

SION

PROP.

WATERS EDGE BOULEVARD

HOTEL
9,750 S.F.
F.F.=897.0
G.F.=896.5

BUILDING 2
TYPE B
F.F.=894.00
G.F.=893.50

BUILDING 3
TYPE A
F.F.=894.00
G.F.=893.50

BASIN C
NWL 886.00
HWL 892.00
VOL 0.58 AC-FT

BUILDING 13
F.F.=894.50
G.F.=894.00

BUILDING 16
F.F.=894.50
G.F.=894.00

BUILDING 15
F.F.=894.50
G.F.=894.00

46.67

12.33 20.83

Crystal Lake Fire Truck (TR-05)

feet

Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

N

0 20 40 80

SCALE: 1"=40'

DRAWN BY:
REVISIONS
DATE

Manhard CONSULTING

700 Springer Drive, Lombard, IL 60148 ph.630.691.8500 fx. 630.691.8585 manhard.com
Civil Engineers | Surveyors | Water Resource Engineers | Water & Waste Water Engineers
Construction Managers | Environmental Scientists | Landscape Architects | Planners

MIXED USE DEVELOPMENT AT WATER'S EDGE

CITY OF CRYSTAL LAKE, ILLINOIS

CITY OF CRYSTAL LAKE FIRE TRUCK TURNING EXHIBIT

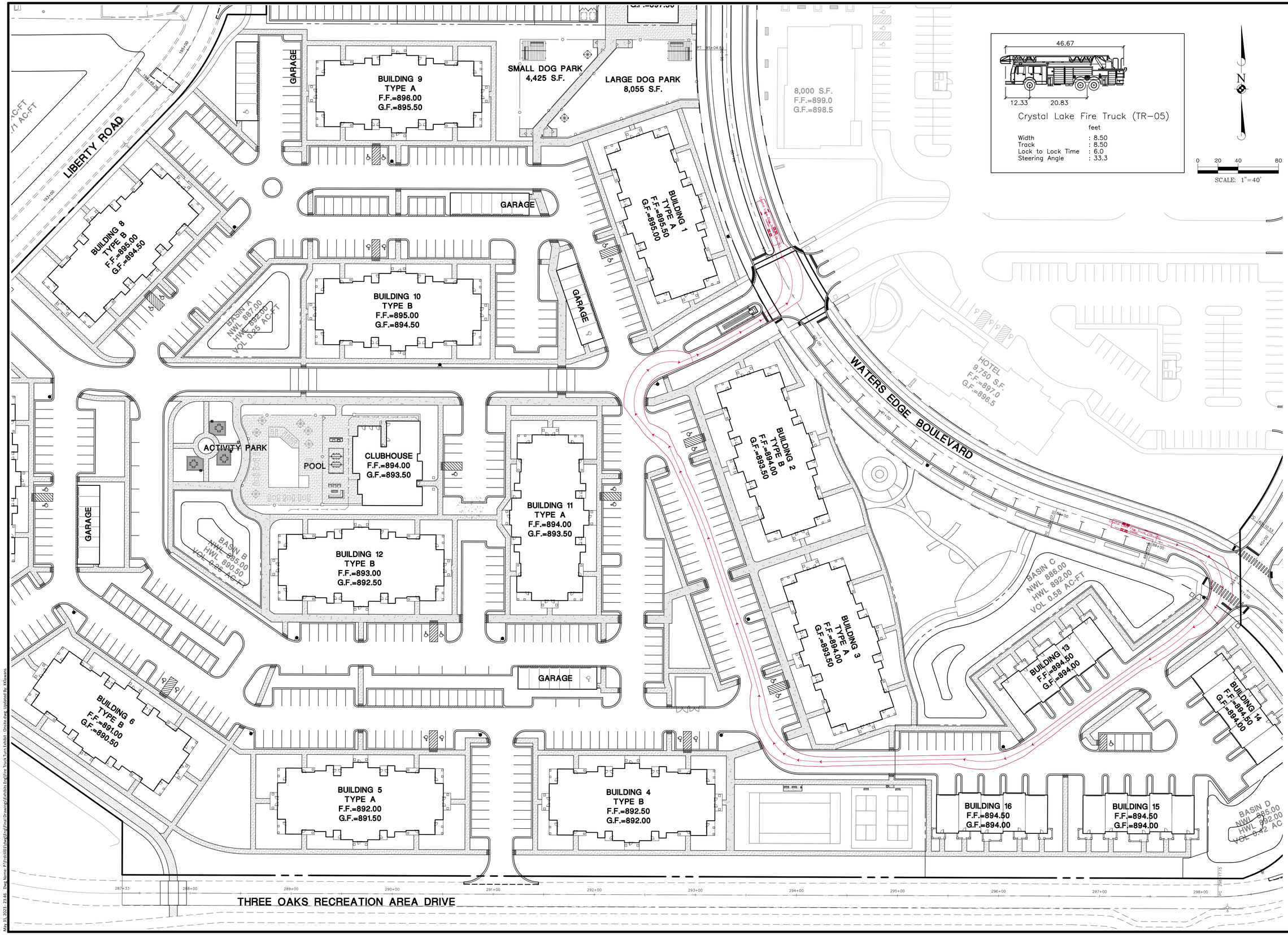
PROJ. MGR.:	KRK
PROJ. ASSOC.:	KRK
DRAWN BY:	KRK
DATE:	05-17-23
SCALE:	1"=40'

SHEET 3 OF 4

FRDCLIL01

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May 31, 2023 - 23:46 Dwg Name: P:\Final\03\Dwg\Eng\Final Drawings\Exhibits Eng\Fire Truck Turn Exhibit - Onsite.dwg, Updated By: Kbowers



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DRAWN BY
REVISIONS
DATE

MIXED USE DEVELOPMENT AT WATER'S EDGE
CITY OF CRYSTAL LAKE, ILLINOIS
CITY OF CRYSTAL LAKE FIRE TRUCK TURNING EXHIBIT

PROJ. MGR.:	KRK
PROJ. ASSOC.:	KRK
DRAWN BY:	KRK
DATE:	05-17-23
SCALE:	1"=40'

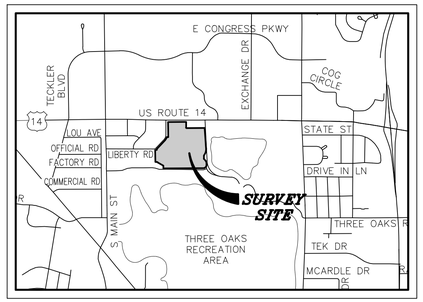
SHEET
4 OF 4
FRDCLIL01

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May 31, 2023 - 23:46 Dwg Name: P:\Frdcl\01\Dwg\Eng\Final Drawings\Exhibits Eng\Fire Truck Turn Exhibit - Onsite.dwg Updated By: KKitowans

FINAL PLAT
OF
WATERS EDGE SUBDIVISION

BEING A RESUBDIVISION OF LOTS 1 AND 3 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION, LOTS 2, 3, 4 AND 5 IN CRYSTAL COURT SUBDIVISION ALL IN THE NORTH HALF OF THE NORTH NORTHWEST QUARTER SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ALL IN MCHENRY COUNTY, ILLINOIS.



LOCATION MAP

NOT TO SCALE

BASIS OF BEARINGS

COORDINATES AND BEARINGS ARE BASED UPON THE ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE (NAD 83), ADJUSTED TO GROUND VALUES, AS ESTABLISHED BY A REAL-TIME KINEMATIC (RTK) GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) UTILIZING THE TRIMBLE VRS NOW NETWORK.

SUBMITTED BY/RETURN TO:

CITY OF CRYSTAL LAKE
100 W WOODSTOCK STREET
CRYSTAL LAKE, IL 60014

OWNER/DEVELOPER

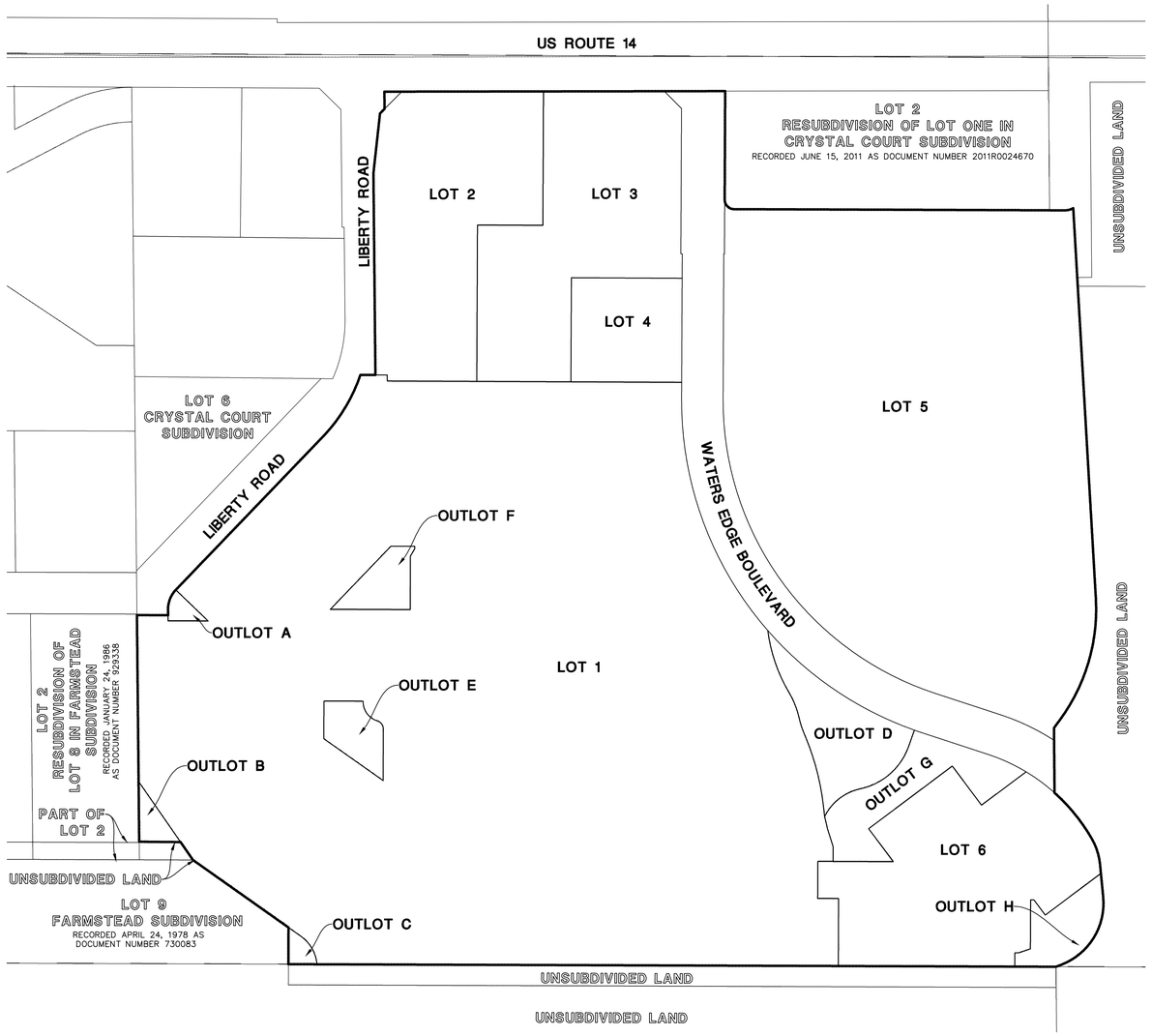
HEARTLAND REAL ESTATE PARTNERS
1535 NORTH ELSTON AVENUE
CHICAGO, ILLINOIS 60642

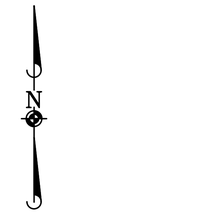
LAND SURVEYOR

JAMES D. BAKER, PLS
MANHARD CONSULTING
ONE OVERLOOK POINT, SUITE 290
LINCOLNSHIRE, ILLINOIS 60069
847-325-7282

SHEET INDEX

SHEET 1:	LEGAL DESCRIPTION, PROPERTY INFORMATION, OVERALL SITE DEPICTION, SURVEYORS NOTES
SHEETS 2-3:	EXISTING LOT AND EASEMENT DETAILS
SHEETS 4-5:	PROPOSED LOT AND EASEMENT DETAILS
SHEET 6:	CERTIFICATES, EASEMENT PROVISIONS AND SURVEYORS CERTIFICATION





GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

PROPOSED PROPERTY AREA

LOT 1:	659,538	SQUARE FEET (15.141 ACRES)
LOT 2:	79,356	SQUARE FEET (1.822 ACRES)
LOT 3:	81,161	SQUARE FEET (1.863 ACRES)
LOT 4:	24,080	SQUARE FEET (0.553 ACRES)
LOT 5:	337,181	SQUARE FEET (7.741 ACRES)
LOT 6:	78,775	SQUARE FEET (1.808 ACRES)
OUTLOT A:	1,454	SQUARE FEET (0.033 ACRES)
OUTLOT B:	2,600	SQUARE FEET (0.060 ACRES)
OUTLOT C:	1,474	SQUARE FEET (0.034 ACRES)
OUTLOT D:	20,304	SQUARE FEET (0.466 ACRES)
OUTLOT E:	6,546	SQUARE FEET (0.150 ACRES)
OUTLOT F:	6,637	SQUARE FEET (0.152 ACRES)
OUTLOT G:	18,839	SQUARE FEET (0.432 ACRES)
OUTLOT H:	9,555	SQUARE FEET (0.219 ACRES)
PROPOSED ROW:	75,794	SQUARE FEET (1.741 ACRES)
TOTAL PROPERTY AREA:	1,403,294	SQUARE FEET (32.215 ACRES)

EXISTING PROPERTY AREA

PARCEL 1:	178,116	SQUARE FEET (4.089 ACRES)
PARCEL 2:	1,159,822	SQUARE FEET (26.626 ACRES)
PARCEL 3:	1,002	SQUARE FEET (0.023 ACRES)
PARCEL 4:	35,255	SQUARE FEET (0.809 ACRES)
PARCEL 5:	12,644	SQUARE FEET (0.290 ACRES)
PARCEL 6:	10,455	SQUARE FEET (0.240 ACRES)
LIBERTY RD HEREBY VACATED:	6,000	SQUARE FEET (0.138 ACRES)
TOTAL PROPERTY AREA:	1,403,294	SQUARE FEET (32.215 ACRES)

EXISTING PIN'S

PARCEL 1 (LOT 1): 19-09-126-019
PARCEL 1 (LOT 3): 19-09-126-018
PARCEL 2 (LOT 2): 19-09-126-010 AND 19-09-126-011
PARCEL 2 (LOT 3): 19-09-126-012 AND 19-09-126-013
PARCEL 2 (LOT 4): 19-09-126-006
PARCEL 2 (LOT 5): PART OF 19-09-126-014
PARCEL 3: PART OF 19-09-126-014
PARCEL 4: PART OF 19-09-200-036 AND PART OF 19-09-300-023
PARCEL 5: 19-09-300-023
PARCEL 6: PART OF 19-09-104-003 AND PART OF 19-09-104-017

SURVEYOR'S NOTES

1. DISTANCES ARE MARKED IN FEET AND DECIMAL PLACES THEREOF. NO DIMENSION SHALL BE ASSUMED BY SCALE MEASUREMENT HEREON. DISTANCES AND/OR BEARINGS SHOWN IN PARENTHESIS (456.67') ARE RECORD OR DEED VALUES.)

2. THIS SUBDIVISION MAY BE SUBJECT TO MATTERS OF TITLE, WHICH MAY BE REVEALED BY A CURRENT TITLE REPORT. PRE-EXISTING EASEMENTS, SETBACKS AND OTHER RESTRICTIONS WHICH MAY BE FOUND IN A CURRENT TITLE REPORT, LOCAL ORDINANCES, DEEDS OR OTHER INSTRUMENTS OF RECORD MAY NOT BE SHOWN.

3. AS PART OF THE REDEVELOPMENT THERE ARE EASEMENTS THAT ARE TO BE VACATED VIA SEPARATE DOCUMENT. SAID EASEMENTS HAVE BEEN NOTED ON SHEETS 2 AND 3 HOWEVER, SAID EASEMENTS HAVE NOT BEEN SHOWN ON SHEETS 3 AND 4. ADDITIONALLY, THERE ARE PROPOSED EASEMENTS THAT SHALL BE GRANTED VIA SEPARATE DOCUMENT THAT HAVE NOT BEEN SHOWN HEREON.

4. THIS SUBDIVISION PLAT SHALL BE SUBJECT TO DECLARATION(S) RECORDED AS SEPARATE DOCUMENT(S).

5. OUTLOTS A, B, C AND D ARE TO BE CONVEYED TO THE CITY OF CRYSTAL LAKE BY SEPARATE DOCUMENT(S).

6. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY. MANHARD CONSULTING IS A PROFESSIONAL DESIGN FIRM, REGISTRATION NUMBER 184003350, EXPIRES APRIL 30, 2025.

DATE	REVISIONS	DRAWN BY
07/07/23	REVISED PER CITY REVIEW	AAS
06/02/23	REVISED PER NEW SITE PLAN	AAS
07/21/22	REVISED PER CITY REVIEW	AAS

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WATERS EDGE SUBDIVISION
CRYSTAL LAKE, ILLINOIS
FINAL PLAT OF SUBDIVISION

PROJ. MGR.:	JP
PROJ. ASSOC.:	ERV
DRAWN BY:	AAS
DATE:	06/23/22
SCALE:	1"=100'

SHEET 1 OF 6

FRDCLIL01

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July 7, 2023 - 12:07 Dwg Name: P:\Projects\Vista\Civil Drawings\Civil 3d Files\Plat of Subdivision\Final Plat\01-FRDCLI01-PS.dwg Updated By: ASchauer

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

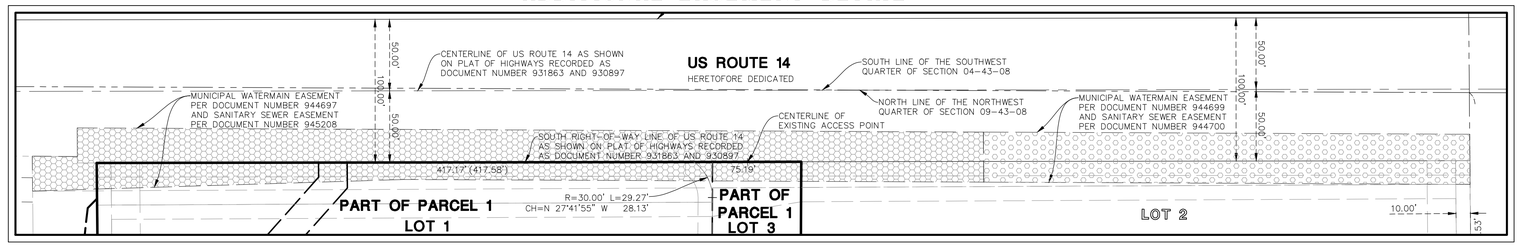
FINAL PLAT
OF
WATERS EDGE SUBDIVISION

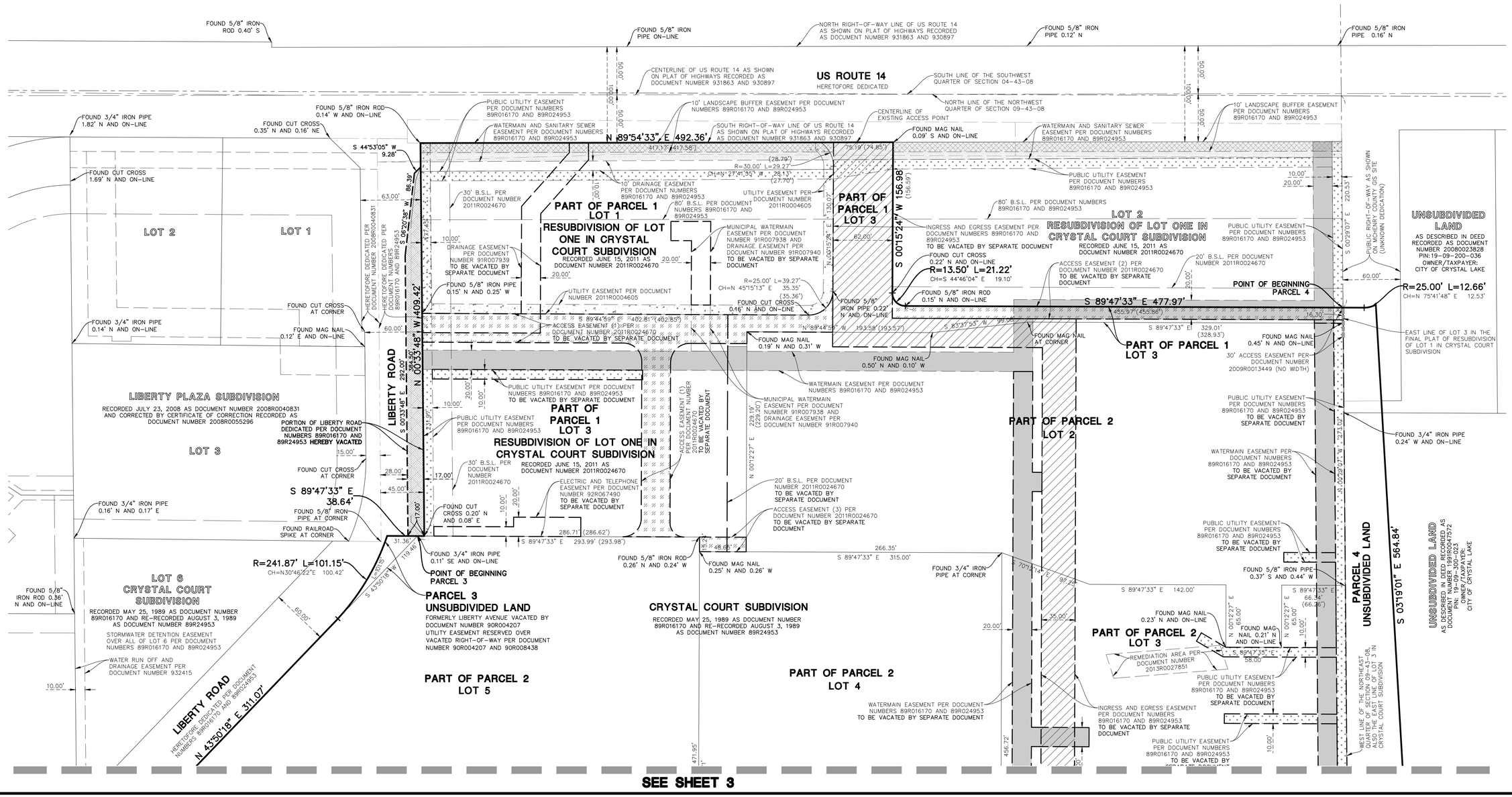
BEING A RESUBDIVISION OF LOTS 1 AND 3 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION, LOTS 2, 3, 4 AND 5 IN CRYSTAL COURT SUBDIVISION ALL IN THE NORTH HALF OF THE NORTH NORTHWEST QUARTER SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ALL IN MCHENRY COUNTY, ILLINOIS.

EASEMENT HATCH LEGEND

- INGRESS AND EGRESS EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- LANDSCAPE BUFFER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- WATERMAIN AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- UTILITY EASEMENT PER DOCUMENT NUMBER 2011R0004605
- ACCESS EASEMENT PER DOCUMENT NUMBER 2011R0024670
- WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944697 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 945208
- MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944699 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 944700
- PORTION OF LIBERTY ROAD DEDICATED PER DOCUMENT NUMBERS 89R016170 AND 89R24953 HEREBY VACATED

ADDITIONAL EASEMENT DETAIL





SEE SHEET 3

DATE	REVISIONS	DRAWN BY
07/07/23	REVISED PER CITY REVIEW	AAS
06/02/23	REVISED PER NEW SITE PLAN	AAS
07/26/22	REVISED PER CITY REVIEW	AAS

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Construction Managers • Environmental Scientists • Landscape Architects • Planners

WATERS EDGE SUBDIVISION
CRYSTAL LAKE, ILLINOIS
FINAL PLAT OF SUBDIVISION

PROJ. MGR.:	JP
PROJ. ASSOC.:	ERV
DRAWN BY:	AAS
DATE:	06/23/22
SCALE:	1"=50'

SHEET
2 OF 6
FRDCLIL01

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July 7, 2023 - 12:19 Dwg Name: P:\Projects\Data\Sara\Final Drawings\Plat of Subdivision\Final Plat\V02-03-FRDCLIL01-PS.dwg Updated By: AShriver

FINAL PLAT
OF
WATERS EDGE SUBDIVISION

BEING A RESUBDIVISION OF LOTS 1 AND 3 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION, LOTS 2, 3, 4 AND 5 IN CRYSTAL COURT SUBDIVISION ALL IN THE NORTH HALF OF THE NORTH NORTHWEST QUARTER SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ALL IN MCHENRY COUNTY, ILLINOIS.

EASEMENT HATCH LEGEND

- INGRESS AND EGRESS EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- LANDSCAPE BUFFER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- WATERMAIN AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- UTILITY EASEMENT PER DOCUMENT NUMBER 2011R0004605
- ACCESS EASEMENT PER DOCUMENT NUMBER 2011R0024670
- WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944697 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 945208
- MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944699 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 944700

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

SEE SHEET 2

NUMBERS 89R016170 AND 89R024953
NUMBER 90R004207 AND 90R008438
WATER RUN OFF AND DRAINAGE EASEMENT PER DOCUMENT NUMBER 932415
10.00'
LOT 6
STORMWATER DETENTION EASEMENT OVER ALL OF LOT 6 PER DOCUMENT NUMBERS 89R016170 AND 89R024953
LIBERTY ROAD
HERETOFORE DEDICATED PER DOCUMENT NUMBERS 89R016170 AND 89R024953
N 43°50'18" E 311.07'
60.00'
FOUND 5/8" IRON ROD AT CORNER
LIBERTY ROAD
HERETOFORE DEDICATED
60.00'
FOUND 5/8" IRON ROD 0.07' NE AND 0.09' SE
R=40.00' L=31.00'
CH=N 21°38'15" E 30.23'
FOUND 5/8" IRON ROD 0.16' S AND ON-LINE
N 00°33'48" W 8.51' (8.48')
FOUND 5/8" IRON ROD AT CORNER
S 89°41'30" E 45.01'
LOT 2 RESUBDIVISION OF LOT 8 IN FARMSTEAD SUBDIVISION RECORDED JANUARY 2, 1998 AS DOCUMENT NUMBER 2293358
N 00°34'11" W 327.47'
PART OF LOT 2 DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 1986R0946822 PIN: 19-09-104-016 OWNER/TAXPAYER: CITY OF CRYSTAL LAKE
PART OF PARCEL 2 LOT 5
PART OF PARCEL 2 LOT 4
PART OF PARCEL 2 LOT 3
PARCEL 4 UNSUBDIVIDED LAND
WEST LINE OF THE NORTHEAST QUARTER OF SECTION 09-43-08, ALSO THE EAST LINE OF LOT 3 IN CRYSTAL COURT SUBDIVISION
N 00°12'27" E 471.95'
456.71'
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
REMEDIATION AREA PER DOCUMENT NUMBER 2013R0027851
S 89°47'33" E 58.00'
INGRESS AND EGRESS EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
10.00'
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
N 00°12'27" E 456.72'
20.00'
20.00'
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
INGRESS AND EGRESS EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
FOUND MAG NAIL 0.11' W AND ON-LINE
FOUND MAG NAIL 0.16' N AND 0.10' W
FOUND MAG NAIL 0.05' N AND 0.12' W
FOUND MAG NAIL 0.12' N AND ON-LINE
S 89°47'33" E 26.38'
S 89°47'33" E 23.48' (23.49')
CRYSTAL COURT SUBDIVISION
RECORDED MAY 25, 1989 AS DOCUMENT NUMBER 89R016170 AND RE-RECORDED AUGUST 3, 1989 AS DOCUMENT NUMBER 89R24953
45' DRAINAGE EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
GAP BETWEEN LOT 5 IN CRYSTAL COURT SUBDIVISION AND LAND DESCRIBED IN DEED 1986R0946822
FOUND 5/8" IRON ROD AT CORNER
FOUND 5/8" IRON ROD 0.18' S AND 0.27' E
1.26'
(216.64')
N 89°28'28" W 59.77'
N 34°42'29" W 31.59'
UNSUBDIVIDED LAND
AS DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 1986R0946822 PIN: 19-09-104-017 OWNER/TAXPAYER: CITY OF CRYSTAL LAKE
PARCEL 6
N 54°45'37" W 168.91'
LOT 9 FARMSTEAD SUBDIVISION
RECORDED APRIL 24, 1978 AS DOCUMENT NUMBER 730083
DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 1986R0946822
POINT OF BEGINNING PARCEL 6
N 00°12'28" E 53.00'
POINT OF COMMENCEMENT PARCEL 6
FOUND 5/8" IRON ROD 0.13' S AND ON-LINE
SOUTH LINE OF THE NORTH HALF OF NORTHWEST QUARTER OF SECTION 09-43-08
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 2013R0026522 (20'X10') TO BE VACATED BY SEPARATE DOCUMENT
10.00'
30.00'
20.00'
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
S 89°47'33" E 6.00'
N 00°12'27" E 26.04'
S 89°47'33" E 67.66' (67.67')
FOUND 5/8" IRON ROD 0.15' S AND 0.09' E
N 00°12'27" E 464.44' (464.40')
469.58'
265.28'
N 89°48'30" W 1109.06' (1108.97')
PERMANENT LANDSCAPE EASEMENT PER DOCUMENT NUMBER 20109R0018569 TO BE VACATED BY SEPARATE DOCUMENT
PERMANENT LANDSCAPE EASEMENT PER DOCUMENT NUMBER 2009R0046437 TO BE VACATED BY SEPARATE DOCUMENT
15.00'
UNSUBDIVIDED LAND
AS DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 2008R0023829 PIN: 19-09-100-027 OWNER/TAXPAYER: CITY OF CRYSTAL LAKE
UNSUBDIVIDED LAND
AS DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 2006R0039182 PIN: 19-09-100-026 OWNER/TAXPAYER: CITY OF CRYSTAL LAKE
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953 TO BE VACATED BY SEPARATE DOCUMENT
N 00°12'27" E 379.66' (380.00')
10.00'
20.00'
30.00'
PERMANENT LANDSCAPE EASEMENT PER DOCUMENT NUMBER 2010R0013590 TO BE VACATED BY SEPARATE DOCUMENT 344.20' (344.10')
MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 2010R0013589 TO BE VACATED BY SEPARATE DOCUMENT
SOUTH LINE OF THE NORTH HALF OF NORTHWEST QUARTER OF SECTION 09-43-08
POINT OF BEGINNING PARCEL 5
N 00°29'07" W 3944.07'
FOUND DISC AT CORNER AS DESCRIBED IN MONUMENT RECORD RECORDED AS 2012R0047912
S 00°29'07" E 603.72' (604.72')
S 00°29'07" E 93.66'
R=270.00' L=186.72'
CH=S29°36'40"W 183.02'
S 36°18'22" W 14.39'
UNSUBDIVIDED LAND
AS DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 1991R0047572 AND 09-30-402-023 OWNER/TAXPAYER: CITY OF CRYSTAL LAKE
R=270.00' L=86.03'
CH=S39°01'12"E 85.66'
R=92.00' L=39.15'
CH=S17°42'00"E 38.86'
S 05°30'27" E 47.27'
PARCEL 5 UNSUBDIVIDED LAND
R=95.00' L=103.26'
CH=N59°39'41"E 98.19'
SOUTH LINE OF THE NORTH HALF OF NORTHEAST QUARTER OF SECTION 09-43-08
S 68°49'50" W 8.47'
OWNER CORNER 9 16 N 43 N R 8 E

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DATE	REVISIONS	DRAWN BY
07/07/23	REVISED PER CITY REVIEW	AAS
06/02/23	REVISED PER NEW SITE PLAN	AAS
07/21/22	REVISED PER CITY REVIEW	AAS

Manhard CONSULTING
One Overlook Point, Suite 250, Lincolnshire, IL 60069 p:847.634.0066 manhardcom
Civil Engineers • Water Resource Engineers • Water & Wastewater Engineers • Surveyors
Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROJ. MGR.: JP
PROJ. ASSOC.: ERV
DRAWN BY: AAS
DATE: 06/23/22
SCALE: 1"=50'

SHEET 3 OF 6
FRDCLIL01

WATERS EDGE SUBDIVISION
CRYSTAL LAKE, ILLINOIS
FINAL PLAT OF SUBDIVISION

July 7, 2023 - 12:19 Dwg Name: P:\Projects\Data\Sara\Final Drawings\Plat of Subdivision\Final Plat\V22-03-FRDCLIL01-PS.dwg Updated By: AShaver

FINAL PLAT
OF
WATERS EDGE SUBDIVISION

BEING A RESUBDIVISION OF LOTS 1 AND 3 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION, LOTS 2, 3, 4 AND 5 IN CRYSTAL COURT SUBDIVISION ALL IN THE NORTH HALF OF THE NORTH NORTHWEST QUARTER SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ALL IN MCHENRY COUNTY, ILLINOIS.

EXISTING EASEMENT LEGEND

- LANDSCAPE BUFFER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- WATERMAIN AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
- UTILITY EASEMENT PER DOCUMENT NUMBER 2011R0004605
- ACCESS EASEMENT PER DOCUMENT NUMBER 2011R0024670
- MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944697 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 945208
- MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944699 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 944700

PROPOSED EASEMENT LEGEND

- PATH EASEMENT **HEREBY GRANTED**
- ACCESS EASEMENT **HEREBY GRANTED**

S.W.M.E = STORM WATER MANAGEMENT EASEMENT **HEREBY GRANTED**

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

NORTH RIGHT-OF-WAY LINE OF US ROUTE 14 AS SHOWN ON PLAT OF HIGHWAYS RECORDED AS DOCUMENT NUMBER 931863 AND 930897

US ROUTE 14
HERETOFORE DEDICATED

CENTERLINE OF US ROUTE 14 AS SHOWN ON PLAT OF HIGHWAYS RECORDED AS DOCUMENT NUMBER 931863 AND 930897

SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 04-43-08

NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 09-43-08

MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944697 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 945208

MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944699 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 944700

WATERMAIN AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953

10' LANDSCAPE BUFFER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953

PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953

SOUTH RIGHT-OF-WAY LINE OF US ROUTE 14 AS SHOWN ON PLAT OF HIGHWAYS RECORDED AS DOCUMENT NUMBER 931863 AND 930897

CENTERLINE OF EXISTING ACCESS POINT

HEREBY DEDICATED TO THE CITY OF CRYSTAL LAKE FOR PUBLIC ROAD PURPOSES

N 00°33'48" W 24.92'
N 44°53'05" E 9.28'
N 89°54'33" E 492.36'
25.10'
204.75'
174.50'
88.00'
N 44°48'17" W 35.32'
N 44°53'05" E 44.50'
63.00'
86.39'
N 06°20'38" E
10.00'
30' B.S.L. PER DOCUMENT NUMBER 2011R0024670
10' DRAINAGE EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
UTILITY EASEMENT PER DOCUMENT NUMBER 2011R0004605
80' B.S.L. PER DOCUMENT NUMBERS 89R016170 AND 89R024953
193.57'
N 00°15'24" E
209.86'
63.00'
S 00°15'24" W 156.98'
80' B.S.L. PER DOCUMENT NUMBERS 89R016170 AND 89R024953
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
WATERMAIN AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
10.00'
20.00'
PUBLIC RIGHT-OF-WAY AS SHOWN ON PLAT OF SITE (UNKNOWN DEDICATION)
60.00'

LOT 2
79,356 S.F.
1.822 AC

LOT 3
81,161 S.F.
1.863 AC

LOT 2
RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION
RECORDED JUNE 15, 2011 AS DOCUMENT NUMBER 2011R0024670

UNSUBDIVIDED LAND
AS DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 20080023828
PIN: 19-09-200-036
OWNER/TAXPAYER: CITY OF CRYSTAL LAKE

R=13.50' L=21.22'
CH=S 44°46'04" E 19.10'
20' B.S.L. PER DOCUMENT NUMBER 2011R0024670
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
R=25.00' L=12.66'
CH=N 75°41'48" E 12.53'
S 89°47'33" E 477.97'
455.97'
N 00°15'24" E 235.34'
78.36'
S 88°08'32" W 238.09'
ACCESS EASEMENT HEREBY GRANTED
N 89°47'33" W 254.00'
29.00'
30' ACCESS EASEMENT PER DOCUMENT NUMBER 2009R0013449 (NO WIDTH)
L=14.68'
R=25.00'
S 89°44'36" E 1.00'

ACCESS EASEMENT HEREBY GRANTED
UTILITY EASEMENT PER DOCUMENT NUMBER 2011R0004605
L=32.17'
R=25.00'
N 89°44'59" W 402.81'
S 89°44'36" E 94.50'
S 89°44'59" E 430.00'
29.00'
52.35'
L=14.13'
R=25.00'
MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 91R007938 AND DRAINAGE EASEMENT PER DOCUMENT NUMBER 91R007940
WATERMAIN EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
N 89°44'36" W 2.00'
35.33'

LIBERTY PLAZA SUBDIVISION
RECORDED JULY 23, 2008 AS DOCUMENT NUMBER 2008R0040831 AND CORRECTED BY CERTIFICATE OF CORRECTION RECORDED AS DOCUMENT NUMBER 2008R0055296

LOT 3

LIBERTY ROAD
HERETOFORE DEDICATED PER DOCUMENT NUMBERS 89R016170 AND 89R024953
N 00°33'48" W 292.00'
15.00'
10.00'
20.00'
PUBLIC UTILITY EASEMENT PER DOCUMENT NUMBERS 89R016170 AND 89R024953
43.00'
PORTION OF LIBERTY ROAD DEDICATED PER DOCUMENT NUMBERS 89R016170 AND 89R24953 **HEREBY VACATED**
30' B.S.L. PER DOCUMENT NUMBER 2011R0024670
45.00'
S 89°47'33" E 21.64'
SET CONCRETE MONUMENT
N 89°47'33" W 17.00'
38.64'
8.81'
129.36'
136.00'
160.00'
S 89°44'36" E 160.00'
N 00°15'24" E 226.00'
N 00°15'24" E 150.50'
S 00°15'24" W 210.00'
S 00°15'24" W 210.00'
150.50'
60.00'
24.17'

WATERS EDGE BOULEVARD
HEREBY DEDICATED TO THE CITY OF CRYSTAL LAKE FOR PUBLIC ROAD PURPOSES

LOT 4
24,080 S.F.
0.553 AC

LOT 5
337,181 S.F.
7.741 AC

S 03°19'01" E 564.84'

UNSUBDIVIDED LAND
AS DESCRIBED IN DEED RECORDED AS DOCUMENT NUMBER 1991R0047572
PIN: 19-09-200-023
OWNER/TAXPAYER: CITY OF CRYSTAL LAKE

REMEDIATION AREA PER DOCUMENT NUMBER 2013R0027851

LOT 6
CRYSTAL COURT SUBDIVISION
RECORDED MAY 25, 1989 AS DOCUMENT NUMBER 89R016170 AND RE-RECORDED AUGUST 3, 1989 AS DOCUMENT NUMBER 89R24953
STORMWATER DETENTION EASEMENT OVER ALL OF LOT 6 PER DOCUMENT NUMBERS 89R016170 AND 89R024953
WATER RUN OFF AND DRAINAGE EASEMENT PER DOCUMENT NUMBER 932415
10.00'
60.00'
CH=N30°48'07"E 100.43'
R=241.87' L=101.15'
LIBERTY ROAD
HERETOFORE DEDICATED PER DOCUMENT NUMBERS 89R016170 AND 89R024953
N 43°50'18" E 311.07'
S 46°09'42" E 134.31'
0.00' L=31.00'
34.24'
S 89°48'30" E
76.68'
S 00°11'30" W 3.73'
S 70°11'30" W 12.33'

LOT 1
659,538 S.F.
15.141 AC

L=364.67'
L=449.47'
L=16.68'
R=20.00'
R=100.00'
L=52.20'
S 89°47'33" E 357.53'
ACCESS EASEMENT **HEREBY GRANTED**
S 89°47'33" E 372.52'
38.60'
38.00'
35.00'
L=51.15'
R=98.00'
N 60°18'07" E
R=39.00'
L=29.81'

SEE SHEET 5

DATE	REVISIONS	DRAWN BY
07/07/23	REVISED PER CITY REVIEW	AAS
06/02/23	REVISED PER NEW SITE PLAN	AAS
07/21/22	REVISED PER CITY REVIEW	AAS

Manhard CONSULTING
One Overlook Point, Suite 250, Lincolnshire, IL 60069 p:847.634.0066 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water/Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

WATERS EDGE SUBDIVISION
CRYSTAL LAKE, ILLINOIS
FINAL PLAT OF SUBDIVISION

PROJ. MGR.: JP
PROJ. ASSOC.: ERV
DRAWN BY: AAS
DATE: 06/23/22
SCALE: 1"=50'

SHEET
4 OF 6
FRDCLIL01

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July 27, 2023 - 12:37 Dwg Name: P:\Projects\Data\Surv\Final Drawings\Plat of Subdivision\Final Plat\V24-05-FRDCLIL01-PS.dwg Updated By: AShaver

FINAL PLAT
OF
WATERS EDGE SUBDIVISION

BEING A RESUBDIVISION OF LOTS 1 AND 3 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION, LOTS 2, 3, 4 AND 5 IN CRYSTAL COURT SUBDIVISION ALL IN THE NORTH HALF OF THE NORTH NORTHWEST QUARTER SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ALL IN MCHENRY COUNTY, ILLINOIS.

EXISTING EASEMENT LEGEND

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- MUNICIPAL WATERMAIN EASEMENT PER DOCUMENT NUMBER 944699 AND SANITARY SEWER EASEMENT PER DOCUMENT NUMBER 944700

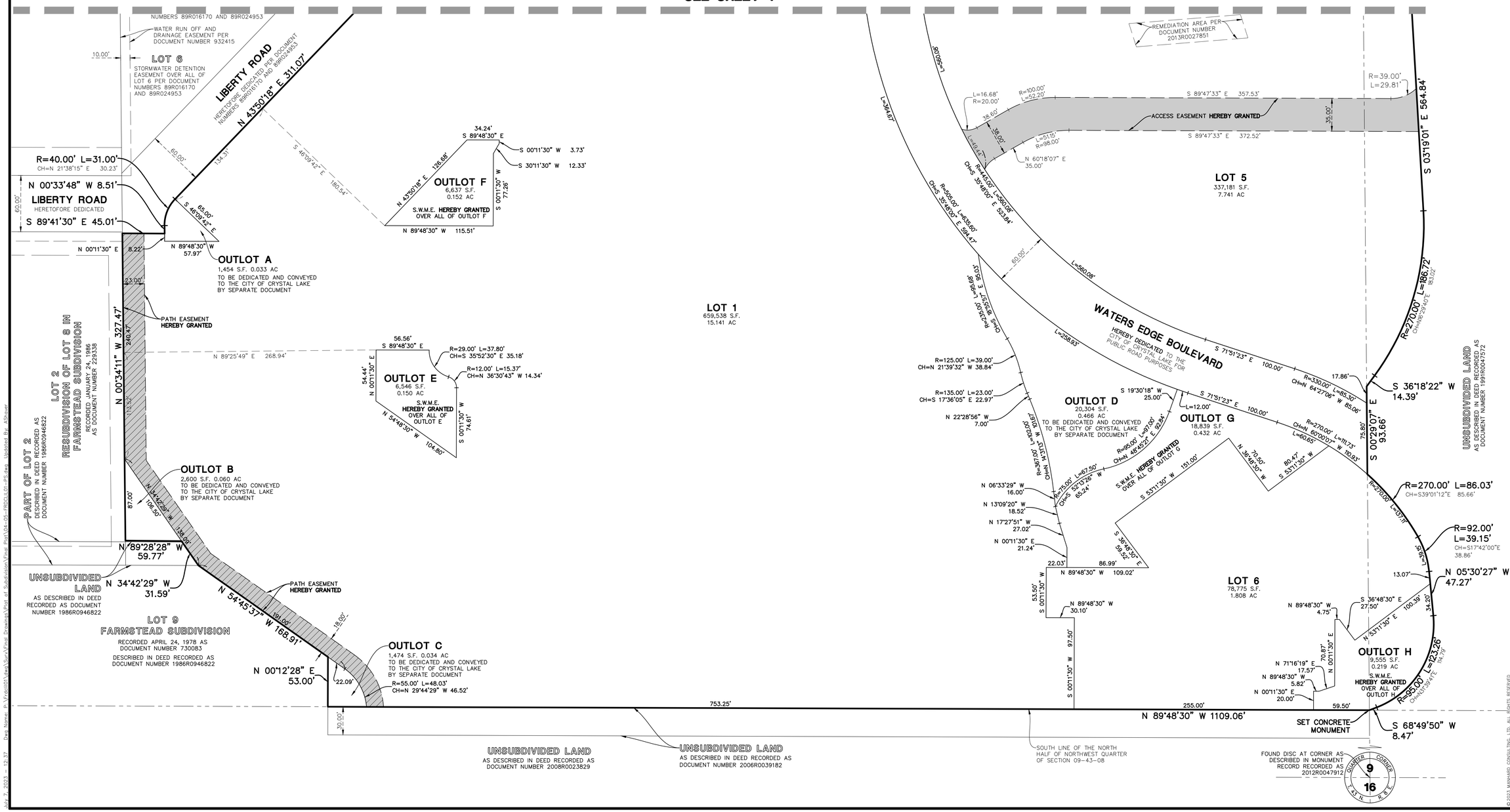
PROPOSED EASEMENT LEGEND

- PATH EASEMENT **HEREBY GRANTED**
- ACCESS EASEMENT **HEREBY GRANTED**

S.W.M.E = STORM WATER MANAGEMENT EASEMENT **HEREBY GRANTED**

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

SEE SHEET 4



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DATE	REVISIONS	DRAWN BY
07/07/23	REVISED PER CITY REVIEW	AAS
06/02/23	REVISED PER NEW SITE PLAN	AAS
07/21/22	REVISED PER CITY REVIEW	AAS

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One Overlook Point, Suite 250, Lincolnshire, IL 60069 p:847.634.0066 manhardcom
Civil Engineers • Water Resource Engineers • Water & Wastewater Engineers • Structural Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

WATERS EDGE SUBDIVISION
CRYSTAL LAKE, ILLINOIS
FINAL PLAT OF SUBDIVISION

PROJ. MGR.:	JP
PROJ. ASSOC.:	ERV
DRAWN BY:	AAS
DATE:	06/23/22
SCALE:	1"=50'

SHEET 5 OF 6
FRDCLIL01

JULY 7, 2023 - 12:37 Dwg Name: P:\Projects\Vlake\Survey\Final Drawings\Plat of Subdivision\Final Plat\01-09-FRDCLIL01-PS.dwg Updated By: ASchaer

FINAL PLAT
OF
WATERS EDGE SUBDIVISION

BEING A RESUBDIVISION OF LOTS 1 AND 3 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION, LOTS 2, 3, 4 AND 5 IN CRYSTAL COURT SUBDIVISION ALL IN THE NORTH HALF OF THE NORTH NORTHWEST QUARTER SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ALL IN MCHENRY COUNTY, ILLINOIS.

OWNER'S CERTIFICATE

STATE OF _____)
)SS
COUNTY OF _____)

THIS IS TO CERTIFY THAT _____ IS THE OWNER OF PARCEL OF LAND DESCRIBED ON THE PLAT HEREON AND SHOWN HEREON AS SUBDIVIDED; THAT THEY HAVE CAUSED SAID LAND TO BE SURVEYED, SUBDIVIDED, STAKED AND PLATTED AS SHOWN HEREON, FOR THE PURPOSE OF HAVING THIS PLAT RECORDED PROVIDED BY LAW; AND TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE DRAINAGE OF SURFACE WATERS WILL NOT BE CHANGED BY THE CONSTRUCTION OF SUCH SUBDIVISION OR PART THEREOF, OR, THAT IF SUCH WATER DRAINAGE WILL BE CHANGED, REASONABLE PROVISION HAS BEEN MADE FOR THE COLLECTION AND DIVERSION OF SUCH WATERS INTO PUBLIC AREAS, OR DRAINS WHICH THE SUBDIVIDER 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 SUBDIVISION, IN WITNESS WHERE WE HAVE HEREUNDER SET OUR HANDS OF.

THIS IS TO ALSO CERTIFY THAT _____ AS OWNER OF THE PROPERTY

DESCRIBED AS WATERS EDGE SUBDIVISION AND LEGALLY DESCRIBED ON THE PLAT OF THE SAME NAME, WE HAVE DETERMINED TO THE BEST OF OUR KNOWLEDGE THE SCHOOL DISTRICT IN WHICH EACH OF THE FOLLOWING LOTS LIE.

LOT NUMBER(S)	SCHOOL DISTRICT
ALL	GRADE AND MIDDLE SCHOOL DISTRICT NO. 47 HIGH SCHOOL DISTRICT NO. 155 COLLEGE DISTRICT NO. 528

DATED THIS _____ DAY OF _____, A.D., 2023.

BY: _____

NAME: _____

TITLE: _____

NOTARY PUBLIC

STATE OF _____)
) SS
COUNTY OF _____)

I, _____, A NOTARY PUBLIC IN AND FOR THE COUNTY AND STATE

AFORESAID, DO HEREBY CERTIFY THAT _____ WHO IS PERSONALLY KNOWN TO ME TO BE THE SAME WHOSE NAME IS SUBSCRIBED TO THE FOREGOING CERTIFICATE, APPEARED BEFORE ME THIS DAY IN PERSON AND ACKNOWLEDGED THAT THEY DID SIGN AND DELIVER THIS ANNEXED PLAT AS A FREE AND VOLUNTARY ACT FOR THE PURPOSES THEREIN SET FORTH.

GIVEN UNDER MY HAND AND NOTORIAL SEAL THIS _____ DAY OF _____, A.D., 2023.

_____
NOTARY PUBLIC

COMMISION EXPIRES: _____

MORTGAGEE CONSENT

THE UNDERSIGNED, AS MORTGAGEE, UNDER THE PROVISIONS OF CERTAIN MORTGAGE DATED

_____ AND RECORDED IN THE RECORDER'S OFFICE OF _____,

COUNTY, ILLINOIS, ON THIS _____ DAY OF _____, A.D., _____, AS DOCUMENT

NUMBER _____, HEREBY CONSENTS TO THE SUBDIVISION STATED HEREIN.

DATED: _____, A.D., 2023.

BY: _____

_____
PRINTED NAME AND TITLE

MORTGAGEE'S NAME AND ADDRESS

_____

ATTEST: _____

_____
PRINTED NAME AND TITLE

_____

_____

MORTGAGEE NOTARY PUBLIC

STATE OF _____)
) SS
COUNTY OF _____)

I, _____, A NOTARY PUBLIC IN AND FOR THE COUNTY AND STATE AFORESAID, DO HEREBY CERTIFY THAT

_____ OF _____
WHO ARE PERSONALLY KNOWN TO ME TO BE THE SAME WHOSE NAMES ARE SUBSCRIBED TO THE FOREGOING CERTIFICATE, APPEARED BEFORE ME THIS DAY IN PERSON AND ACKNOWLEDGED THAT THEY DID SIGN AND DELIVER THIS INSTRUMENT AS A FREE AND VOLUNTARY ACT FOR THE USES AND PURPOSES HEREIN SET FORTH.

GIVEN UNDER MY HAND AND NOTORIAL SEAL THIS ____ DAY OF _____, A.D. 2023.

_____
NOTARY PUBLIC

ACCESS NOTES

1. TO BE ADDED

ILLINOIS DEPARTMENT OF TRANSPORTATION CERTIFICATE

THIS PLAT HAS BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION WITH RESPECT TO ROADWAY ACCESS PURSUANT TO PARAGRAPH 2 OF "AN ACT TO REVISE THE LAW IN RELATION TO PLATS," AS AMENDED. A PLAN THAT MEETS THE REQUIREMENTS CONTAINED IN THE DEPARTMENT'S "POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS" WILL BE REQUIRED BY THE DEPARTMENT.

_____ _____
JOSE RIOS, P.E., REGION ONE ENGINEER DATE

CITY COUNCIL CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF McHENRY)

APPROVED BY THE CITY COUNCIL OF CRYSTAL LAKE, ILLINOIS

THIS _____ DAY OF _____, 2023.

_____
MAYOR

_____
ATTEST: CITY CLERK

CRYSTAL LAKE PLANNING AND ZONING COMMISSION CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF McHENRY)

I _____, CHAIRMAN OF THE CRYSTAL LAKE PLANNING AND ZONING

COMMISSION, DO HEREBY CERTIFY THAT ON THIS _____ DAY OF _____, 2023. THIS PLAT OF SUBDIVISION WAS DULY APPROVED BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF CRYSTAL LAKE.

_____
CHAIRMAN

SURFACE WATER DRAINAGE STATEMENT

I, _____, OWNER, AND I, JARED S. PLACEK, 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 THE CONSTRUCTION OF THIS SUBDIVISION 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 SUBDIVIDER 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 SUBDIVISION.

BY: _____
OWNER OR OWNERS ATTORNEY

OWNER'S NAME AND ADDRESS

_____

BY: _____
JARED S. PLACEK, PE
MANHARD CONSULTING, LTD.
700 SPRINGER DRIVE
LOMBARD, ILLINOIS 60148

_____

_____

RECORDER CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF McHENRY)

THIS INSTRUMENT WAS FILED FOR RECORD IN THE RECORDER'S OFFICE OF MCHENRY COUNTY,

ILLINOIS, THIS ___DAY OF_____, A.D., 20___, AT_____O'CLOCK_____. M.,

AND RECORDED IN MAP BOOK_____PAGE_____, AS DOCUMENT NO._____.

BY: _____
McHENRY COUNTY RECORDER

COUNTY CLERK'S CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF McHENRY)

I,_____COUNTY CLERK IN AND FOR THE COUNTY OF McHENRY AND THE STATE OF ILLINOIS, DO HEREBY CERTIFY THAT THERE ARE NO DELINQUENT GENERAL TAXES, NO UNPAID CURRENT GENERAL TAXES, NO UNPAID FORFEITED TAXES, AND NO REDEEMABLE TAX AGAINST ANY OF THE LAND INCLUDED IN THE ANNEXED PLAT.

I FURTHER CERTIFY THAT I HAVE RECEIVED ALL STATUTORY FEES IN CONNECTION WITH THE ANNEXED PLAT.

WITNESS MY HAND AND SEAL THIS_____DAY OF_____, A.D., 2023.

_____
COUNTY CLERK OF McHENRY COUNTY, ILLINOIS.

CITY ACCEPTANCE OF RIGHT-OF-WAY VACATION

THE APPROVING AUTHORITIES ON SIGNING THIS DOCUMENT HEREBY AGREE AND ACCEPT THE VACATION OF THAT PORTION OF LIBERTY ROAD GRANTED PER DOCUMENT NUMBERS 89R016170 AND 89R24953 AS SHOWN AND NOTED HEREON.

THE CITY OF CRYSTAL LAKE RETAINS THE RIGHTS OF WAY AND EASEMENTS AND RESERVES THE RIGHT TO MAINTAIN, OPERATE, REPAIR AND REPLACE BY ITSELF OR ANY LICENSEE OR HOLDER OF A FRANCHISE FROM THE CITY OF CRYSTAL LAKE, ANY SEWER MAINS, OR ANY OTHER FACILITY OR EQUIPMENT FOR THE MAINTENANCE OR OPERATION OF ANY UTILITIES NOW OR HEREAFTER LOCATED IN THE ABOVE DESCRIBED PORTION THEREOF VACATED BY THIS PLAT.

ADDITIONALLY ALL PUBLIC SERVICE FACILITIES NOW SITUATED IN THAT PART OF THE ABOVE DESCRIBED PORTION OF LIBERTY ROAD HEREBY VACATED AND THE RIGHTS, WAYS AND EASEMENTS THEREFORE ARE HEREBY RESERVED TO THE CITY OF CRYSTAL LAKE, OR PUBLIC BODY ENTITY, AS THE CASE MAY BE, OWNING THE SAME, FOR CONTINUING PUBLIC SERVICE BY MEANS OF SUCH FACILITIES AND FOR THE USE, MAINTENANCE, RENEWAL AND PRECONSTRUCTION OF SUCH FACILITIES FOR SUCH PURPOSES.

ACCEPTED: _____ DATE: _____
CITY OF CRYSTAL LAKE

_____
PRINTED NAME AND TITLE

DEED RESTRICTION FOR STORMWATER MANAGEMENT

IF THE CITY OF CRYSTAL LAKE DETERMINES THAT ANY OF THE STORM SEWERS IN THE STORM SEWER AREAS AND AREAS SET ASIDE AS OR RESERVED FOR STORMWATER DETENTION, ON OUTLOT E, OUTLOT F, OUTLOT G AND OUTLOT H IDENTIFIED AS SUCH ON THIS PLAT ARE IN A STATE OF DISREPAIR OR HAVE BEEN ALTERED FROM THE ORIGINAL APPROVED ELEVATIONS, GRADES, SLOPES, SIZE OR GEOMETRY, THE CITY OF CRYSTAL LAKE SHALL HAVE THE RIGHT, TO ENTER ON SAID OUTLOTS TO MAKE NECESSARY REPAIRS. THE CITY OF CRYSTAL LAKE SHALL HAVE AND BE ENTITLED TO A LEGALLY ENFORCEABLE LIEN FOR THE COST OF SUCH MAINTENANCE AND REPAIRS ON THE OUTLOTS AND SHALL BE LIABLE FOR ANY AND ALL COSTS INCURRED IN ANY SUCH WORK AND/OR REPAIR. THE CITY OF CRYSTAL LAKE MAY RECOVER THE COST OF SUCH WORK AND/OR REPAIRS, BY THE FORECLOSURE OF ITS LIEN, AND SHALL ALSO BE ENTITLED TO RECOVER ITS COSTS AND ATTORNEY'S FEES, THE PERFORMANCE OF ANY WORK BY THE CITY OF CRYSTAL LAKE ON ANY SUBDIVISION PARCEL DEDICATED FOR STORMWATER DETENTION OR OTHER PUBLIC PURPOSES SHALL NOT CONSTITUTE ACCEPTANCE OF SUCH AREAS AS PUBLIC PROPERTY NOR BE DEEMED TO BE A TACIT DEDICATION THEREOF. AN EASEMENT IS HEREBY GRANTED TO THE CITY OF CRYSTAL LAKE AND ITS SUCCESSORS AND ASSIGNS FOR THE PURPOSE OF EXERCISING THE RIGHTS HEREIN GRANTED.

IF THE CITY OF CRYSTAL LAKE DETERMINES THAT THE OWNER OF SAID OUTLOTS IS IN DEFAULT OF MAINTENANCE OBLIGATIONS AND UPON FIFTEEN (15) DAYS NOTICE TO THE OWNERS OF THE OUTLOTS SERVED BY CERTIFIED MAIL, THE CITY OF CRYSTAL LAKE ITS SUCCESSORS AND ASSIGNS SHALL BE GRANTED TO AN EASEMENT OVER THE AREA DESCRIBED ON THIS DEED RESTRICTION FOR THE RIGHT, PRIVILEGE AND AUTHORITY, WITHOUT OBLIGATION, TO PERFORM SAID MAINTENANCE AND REPAIRS. THE CITY OF CRYSTAL LAKE MAY, AT ITS SOLE ELECTION, RECORD NOTICE OF LIEN WITH THE RECORDED OF DEEDS FOR MCHENRY COUNTY AS DESCRIBED ABOVE AGAINST THE SUBJECT REAL PROPERTY. SAID LIEN SHALL INCLUDE THE APPLICABLE EXPENSE TO THE OWNERS OF SAID OUTLOTS PLUS ATTORNEYS FEES AND COURT COSTS. UPON PAYMENT OF SAID LIEN, THE CITY OF CRYSTAL LAKE SHALL ISSUE THE APPROPRIATE RELEASE OF LIEN TO THE OWNERS OF THE OUTLOTS. IT SHALL NOT BE THE OBLIGATION OF THE CITY OR CRYSTAL LAKE TO RECORD THE RELEASE OF LIEN BUT SHALL BE THE OBLIGATION OF THE PARTY PROCURING THE RELEASE.

STORMWATER MANAGEMENT EASEMENT PROVISIONS

STORMWATER MANAGEMENT EASEMENT (SME): EACH INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE TO ALL OR ANY PART OF THE STORMWATER MANAGEMENT EASEMENT (SME) SHALL CONCLUSIVELY BE DEEMED TO HAVE COVENANTED AND AGREED, JOINTLY AND SEVERALLY, TO:

i. CARE FOR AND MAINTAIN THE SURFACE OF THAT PORTION OF THE SME WHICH IS LOCATED ON SUCH PARTY'S PROPERTY AS A WELL LANDSCAPED, HIGH-QUALITY PARCEL (WHICH MAINTENANCE SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, THE REGULAR SEEDING, WATERING, AND MOWING OF ALL LAWNS), AND

ii. KEEP ALL SURFACE OPENINGS OF THE DRAINAGE PIPES UNDERLYING THE SME FREE OF ALL GRASS CLIPPINGS, LEAVES, OR OTHER RELATED OR FOREIGN MATERIALS.

NO INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE TO ALL OR ANY PART OF THE SME SHALL:

i. INSTALL, CONSTRUCT, ERECT, PLACE OR PLANT ANY BUILDING, STRUCTURES, IMPROVEMENTS OR VEGETATION (OTHER THAN GRASS OR CITY APPROVED PLANTINGS) UPON THE SME INCLUDING, BUT NOT LIMITED TO, FENCES, WALLS, PATIOS, SHEDS, POSTS, TREES, PLANTS OR SHRUBBERY, EXCEPT AS SHOWN ON THE APPROVED LANDSCAPE PLAN, OR

ii. ALTER, MODIFY, OR CHANGE IN ANY WAY THE TOPOGRAPHY OR ELEVATIONS OF THE SME, OR

iii. OBSTRUCT, ALTER, OR MODIFY THE ESTABLISHED DRAINAGE PATTERN FROM OR OVER THE SME.

MAINTENANCE OF THE STORM SEWERS AND STORM STRUCTURES WITHIN THE SME SHALL BE THE SOLE RESPONSIBILITY OF EACH INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE PURSUANT TO THE REQUIREMENTS CONTAINED HEREIN.

IF THE CITY DETERMINES THAT THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE IS IN DEFAULT OF SAID MAINTENANCE OBLIGATIONS AND UPON FIVE (5) DAYS NOTICE TO THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE SERVED BY CERTIFIED MAIL, THE CITY AND ITS SUCCESSORS AND ASSIGNS SHALL BE GRANTED AN EASEMENT OVER THE AREA DESCRIBED ON THIS DEED RESTRICTION FOR THE RIGHT, PRIVILEGE AND AUTHORITY, WITHOUT OBLIGATION, TO PERFORM SAID MAINTENANCE AND REPAIRS. THE CITY MAY ENTER UPON THE EASEMENT FOR THE PURPOSE OF EMERGENCY REPAIRS.

THE CHARGE OF THE EMERGENCY REPAIRS AND/OR MAINTENANCE IS THE RESPONSIBILITY OF THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE. THE CITY MAY, AT ITS SOLE ELECTION, RECORD NOTICE OF LIEN WITH THE RECORDER OF DEEDS FOR MCHENRY COUNTY AS DESCRIBED ABOVE AGAINST THE SUBJECT REAL PROPERTY. SAID LIEN SHALL INCLUDE THE APPLICABLE EXPENSE TO THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE PLUS ATTORNEY'S FEES AND COURT COSTS. UPON PAYMENT OF SAID LIEN, THE CITY SHALL ISSUE THE APPROPRIATE RELEASE OF LIEN TO THE INDIVIDUAL ENTITY OR OTHER PARTY ACCEPTING TITLE. IT SHALL NOT BE THE OBLIGATION OF THE CITY TO RECORD THE RELEASE OF THE LIEN BUT SHALL BE THE OBLIGATION OF THE PARTY PROCURING THE RELEASE.

ACCESS EASEMENT PROVISIONS

A NON-EXCLUSIVE EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO THE CITY OF CRYSTAL LAKE, THE OWNERS OF ALL LOTS AND FUTURE LOTS WITHIN THIS SUBDIVISION AND TO THE PUBLIC IN GENERAL TOGETHER WITH THEIR RESPECTIVE SUCCESSORS AND ASSIGNS TO PROVIDE INGRESS AND EGRESS TO AND FROM THE SUBDIVIDED PROPERTY TO AND FROM PUBLIC RIGHT-OF-WAY. THIS EASEMENT IS FOR ACCESS, INGRESS AND EGRESS PURPOSES ONLY AND DOES NOT GRANT VEHICULAR PARKING RIGHTS OR PRIVILEGES ON OR WITHIN ANY OF THE LOTS AND FUTURE LOTS WITHIN THIS SUBDIVISION. ADDITIONALLY, THIS EASEMENT MAY BE FURTHER GOVERNED BY A DECLARATION OF EASEMENTS, COVENANTS AND RESTRICTIONS RECORDED SEPARATE FROM THIS PLAT.

PATH EASEMENT PROVISIONS

THE PATH EASEMENT HEREON SHOWN HEREBY GRANTS AND CONVEYS TO THE GENERAL PUBLIC A RIGHT FOR PEDESTRIAN NON-MOTORIZED AND PASSIVE RECREATIONAL PURPOSES, SUCH AS WALKING, BIKING, JOGGING AND RUNNING.

PERMISSION TO RECORD

STATE OF ILLINOIS)
)SS
COUNTY OF LAKE)

I, JAMES D. BAKER, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, HEREBY GRANT PERMISSION TO THE CITY OF CRYSTAL LAKE TO RECORD THIS PLAT ON OR BEFORE DECEMBER 31, 2023. THE REPRESENTATIVE SHALL PROVIDE THIS SURVEYOR WITH A RECORDED COPY OF THIS PLAT.

DATED THIS 7TH DAY OF JULY, A.D. 2023.

FOR REVIEW ONLY

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3648
LICENSE EXPIRES NOVEMBER 30, 2024

JAMES D. BAKER
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3648
LINCOLNSHIRE, ILLINOIS

SURVEYORS CERTIFICATE

STATE OF ILLINOIS)
)SS
COUNTY OF LAKE)

THIS IS TO DECLARE THAT THE PROPERTY DESCRIBED HEREON WAS SURVEYED AND SUBDIVIDED BY MANHARD CONSULTING, UNDER THE SUPERVISION OF AN ILLINOIS PROFESSIONAL LAND SURVEYOR AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY AND SUBDIVISION:

PARCEL 1:
LOT 3 AND 1 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION, BEING A RESUBDIVISION OF LOT 1 IN CRYSTAL COURT SUBDIVISION, BEING A PART OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED JUNE 15, 2011 AS DOCUMENT NUMBER 2011R0024670, IN MCHENRY COUNTY, ILLINOIS.

PARCEL 2:
LOTS 2, 3, 4 AND 5 IN CRYSTAL COURT SUBDIVISION, BEING A PART OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED MAY 25, 1989 AS DOCUMENT NO. 89R16170 AND RE-RECORDED AUGUST 3, 1989 AS DOCUMENT NO. 89R24953, IN MCHENRY COUNTY, ILLINOIS.

PARCEL 3:
THAT PART OF LIBERTY AVENUE VACATED BY DOCUMENT NUMBER 90R004207 LOCATED IN NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN IN MCHENRY COUNTY, ILLINOIS DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT 5 CRYSTAL COURT SUBDIVISION RECORDED MAY 25, 1989 AS DOCUMENT NO. 89R16170 AND RE-RECORDED AUGUST 3, 1989 AS DOCUMENT NO. 89R24953; THENCE SOUTH 43 DEGREES 50 MINUTES 18 SECONDS WEST, ALONG THE NORTHWEST LINE OF SAID LOT 5, A DISTANCE OF 119.46 FEET TO A NON-TANGENT CURVE; THENCE NORTHEASTERLY, ALONG A CURVE, CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 241.87 FEET, AN ARC DISTANCE OF 101.15 FEET, CHORD BEARING OF NORTH 30 DEGREES 46 MINUTES 22 SECONDS EAST AND A CHORD DISTANCE OF 100.42 FEET TO THE WESTERLY EXTENSION OF THE NORTH LINE OF SAID LOT 5; THENCE SOUTH 89 DEGREES 47 MINUTES 33 SECONDS EAST, ALONG SAID LINE, A DISTANCE OF 31.36 FEET TO THE POINT OF BEGINNING.

PARCEL 4:
THAT PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN IN MCHENRY COUNTY, ILLINOIS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST EASTERLY NORTHEASTERLY CORNER OF LOT 3 IN THE FINAL PLAT OF RESUBDIVISION OF LOT ONE IN CRYSTAL COURT SUBDIVISION RECORDED JUNE 15, 2011 AS DOCUMENT NUMBER 2011R0024670; THENCE SOUTH 89 DEGREES 47 MINUTES 33 SECONDS EAST, ALONG THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID LOT 3, A DISTANCE OF 22.00 FEET TO A POINT OF CURVATURE; THENCE EASTERLY, ALONG A CURVE, CONCAVE TO THE NORTH, HAVING A RADIUS OF 25.00 FEET, AN ARC DISTANCE OF 12.66 FEET, A CHORD BEARING NORTH 75 DEGREES 41 MINUTES 48 SECONDS EAST, AND A CHORD DISTANCE OF 12.53 FEET TO A POINT OF NON-TANGENCY; THENCE SOUTH 03 DEGREES 19 MINUTES 01 SECONDS EAST, A DISTANCE OF 564.84 FEET TO A POINT OF CURVATURE; THENCE SOUTHERLY, ALONG A CURVE, CONCAVE TO THE WEST, HAVING A RADIUS OF 270.00 FEET, AN ARC DISTANCE OF 186.72 FEET, A CHORD BEARING SOUTH 16 DEGREES 29 MINUTES 40 SECONDS WEST, AND A CHORD DISTANCE OF 183.02 FEET TO A POINT OF TANGENCY; THENCE SOUTH 36 DEGREES 18 MINUTES 22 SECONDS WEST, A DISTANCE OF 14.39 FEET TO THE EAST LINE OF LOT 3 IN CRYSTAL COURT SUBDIVISION RECORDED MAY 25, 1989 AS DOCUMENT NO. 89R16170 AND RE-RECORDED AUGUST 3, 1989 AS DOCUMENT NO. 89R24953, SAID LINE ALSO BEING THE WEST LINE OF THE SAID NORTHEAST QUARTER; THENCE NORTH 00 DEGREES 29 MINUTES 07 SECONDS WEST, ALONG SAID LINE, A DISTANCE OF 747.99 FEET TO THE POINT OF BEGINNING.

PARCEL 5:
THAT PART OF THE NORTH HALF OF THE NORTHEAST QUARTER OF SECTION 9, TOWNSHIP 43, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN IN MCHENRY COUNTY, ILLINOIS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF LOT 3 IN CRYSTAL COURT SUBDIVISION RECORDED MAY 25, 1989 AS DOCUMENT NO. 89R16170 AND RE-RECORDED AUGUST 3, 1989 AS DOCUMENT NO. 89R24953; THENCE NORTH 00 DEGREES 29 MINUTES 07 SECONDS WEST, ALONG SAID LINE, A DISTANCE OF 251.40 FEET TO A POINT ON A NON-TANGENT CURVE; THENCE SOUTHEASTERLY, ALONG A CURVE, CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 270.00 FEET, AN ARC DISTANCE OF 86.03 FEET, A CHORD BEARING SOUTH 39 DEGREES 01 MINUTES 12 SECONDS EAST, AND A CHORD DISTANCE OF 85.66 FEET TO A POINT OF NON-TANGENT COMPOUND CURVATURE; THENCE SOUTHERLY, ALONG A CURVE, CONCAVE TO THE WEST, HAVING A RADIUS OF 92.00 FEET, AN ARC DISTANCE OF 39.15 FEET, A CHORD BEARING SOUTH 17 DEGREES 42 MINUTES 00 SECONDS EAST, AND A CHORD DISTANCE OF 38.86 FEET TO A POINT OF TANGENCY; THENCE SOUTH 05 DEGREES 30 MINUTES 27 SECONDS EAST, A DISTANCE OF 47.27 FEET TO A POINT OF CURVATURE; THENCE SOUTHWESTERLY, ALONG A CURVE, CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 95.00 FEET, AN ARC DISTANCE OF 123.26 FEET, A CHORD BEARING SOUTH 31 DEGREES 39 MINUTES 41 SECONDS WEST, AND A CHORD DISTANCE OF 114.79 FEET TO A POINT OF TANGENCY; THENCE SOUTH 68 DEGREES 49 MINUTES 50 SECONDS WEST, A DISTANCE OF 8.47 FEET TO THE POINT OF BEGINNING.

PARCEL 6:
THAT PART OF LOT 9 IN FARMSTEAD SUBDIVISION RECORDED APRIL 14, 1978 AS DOCUMENT NUMBER 730083 AND PART OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 43, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN IN MCHENRY COUNTY, ILLINOIS, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST SOUTHERLY SOUTHWEST CORNER OF LOT 5 IN CRYSTAL COURT SUBDIVISION RECORDED MAY 25, 1989 AS DOCUMENT NUMBER 89R16170 AND RE-RECORDED AUGUST 3, 1989 AS DOCUMENT NUMBER 89R24953; THENCE NORTH 00 DEGREES 12 MINUTES 28 SECONDS WEST, ALONG A WEST LINE OF SAID LOT 5, A DISTANCE OF 53.00 FEET TO THE POINT OF BEGINNING; THENCE NORTH 54 DEGREES 45 MINUTES 37 SECONDS WEST, A DISTANCE OF 168.91 FEET TO A POINT ON THE SOUTH LINE OF LAND DECRIBED IN DEED RECORDED AS DOCUMENT NUMBER 1986R0946822; THENCE NORTH 34 DEGREES 42 MINUTES 29 SECONDS WEST, A DISTANCE OF 31.59 FEET TO A POINT ON A SOUTH LINE OF SAID LOT 5; THENCE SOUTH 89 DEGREES 28 MINUTES 28 SECONDS EAST, ALONG SAID SOUTH LINE, A DISTANCE OF 156.40 FEET TO AFORESAID WEST LINE OF LOT 5; THENCE SOUTH 00 DEGREES 12 MINUTES 28 SECONDS WEST, ALONG SAID LINE, A DISTANCE OF 122.00 FEET TO THE POINT OF BEGINNING.

SUBDIVIDED PROPERTY CONTAINS 32.077 ACRES, MORE OR LESS AND ALL DISTANCES ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF.

THIS IS ALSO TO DECLARE THAT THE PROPERTY AS DESCRIBED ON THE ANNEXED PLAT LIES WITHIN THE CORPORATE LIMITS OF CITY OF CRYSTAL LAKE, MCHENRY COUNTY, ILLINOIS WHICH HAS ADOPTED A VILLAGE PLAN AND IS EXERCISING THE SPECIAL POWER AUTHORIZED BY 65 ILCS 5, SECTION 11-12-6.

5/8" DIAMETER BY 24" LONG IRON RODS WILL BE SET AT ALL SUBDIVISION CORNERS, LOT CORNERS, POINTS OF CURVATURE AND POINTS OF TANGENCY IN COMPLIANCE WITH ILLINOIS STATUTES AND APPLICABLE ORDINANCES, UNLESS OTHERWISE NOTED.

THIS IS ALSO TO DECLARE THAT THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM COMMUNITY PANEL NUMBER 17111C0335J WITH AN EFFECTIVE DATE OF NOVEMBER 15, 2006 INDICATES THAT THE ABOVE DESCRIBED PROPERTY LIES WITHIN AREAS DESIGNATED AS ZONE X(UNSHADED). ZONE X(UNSHADED) IS DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER THE FLOOD INSURANCE RATE MAPS. THIS MAP DOES NOT NECESSARILY SHOW ALL AREAS SUBJECT TO FLOODING IN THE COMMUNITY OR ALL PLANIMETRIC FEATURES OUTSIDE SPECIAL FLOOD HAZARD AREAS. THIS DOES NOT GUARANTEE THAT THE SURVEYED PROPERTY WILL OR WILL NOT FLOOD.

GIVEN UNDER MY HAND AND SEAL THIS 7TH DAY OF JULY, A.D. 2023.

FOR REVIEW ONLY

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3648
LICENSE EXPIRES NOVEMBER 30, 2024

DESIGN FIRM PROFESSIONAL REGISTRATION NO. 184003350-EXPIRES APRIL 30, 2025

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DATE OF FIELD SURVEY: OCTOBER 22, 2021

JAMES D. BAKER
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3648
LINCOLNSHIRE, ILLINOIS

DATE	REVISIONS	DRAWN BY
07/07/23	REVISED PER CITY REVIEW	AAS
06/02/23	REVISED PER NEW SITE PLAN	AAS
07/21/22	REVISED PER CITY REVIEW	AAS

Manhard CONSULTING
One Overlook Point, Suite 250, Lincolnshire, IL 60069 p:847.634.5500 f:847.634.0066 manhard.com
Civil Engineers • Structural Engineers • Water Resource Engineers • Surveyors
Construction Managers • Environmental Scientists • Landscape Architects • Planners

WATERS EDGE SUBDIVISION
CRYSTAL LAKE, ILLINOIS
FINAL PLAT OF SUBDIVISION

PROJ. MGR.:	JP
PROJ. ASSOC.:	ERV
DRAWN BY:	AAS
DATE:	06/23/22
SCALE:	NA

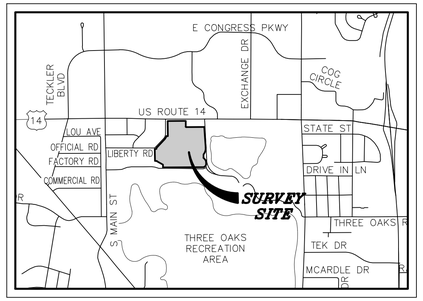
SHEET 6 OF 6
FRDCLIL01

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July 7, 2023 - 12:41 Dwg Name: P:\Projects\Data\Scrx\Final Drawings\Final of Subdivision\Final Plat\FDC-FRDCLI01-PS.dwg Updated By: AShaver

EXHIBIT

PROPOSED WATERS EDGE DEVELOPMENT



LOCATION MAP

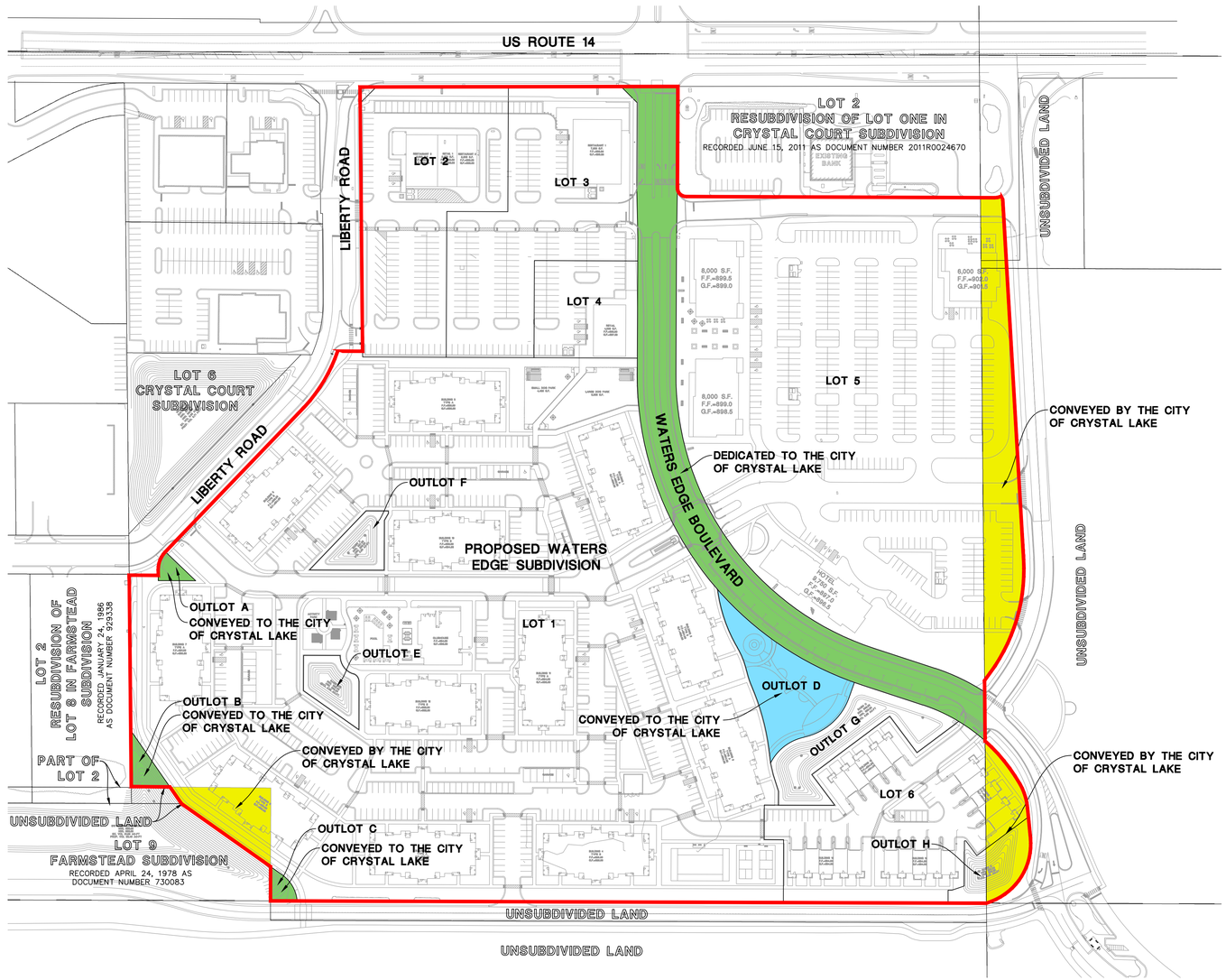
NOT TO SCALE

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.



DATE	REVISIONS	DRAWN BY
05/31/23	REVISED PER CLIENT COMMENTS	AAS
05/05/23	REVISED GEOMETRY	PCA
05/03/23	REVISED GEOMETRY	PCA

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Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

PROPOSED WATERS EDGE DEVELOPMENT

CRYSTAL LAKE, ILLINOIS

EXHIBIT

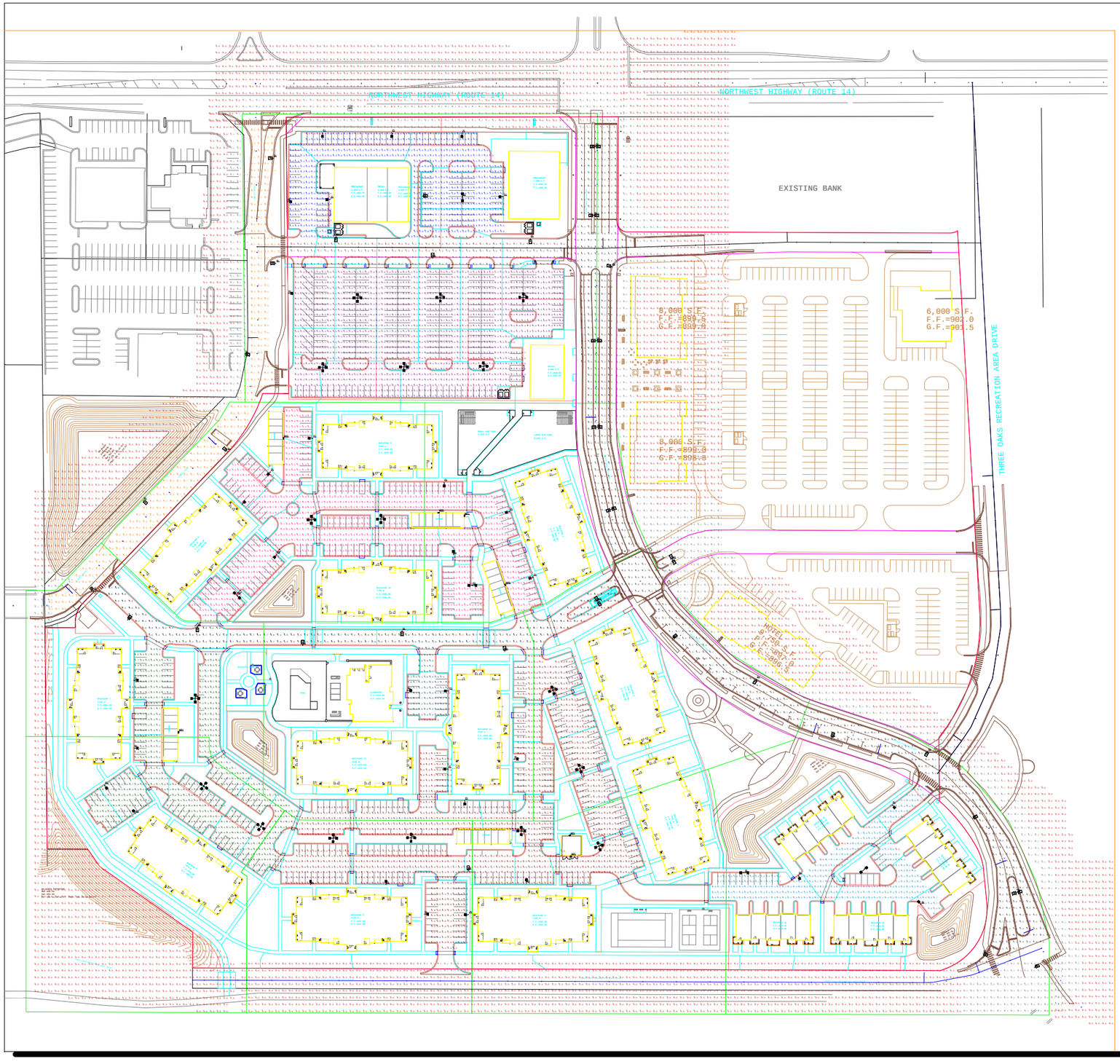
PROJ. MGR.: JP
PROJ. ASSOC.: JDB
DRAWN BY: AAS
DATE: 04/28/23
SCALE: 1"=100'

SHEET 1 OF 1

FRDCLIL01

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May 31, 2023 - 10:31 Dan Nowak P:\Frdcl01\Proj\Surv\Engr Drawings\Exhibits Surv\FRDCL01-Overall Development Exhibit.dwg Updated By: ASchuver



Luminaire Schedule					
Symbol	Tag	Qty	LLF	Lum. Watts	Lum. Lumens
	P1	27	0.900	75	11769
	P3	17	0.900	75	11823
	P5	5	0.900	75	11823
	P6	2	0.900	75	11823
	P7	2	0.900	75	11542
	P8	1	0.900	75	11897
	R1	18	0.900	80.7	10205
	R2	6	0.900	80.7	10801
	R3	2	0.900	80.7	10913
	R4	2	0.900	80.7	11178
	R5	2	0.900	103.1	11482
	R6	1	0.900	80.7	11400
	R7	1	0.900	108	9838
	WP1	4	0.900	23.26	2749
	WP2	3	0.900	11.49	1537

Calculation Summary							
Label	Description	Units	Avg	Max	Min	Avg/Min	Max/Min
BLD9 NORTH LOT	PURPLE	Fc	3.40	7.6	0.5	6.80	15.20
BLDG 1, 8,9 & 10 PARKING	PINK	Fc	2.83	7.5	0.6	4.72	12.50
BLDG 4,5,11 & 12 PARKING	DARK RED	Fc	3.28	8.0	0.6	5.47	13.33
BLDG 6, 7 PARKING	DARK GREEN	Fc	3.01	7.5	0.5	6.02	15.00
BUILDING 13 PARKING	LIGHT BLUE	Fc	1.99	5.9	0.5	3.98	11.80
CLUB HOUSE PARKING	BLUE GREEN	Fc	2.97	5.8	1.4	2.12	4.14
DRIVE THROUGH NORTH	BROWN	Fc	1.50	4.3	0.6	2.50	7.17
LIBERTY ROAD	ORANGE	Fc	1.24	4.0	0.3	4.13	13.33
LOWER DRIVE	BLACK	Fc	1.54	8.7	0.4	3.85	21.75
PERIMETER EAST	LIGHT GREY	Fc	0.13	8.7	0.0	N.A.	N.A.
PERIMETER NORTH	LIGHT GREY	Fc	0.08	3.5	0.0	N.A.	N.A.
PERIMETER SOUTh	LIGHT GREY	Fc	0.10	2.8	0.0	N.A.	N.A.
PERIMETER WEST	LIGHT GREY	Fc	0.05	3.8	0.0	N.A.	N.A.
RESTAURANT PARKING	BLUE	Fc	2.39	6.9	0.6	3.98	11.50
WATERS EDGE BLVD	DARK GREY	Fc	2.08	8.2	0.4	5.20	20.50

GENERAL NOTES:
1) All Calculations taken at grade
2) Model does not acccount for topography
3) Light Loss Factor .90 for all fixtures
4) Parking Lot Mounting Heights 20' above grade
5) Roadway Mounting Heights 18' above grade

ParamontEO
ELECTRICAL SUPPLIES AND SERVICES

Roadway Fixtures

Features
The NEW Series is a flexible, configurable pedestrian scale decorative pendant luminaire with an 8.4" diameter upper housing of 0.125" thick formed aluminum with a large assortment of spun aluminum shades and ornamental options. Each lower housing is comprised of a 0.080" thick spun aluminum reflector with an integrated LED module seat, thermal management for long LED life and a thermally isolated solid state power supply chamber. Truloval ™ ball coupling.

Optics
Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded Ht-2 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. All optics are UL Zero Uplight and are Dark Sky compliant. Panels are field replaceable and field rotatable in 90° increments.

LED Emitters
High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L90 at 100,000 hours (TM-21 calculated at 6x Test Time) for all LED options.

Finish
Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.

Mid Sized Neoclassical, Domed Bell



The mid sized models within the Series, offer 5 customizable styles available with optional Ambience™ Low Luminance Lens and until Bands.

ParamontEO
ELECTRICAL SUPPLIES AND SERVICES

Parking Lot Area Fixtures

SPECIFICATIONS

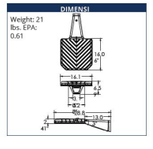
Construction:
Designed for commercial and industrial applications, providing cooler operating temperatures, brighter light and longer LED life. The die cast aluminum housing utilizes external airflow fins allow for greater heat dissipation. The easy access driver compartment is a thermally independent compartment, separate from LED generated heat, for cooler operation and longer driver life.

Optics:
Fixtures utilize precision engineered individual lenses for maximum light intensity. The lens is made of optical grade polycarbonate. Advanced one piece optic board engineered for maximum light intensity. Types II, III, V and Forward Throw distributions are available. Types II, III and Forward Throw optics are rotatable allowing for optimal placement of the fixtures on the perimeter of any layout.

Thermal Management:
Designed as a complete system
to optimize LED life and light output. The thermal stacking heat removal technology extracts heat from within the housing moving it away from LEDs and components. The lower temperatures result in long LED life (100,000+ hrs†) and component life and also allows for higher light output.



DIMENSI



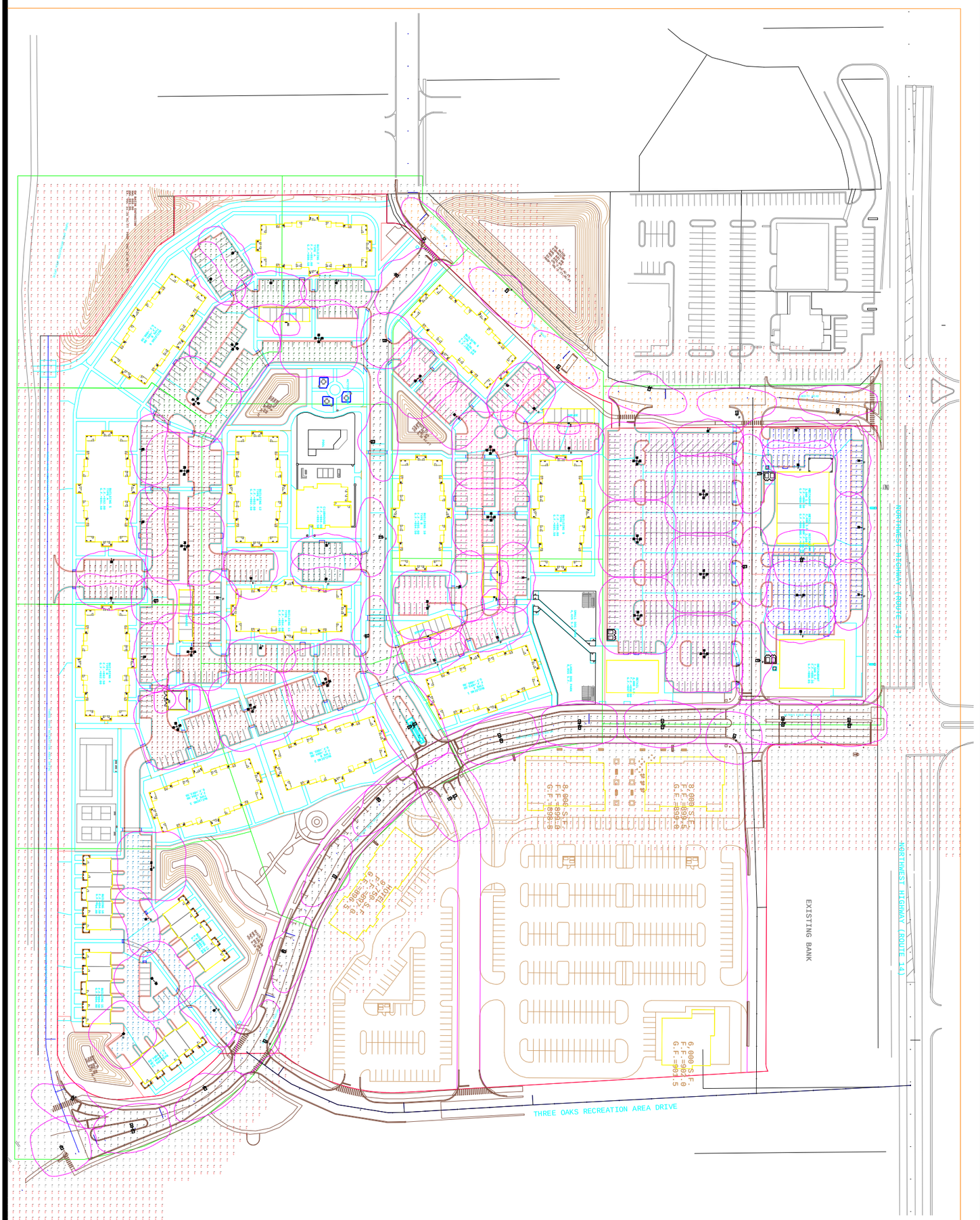
ParamontEO
ELECTRICAL SUPPLIES AND SERVICES

#	Date	Comments

Revisions

Drawn By:
Checked By:
Date:6/28/2023

CRYSTAL LAKE SITE



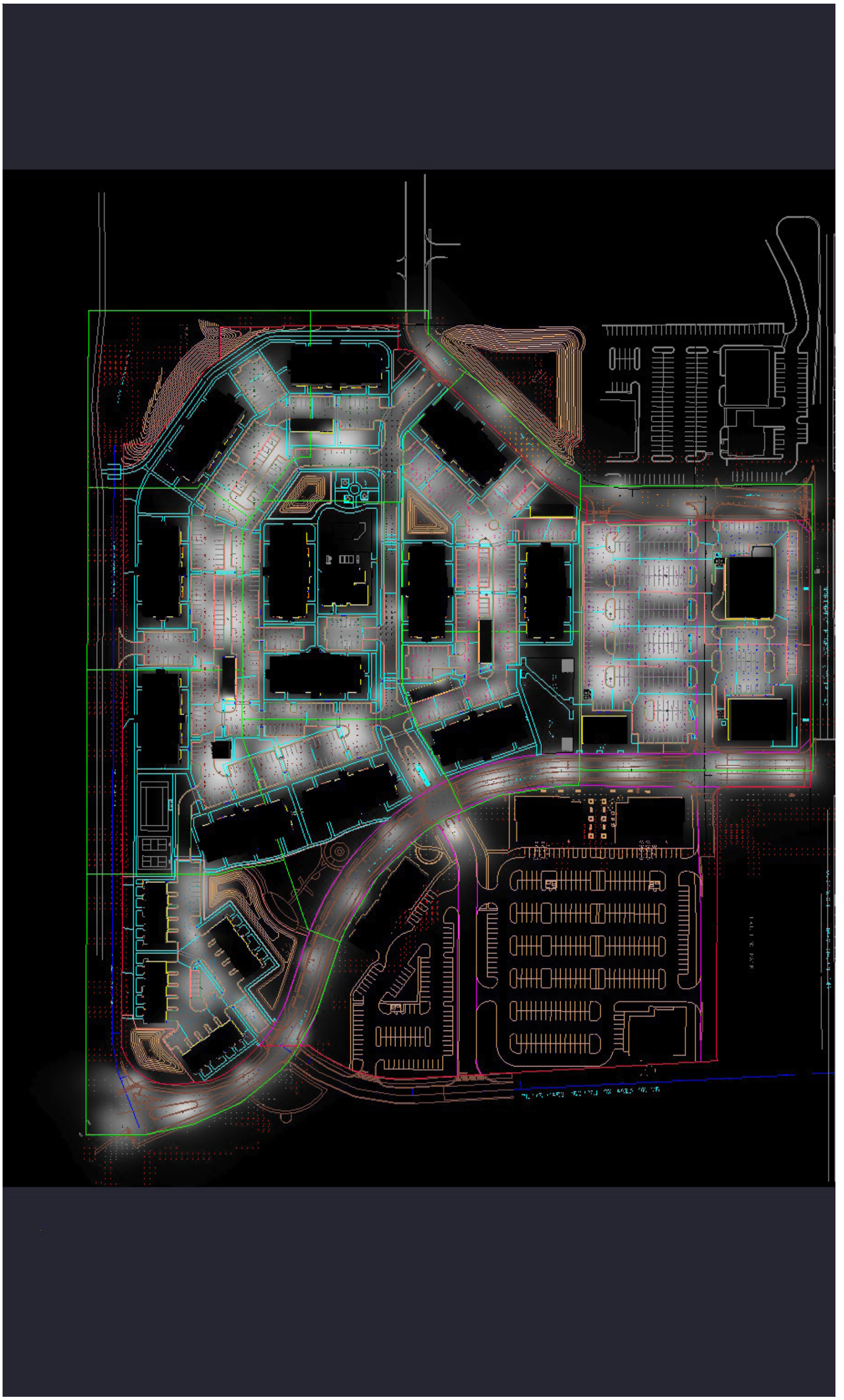
Page M of 1

.5 FC DISTRIBUTION ISOLINES

Drawn By:	
Checked By:	
Date:6/28/2023	

Revisions	#	Date	Comments

ParamontEO
ELECTRICAL SUPPLIES AND SERVICES



Page M of 1

.5 FC DISTRIBUTION ISOLINES

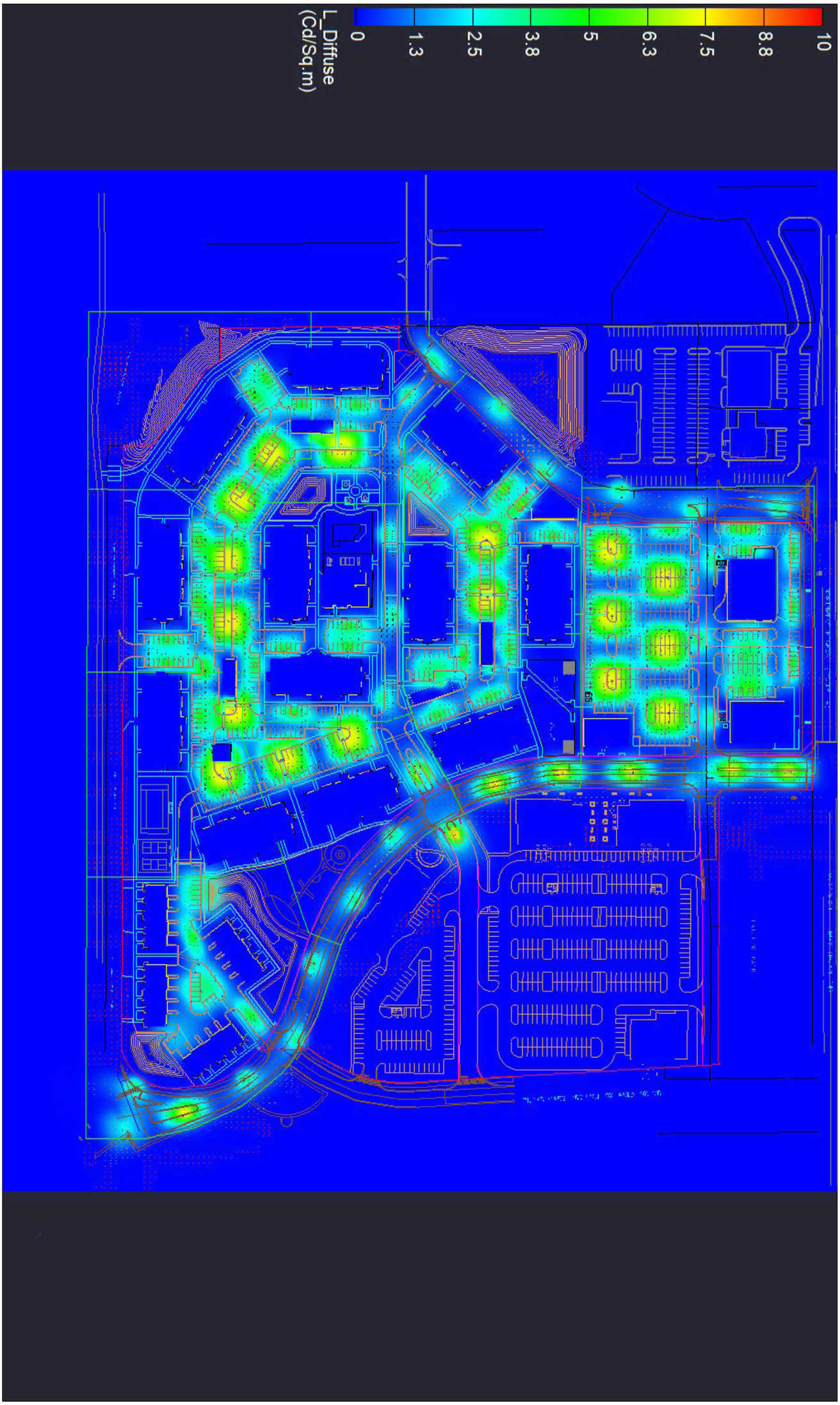
Drawn By:

Checked By:

Date:6/29/2023

Revisions	#	Date	Comments

ParamontEO
ELECTRICAL SUPPLIES AND SERVICES



Page M of 1

.5 FC DISTRIBUTION ISOLINES

Drawn By:

Checked By:

Date:6/28/2023

Revisions	#	Date	Comments

ParamontEO
ELECTRICAL SUPPLIES AND SERVICES

FINAL
STORMWATER REPORT
For
MIXED USE DEVELOPMENT AT WATER'S EDGE
CITY OF CRYSTAL LAKE, McHENRY COUNTY, ILLINOIS

PREPARED FOR:

HEARTLAND REAL ESTATE PARTNERS
1535 NORTH ELSTON AVENUE
CHICAGO, ILLINOIS 60642
PHONE: (773) 489-7600

PREPARED BY:

MANHARD CONSULTING
1 OVERLOOK POINT, SUITE 290
LINCOLNSHIRE, ILLINOIS 60069
PHONE: (847) 634-5550 FAX: (847) 634-0095

JOB CODE: FRDCLIL01

JUNE 2, 2023

Manhard CONSULTING

FINAL STORMWATER MANAGEMENT REPORT FOR MIXED USE DEVELOPMENT AT WATER'S EDGE

CITY OF CRYSTAL LAKE,
MCHENRY COUNTY, ILLINOIS

PREPARED FOR:

HEARTLAND REAL ESTATE PARTNERS
1535 NORTH ELSTON AVENUE
CHICAGO, ILLINOIS 60642
PHONE: (773) 489-7600

JUNE 2, 2023

1 NARRATIVE

2 MAPS
- AERIAL MAP
- USGS TOPOGRAPHIC MAP
- FEMA FIRMETTE MAP
- NWI WETLANDS MAP
- NRCS SOIL MAP

3 EXISTING CONDITIONS
- EXISTING DRAINAGE EXHIBIT
- EXISTING STAGE STORAGE TABLES
- EXISTING IMPERVIOUS AREA EXHIBIT
- EXISTING CURVE NUMBER CALCULATIONS
- EXISTING TIME OF CONCENTRATION CALCULATIONS
- EXISTING HYDROGRAPH OUTPUTS

4 PROPOSED CONDITIONS
- PROPOSED DRAINAGE EXHIBIT
- PROPOSED STAGE STORAGE TABLES
- PROPOSED IMPERVIOUS AREA EXHIBIT
- PROPOSED CURVE NUMBER CALCULATIONS
- PROPOSED TIME OF CONCENTRATION CALCULATIONS
- PROPOSED HYDROGRAPH OUTPUTS
- PROPOSED BASIN OVERFLOW CROSS SECTIONS

5 STORM SEWER CALCULATIONS
- PROPOSED STORM SEWER TRIBUTARY AREA EXHIBIT
- RUNOFF COEFFICIENT CALCULATIONS
- INLET CAPACITY CALCULATIONS
- 10-YEAR STORM SEWER DESIGN TABLES
- 10-YEAR STORM SEWER PROFILES

6 OVERLAND OVERFLOW
- OVERLAND OVERFLOW CROSS SECTIONS TRIBUTARY AREA EXHIBIT
- RUNOFF COEFFICIENT CALCULATIONS
- OVERFLOW CALCULATIONS SUMMARY TABLE
- FLOWMASTER CROSS SECTIONS

Manhard CONSULTING

TAB 1

FINAL STORMWATER MANAGEMENT REPORT FOR
MIXED USE DEVELOPMENT AT WATER'S EDGE
CITY OF CRYSTAL LAKE, ILLINOIS

INTRODUCTION

The proposed Mixed Use Development at Water's Edge is located at the southeast corner of Northwest Highway (Route 14) and Liberty Road in the City of Crystal Lake, McHenry County, Illinois. The redevelopment consists of a residential development with apartments, a clubhouse and rental townhouses, a new access boulevard, a retail/restaurant area, and mass grading for a future commercial development. Stormwater design for the site includes four proposed detention basins serving the residential site and the expansion/regrading of two existing detention basins. The total development will disturb 36.83 acres; the existing BMO Harris Bank lot in the very northeast corner will remain undisturbed.

The total impervious coverage on the site will decrease in the proposed conditions. For the existing detention areas that are filled as a result of the development, the lost storage volume will be compensated for at a 1:1 ratio. On top of this compensatory detention volume, in order to meet the current standards of the City of Crystal Lake Stormwater Management Ordinance (CLSO), additional detention volume will be provided for the hydrologically disturbed area.

The purpose of this report is to demonstrate that the proposed final stormwater design meets the requirements of the City of Crystal Lake and McHenry County Stormwater Management Ordinance.

METHODOLOGY

This project is a redevelopment of an existing site that was previously designed using Bulletin 70 rainfall; in order to meet the current standards of the CLSO, Bulletin 75 rainfall data was used in the proposed conditions analysis for the site. Hydraflow Hydrographs was used to determine the runoff volume and detention volume for the three basins in the existing condition and the six basins in the proposed condition. From the USDA hydrologic soil group information, the project site consists of predominately HSG B; in order to validate the use of HSG B in the proposed CN calculations, infiltration tests at the proposed basin

locations have been provided in the geotechnical report, completed by Midland Standard Engineering & Testing, inc.

EXISTING CONDITIONS

The existing site contains a strip center building, a retail building, building foundation/slabs and associated parking lots and drives. There is an existing stormwater basin in the southeast corner of the site, an existing basin northwest of Liberty Road and a basin at the very southwest corner of the site. A series of existing inlets and storm sewer collect roof and parking lot runoff and convey it to the existing basins. There are no floodplain or wetland areas on the site.

Existing Impervious Coverage

In the existing conditions, the overall development area has a composite CN of 89 and an impervious coverage of 77%. An Existing Impervious Area Exhibit is provided in Tab 3.

Existing Drainage Patterns

The existing property is delineated into three tributary areas, totaling 39.07 acres. An Existing Drainage Exhibit has been provided in Tab 3 of this report depicting the existing drainage areas and patterns described below.

- **Central Tributary Area = 28.51 AC** with a CN of 91, drains from north to south towards the Ex. SW Basin, with a series of storm sewer collecting roof/pavement runoff and directing it into the basin.
- **Northwest Tributary Area = 1.68 AC** with a CN of 70, drains southwest along Liberty Road where it is collected by storm sewer and directed into the Ex. NW Basin.
- **East Tributary Area = 8.88 AC** with a CN of 77, drains from north to south into the Ex. SE Basin, with a series of storm sewer collecting roof/pavement runoff and directing it into the basin.

Existing Detention Basin System

The site contains one existing stormwater management facility in the southeast corner of the site (Existing Southeast Basin) that detains for the very east portion of the site. The remaining portions of the site are served by two additional detention basins: the Existing Northwest Basin and the Existing Southwest Basin. Most of the site currently drains towards the Ex. Southwest Basin, and the emergency overflows for both the Ex. Southeast Basin and Ex. Northwest Basin are directed into the Ex. Southwest Basin, as well.

Existing Detention Basin Storage Volume Calculations

The existing basin volumes were calculated using the average end area method for the closed basin contours as delineated per the topographic survey completed by Manhard Consulting on October 22, 2021. For the Ex. Southwest Basin, County topography was used as a supplement where the basin contours extended beyond the surveyed topographic limits (i.e., the 883-880 contours on the north side and the 883 contour on the south side of the basin). Hydraflow Hydrographs was used to determine the detention volume utilized by each of the 3 existing basins for their respective tributary areas that were delineated. The existing stage storage tables for the basins are provided in Tab 3. The total combined storage volume will be maintained or exceeded in the proposed conditions.

Existing Southeast Basin

The Existing Southeast Basin is located in the southeast corner of the site behind the existing strip center building. The Ex. SE Basin has a NWL of 886.50 and HWL of 892.09 and currently provides 3.14 ac-ft of storage volume. The Southeast Tributary Area drains to this basin via storm sewer and overland flow. The basin ultimately overflows to the west, along the south property line on the north side of Three Oaks Recreation Drive, and into the Ex. SW Basin. This basin was treated as an infiltration basin, similar to the other basins nearby, as it had no discernable way for the water to release. Since the geotechnical report did not cover the infiltration rate of the area around this basin, the infiltration rate was assumed to be 0.50 in/hr which is in line with the minimum requirements for infiltration basins per the CLSO.

Existing Northwest Basin

The Existing Northwest Basin is located just northwest of Liberty Road and detains for the majority of Liberty Road, as well as for existing offsite areas to the north and west of the basin. The Ex. NW Basin has a NWL of 883.80 and HWL of 893.00 and currently provides 2.95 ac-ft of storage volume. The Northwest Tributary Area (the onsite-only portion of the tributary area to this basin) drains to this basin via storm sewer and overland flow. The basin ultimately overflows to the south, across Liberty Road, along the western most drive aisle and into the Ex. SW Basin. This basin, which is determined to be an infiltration basin, has had its soil tested for permeability rate in the geotechnical report. The geotechnical report determined the design soil permeability rate to be $2.9x10^{-2}$ cm/sec (41.1 in/hr); which will be used to determine the detention volume utilized by the existing and proposed tributary areas.

Existing Southwest Basin

The Existing Southwest Basin is located offsite at the very southwest corner of the property, just north of Three Oaks Recreation Drive; the majority of the site currently drains towards this basin. The Ex. SW Basin also provides detention for additional offsite areas to the north, west and south of the basin. The Ex. SW Basin has a NWL of 871.50 and HWL of 883.00 and currently provides 31.25 ac-ft of storage volume. The

Central Tributary Area (the onsite-only portion of the tributary area to this basin) drains to this basin via storm sewer and overland flow. The emergency overflows for both the Ex. Southeast Basin and Ex. Northwest Basin are directed into the Ex. SW Basin, as well. This basin, which is determined to be an infiltration basin, has had its soil tested for permeability rate in the geotechnical report. The geotechnical report determined the design soil permeability rate to be 5.02×10^{-3} cm/sec (7.11 in/hr); which will be used to determine the detention volume utilized by the existing and proposed tributary areas.

Floodplain

No floodplain is located within the development limits. Per the FEMA FIRMette map, the development is located in Zone X which is an area of minimal flood hazard. See Tab 2 for the FEMA FIRMette map.

Wetlands

No wetlands are located within the development limits. See Tab 2 for the National Wetlands Inventory Map.

PROPOSED CONDITIONS

The proposed site will consist of a residential development, a new access boulevard, a retail/restaurant area, and mass grading for a future commercial development. The stormwater design for the site includes four proposed detention basins serving the residential development and the expansion/regrading of two existing detention basins serving the entire site. The overall development will disturb 36.83 acres. Since the existing bank area is undisturbed but still tributary to the site detention basins, the tributary area for the development is 39.02 acres.

Proposed Conditions Impervious Coverage

The proposed overall development area has a composite CN of 87 and an impervious coverage of 71%. A Proposed Impervious Area Exhibit is provided in Tab 4.

Proposed Conditions Detention Improvements

The proposed development will result in an overall reduction in the impervious coverage on the property. While the proposed site will have less impervious coverage than current conditions, additional detention will be provided as part of this development to meet the current CLSO standards for the disturbed area. As part of the development, the Ex. SE Basin will be filled and no longer serve as a storage facility; 3.14 ac-ft of existing storage volume will be lost as a result. Also, a portion of the Ex. SW Basin will be filled as part of this development.

The four proposed basins within the multifamily and townhome developments (Basins A-D) and the proposed expansions to the Ex. NW Basin and Ex. SW Basin will provide sufficient combined volume to make up for the lost storage volume at a 1:1 ratio and to meet the additional detention volume requirement (per Bulletin 75 rainfall) for the hydrologically disturbed areas.

Proposed Modification to Existing Northwest Basin – Expansion

The proposed improvements involve regrading and expanding the Ex. NW Basin to gain an additional 2.76 ac-ft of storage volume in the basin, on top of the existing 2.95 ac-ft currently provided. This 2.76 ac-ft will provide detention for the northern portion of the development, much of which was previously tributary to the Ex. SW and SE basins. This will allow for the Ex. Modified SW Basin to detain for the eastern portion of the site that currently is tributary to the Ex. SE Basin (to be filled). The existing Liberty Road and offsite north/west areas tributary to the Ex. SW Basin will remain undisturbed; the intent is for all of the existing 2.95 ac-ft of storage to remain dedicated towards serving these areas – Only the additional 2.76 ac-ft of volume proposed with the expansion will be treated as available detention for the proposed development area.

Proposed Modification to Existing Southwest Basin – Expansion

The proposed improvements involve an expansion to the Ex. SW Basin which will result in 2.15 ac-ft of volume gained. The proposed NWL of the basin will be lowered to 868.0 at a 3:1 slope down from the current NWL of 871.5 to gain this additional storage volume. The expanded basin will provide 33.40 ac-ft of detention volume in the proposed conditions, compared to the current basin volume of 31.25 ac-ft. The offsite upstream areas tributary to this basin will remain undisturbed.

Proposed Basins A-D

The Proposed Basins A-D provide the remainder of the required volume for the development. The four proposed basins provide a combined storage volume of 1.51 ac-ft and will solely serve the residential development area. All basins are designed with a restrictor manhole and outlet pipe that ultimately outlet into the Ex. Modified SW Basin. Overflow weirs will also be provided for all basins to direct emergency overflow into the Ex. Modified SW Basin.

<u>Detention Basin Sizing</u>

As described in the above Methodologies section, proposed detention is serving to replace existing detention for the site and provide additional storage to meet the current standards of the CLSO. The proposed detention has been sized for the total tributary area of 39.02 acres using Bulletin 75 rainfall since some of the undisturbed area in the bank lot will have its drainage re-routed to the modified NW basin.

Existing Vs. Proposed Conditions Detention Volume Required

To determine the additional detention required to meet the current CLSO standards, Hydraflow Hydrographs was used to determine the utilized detention for the tributary area in the existing conditions using Bulletin 70 rainfall and compare that to the required detention for the tributary area in the proposed conditions using Bulletin 75 rainfall. The difference in volume between the existing and proposed models was taken as the additional detention volume required to be provided as part of the proposed development. The measured infiltration rates for the Ex. NW and SW basins and the assumed City minimum infiltration rate for the Ex. SE Basin were utilized in the models. The results are summarized in the table below.

Existing Vs. Proposed Conditions Detention Volume Required Summary				
Basin		Existing Conditions Volume Utilized (ac-ft)	Proposed Conditions Volume Utilized (ac-ft)	Additional Volume Required (ac-ft)
Existing	Ex. NW Basin	0.02	0.11	0.09
	Ex. SW Basin	2.22	2.69	0.47
	Ex. SE Basin	3.14	0	3.14
Total		**5.38**	**2.80**	**3.70**

Since the existing SE basin is being removed, the entirety of the existing volume utilized will be made up in the modified existing basins and proposed basins. Supporting calculations are provided in Tab 4, and the additional provided volume amount is further explained in the following section.

Existing Vs. Proposed Conditions Detention Volume Provided

In the proposed conditions, a total of 40.62 ac-ft of detention volume will be provided, compared to the 37.34 ac-ft of volume that is currently being provided. Of this 40.62 ac-ft of proposed conditions volume, 6.42 ac-ft is new storage volume that will be added across Basins A-D and the two basin expansions. Less the 3.14 ac-ft of volume lost from the Ex. SE Basin, the proposed conditions will provide a net detention volume gain of 3.28 ac-ft. Below is a summary of the provided detention volume calculations.

Existing Vs. Proposed Conditions Detention Volume Added Summary				
Basin		Existing Conditions Volume Provided (ac-ft)	Proposed Conditions Volume Provided (ac-ft)	Volume Added (ac-ft)
Existing	Ex. NW Basin	2.95	5.71	2.76
	Ex. SW Basin	31.25	33.40	2.15
Proposed	Basin A		0.25	0.25
	Bains B		0.26	0.26
	Basin C		0.58	0.58
	Basin D		0.42	0.42
Total		**34.20**	**40.62**	**6.42**

Proposed Conditions Drainage Patterns

The proposed site will be divided into 6 tributary areas for each of the basins. A Proposed Drainage Exhibit is provided in Tab 4 of this report depicting the proposed drainage areas and patterns described below.

- **Modified SW Basin Tributary Area = 20.45 AC** with a CN of 85, drains from northeast to southwest towards the modified SW Basin through a series of storm sewer collecting grass and pavement runoff and directing it into the basin.
- **Modified NW Basin Tributary Area = 12.89 AC** with a CN of 86, drains from northeast to southwest toward the modified NW Basin through a series of storm sewer collecting grass and pavement runoff and directing it into the basin.
- **Basin A Tributary Area = 1.19 AC** with a CN of 86, collects onsite runoff which drains from north to south toward proposed Basin A through a series of storm sewer collecting grass and pavement runoff and directing it into the basin.
- **Basin B Tributary Area = 1.05 AC** with a CN of 87, collects onsite runoff which drains from east to west toward proposed Basin B through a series of storm sewer collecting grass and pavement runoff and directing it into the basin.
- **Basin C Tributary Area = 2.15 AC** with a CN of 78, collects onsite runoff and some runoff from Water's Edge Blvd. which drains inward toward proposed Basin C mostly overland with some areas being conveyed through storm sewer.
- **Basin D Tributary Area = 1.29 AC** with a CN of 83, collects onsite runoff and some runoff from Water's Edge Blvd. which drains inward toward proposed Basin D through a series of storm sewer collecting grass and pavement runoff and directing it into the basin.

Below is a summary of the existing vs proposed tributary areas.

Existing Vs. Proposed Drainage Areas Summary			
Basin		Existing Tributary Area (ac)	Proposed Tributary Area (ac)
Existing	Ex. NW Basin	1.68	12.89
	Ex. SW Basin	28.51	20.45
	Ex. SE Basin	8.88	
Proposed	Basin A		1.19
	Bains B		1.05
	Basin C		2.15
	Basin D		1.29
Total		39.07	39.02

RUNOFF VOLUME REDUTION

Per the CLSO, Runoff Volume Reduction is required for developments resulting in at least 1 acre of hydrologic disturbance. The proposed development satisfies this requirement in the following ways:

- Per CLSO Section 595-26F(1): The Ex. NW and SW infiltration basins are being preserved.
- Per CLSO Section 595-26F(3): The impervious surface coverage on the site is being reduced (77% impervious coverage in existing conditions vs 71% impervious coverage in proposed conditions) by providing more open spaces/park areas.
- Per CLSO Section 595-26F(4): A vegetated swale along the south side of the residential development is proposed to convey stormwater and promote infiltration of runoff prior to reaching the Southwest Basin.
- Per CLSO Section 595-26F(5): Natural landscaping is proposed throughout the development per the Landscape Plans.

STORM SEWER DESIGN

Onsite storm sewer has been sized using Bulletin 75 rainfall data with an assumed time of concentration of 5 minutes for each of the individual tributary areas. The storm sewer has been designed to convey the 10-year storm with the exception of a few pipes that are required to convey the 100-year storm due to the lack of an overland 100-year flood route. Inlet capacity calculations are also provided to demonstrate that the proposed structures have the capacity needed to capture the proposed 10- or 100-year runoff and convey it

via storm sewer into the basins. Storm sewer, inlet capacity, and runoff coefficient calculations are provided in Tab 5.

OVERLAND FLOW

The site is graded to provide an overland flow route for runoff from the 100-year storm event to enter the detention basins without damaging any buildings. Where an overland overflow route cannot be provided, the storm sewer will be sized for the 100-year storm event. Overflow calculations were done at critical cross sections around the site to demonstrate that the city freeboard requirements are met. Since all basin tributary areas are less than or equal to 20 acres, at least 0.5 feet of freeboard is provided between the 100-year high water level and the adjacent building finished floor elevations at all critical cross sections. An overflow exhibit and associated calculations are provided in Tab 6

SUMMARY

We believe that the final stormwater design intent proposed for the Mixed Use Development at Water's Edge satisfies the City of Crystal Lake and McHenry County Stormwater Management Ordinance requirements. Detailed calculations will be provided at final engineering to prove that City and County requirements are met, including detention, storm sewer and overland overflow requirements.

Traffic Impact Study

Crystal Court
Multi-Use Re-Development
Crystal Lake, Illinois

June 30, 2023

Prepared for:

Prepared by:

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GHA GEWALT HAMILTON ASSOCIATES, INC.

Executive Summary

The following documents our approach, methodology and findings for a Traffic Impact Study of the proposed re-development of Crystal Court. The former "big box" regional shopping complex is proposed to be re-developed by the Fiduciary Real Estate Development, Inc, into a multi-use development consisting of a mix of retail and restaurant opportunities that are buffered from the Three Oaks Recreation Area by a combination of residential uses.

Some key considerations and findings of the updated study include:

- Traffic has been projected out to 2032 to reflect a 5-year buildout beyond the estimated buildout of the proposed re-development.
- The TIS considers a group of "fast casual" restaurants versus a single larger sit-down restaurant as the "fast casual" restaurants generally represent a more intense traffic generation. No drive-through restaurants are currently proposed or considered in our analyses.
- The proposed re-development is expected to generate considerably fewer Peak Hour and Daily (24-hour) trips than the previous regional shopping complex.
- The study scope includes the impacts of the recently approved *AMAZON* facility north of Congress Parkway on the study area intersections.
- Recommendations to accommodate traffic impacts have been made as part of our analyses and include:
  - Install a traffic signal at the Main Street Intersection with Liberty Road. This signal should be interconnected to US Rte 14 along Main Street.
  - Add a third exit lane, marked for right turns only to the Crystal Court approach to the US Rte 14 signalized intersection and provide a right turn overlap (green arrow) phase for exiting traffic. This could be accomplished by shifting the median to the west slightly to minimize the Right of Way impacts on adjacent parcels.
  - Restrict the Liberty Road at US Rte 14 intersection to ¾ movements (no left out) on the south leg. These minimal volumes can be accommodated at other locations.
  - Maintain the current alignment and operations of Three Oaks Recreation Area Drive and curve the new "spine road" for the development to intersect Three Oaks Recreation Area Drive at a "T" intersection. A separate right turn lane from the new "spine road" to Three Oaks Recreation Area Drive should be provided.
  - A pedestrian connection from Three Oaks Recreation Area Drive should be added along the east side of Main Street from Berkshire Lane to Three Oaks Recreation Area Drive. The new traffic signal at Main Street and Liberty Road should include pedestrian signals with a connection to the west to the existing Prairie Trail. Buffered bike lanes and completion of the missing sidewalks should be added along Liberty Road from Main Street to the Crystal Court development. A multi-use path should be added along Liberty Road to Three Oaks Recreation Area Drive along the west side of the development with a raised crosswalk for the resulting mid-block crossing of Three Oaks Recreation Area Drive would also include pedestrian signals to connect the existing and proposed path along the east side of Main Street to the existing path on the west side.
  - Consider some form of traffic calming (e.g., speed tables or raised crosswalks) within the residential component between the future grocery / restaurant area and Liberty Road.
  - Consider adjustment to signal timings at US Rte 14 / Main Street intersection traffic signal to alleviate projected LOS E delays.

- The north-south and east-west portions of Three Oaks Recreation Area Drive shall be signed as a public street with pavement markings. Relocate the existing security gates to the park entrance near the gate house.
- Overall, the impacts of the proposed development can be accommodated by the area roadways through the implementation of the recommended traffic improvements summarized above. Given the regional nature of US Route 14 and IDOT's desire to prioritize through movements along the corridor, some traffic movements, specifically unsignalized left turns in and out of the development will have longer than desirable wait times and associated queues. These delays and queues however are typical and to be expected for side streets and minor access points located along major arterials such as US Route 14.
- City Staff will continue to work with the developer regarding the parking requirements.

This Summary and Study have been prepared by



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