NOTE: DETAILS ARE NOT TO BE CHANGED IN ANY WAY. LEAVE ALL DETAILS ON SHEET EVEN IF THEY DO NOT APPLY TO CURRENT IMPROVEMENTS. CHANGING OF DETAILS DOES NOT CHANGE REQUIREMENTS.

EXHIBIT NO. 13

THESE STANDARDS SUPERCEDE ALL OTHER STANDARDS

LAKE ZURICH UTILITY MATERIAL STANDARDS

SANITARY SEWER

Pipe	PVC, SDR – 26, meeting requirements of ASTM – 3034 Gasketed Joint / Cell Classification 12454 – B Depth over 15 feet – SDR 12 or 18 Service Laterals: PVC SCH 40 or better, SDR 35 or 26
Bedding Materials	1/4" to 3/4" crushed stone, size CA–7 to CA–11, 12" over the top of pipe
Manholes	Pre–Cast Concrete with Bench and Rubber Boots Cast Iron Frames and Lids: Neenah Type 1 self–sealing Marked "Sanitary Sewer" WrapidSeal Manhole Encapsulation System is required on all sanitary manholes Contractor shall be qualified by manufacturer's rep. to install WrapidSeal Exterior banding between barrel and cone sections is required Manhole must be water tight and sealed from the outside Fiberglass steps
Casing	The casing must be ductile iron or steel Manufactured pipe chocks must be used between the pipe and casing Pea gravel must be jetted through the casing, with concrete mortar on the ends Casing to be installed as required by the "Standard Specifications for Water and Sewer Construction in Illinois" 5th Edition, 1996, with all services considered as mains
Forcemain	If PVC pipe (C900) is used, #6 solid copper tracing wire is required for locating purposes

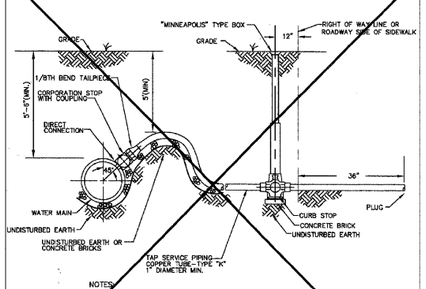
WATERMAIN

Fire Hydrants	Clow Medallion, 5 1/4 " with Auxiliary Valve Kennedy Guardian, 5 1/4 " with Auxiliary Valve Mueller Centurion A – 423 with Auxiliary Valve 5 1/4 " Breakaway (2 hose nozzles and 1 pumper nozzle) Painted Safety Red
Pipe	Class 52 Ductile Iron, cement lined, Megalugs Series 1100 required at all fittings Wrapping the watermain with polyethylene film is not permitted
Bedding Materials	1/4" to 3/4" crushed stone, size CA–7 to CA–11, 12" over the top of pipe
Valves	Clow, American Flow Control Kennedy Resilient Wedge American Flow Control AFC series 500 NRS Resilient Wedge Valve A/WW General Mueller Resilient Wedge Valve
Manholes	Non–Rising Stem, Mechanical Joint Cast Iron Frames and Lids: Neenah Type 1 self–sealing Marked "Water"
Casing	The casing must be ductile iron or steel Manufactured pipe chocks must be used between the pipe and casing Pea gravel must be jetted through the casing, with concrete mortar on the ends Casing to be installed as required by the "Standard Specifications for Water and Sewer Construction in Illinois" 5th Edition, 1996, with all services considered as mains
Corporation Stop	Mueller H – 15000 – 1" Size AY McDonald 4701
Roundway	Mueller H–15154 – 1" Stop Minneapolis Pattern AY McDonald 6104
B–Box	Mueller H – 10300 Upper section inside diameter 1 1/4" Mueller H – 10302 Upper section inside diameter 1 1/2"
Service Line	1" Type K Copper, or as required by plumbing code
Tapping Saddle	Double Banded Stainless Steel Tapping Sleeve with 1" corporation stop
Hardware	All nuts and bolts below grade shall be stainless steel

WATERMAIN INSTALLATION SPECIFICATIONS

1. Watermains shall not be exposed for any reason without the approval of the Superintendent – Utilities.
2. Filling mains, pressure connections, pressure tests, tie–ins, and chlorinations require 48–hour notification to the Superintendent – Utilities.
3. Pressure connections and tie–ins to the Village systems will be scheduled and witnessed by the Utilities Division personnel.
4. Once mains are tied to the Village system, no valves or hydrants shall be operated by anyone other than Utility Division personnel.
5. Filling and flushing will be done by the Utilities Division only.
6. Water for pressure tests will be supplied by the Utilities Division, but it is the responsibility of the contractor to provide a backflow preventer or an approved anti–siphon method before the pump.
7. Corporation cocks and 1" copper lines for the chlorination and sampling shall be installed at locations determined by the Utilities Division.
8. Chlorination will not be performed on service lines until all first permanent water valves are installed.
9. Water vaults for 8" valves and larger must have an inside diameter of 60".

EXHIBIT NO. 18



NOTES:
1. USE AN EXTRA TWO FEET OF COPPER WATER SERVICE CONNECTION BETWEEN THE CORPORATION STOP AND THE CURB STOP TO SERVE AS STRAIN RELIEF.
2. CURB BOX SHALL HAVE A PLUG TYPE LID.
3. SEE EXHIBIT NO. 13 FOR APPROVED FITTING DESCRIPTIONS.

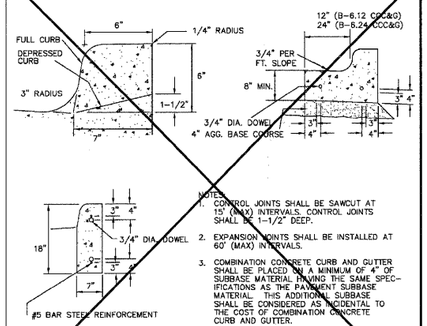
EXHIBIT NO. 19

STREET	RIGHT–OF WAY WIDTH	PAVEMENT WIDTH*	RADIUS OF HORIZ. CURVES	LENGTH OF VERT. CURVES	TANGENT BETWEEN HORIZ. REVERSE CURVES	MAXIMUM GRADIENT	MINIMUM GRADIENT	CLEAR SIGHT DISTANCE
MAJOR	100 FT.	54 FT.	500 FT.	200 (a) FT.	200 FT.	5%	0.5%	500 FT.
COLLECTOR	80 FT.	44 FT.	400 FT.	200 (a) FT.	200 FT.	6%	0.5%	400 FT.
MINOR	60 FT.	30 FT.	150 FT.	100 (b) FT.	–	6%	0.5%	200 FT.
CUL–DE–SAC	120 FT.	88 FT.	150 FT.	100 (b) FT.		6%	0.5%	200 FT.
MARGINAL ACCESS	80 FT.	30 FT.	400 FT.	200 (a) FT.	100 FT.	6%	0.5%	200 FT.
IN BUSINESS AND INDUSTRIAL DIST.	80–100 FT.	54 FT.	500 FT.	200 (a) FT.	200 FT.	2%	0.5%	500 FT.

*PAVEMENT WIDTHS ARE MEASURED BACK OF CURB TO BACK OF CURB AND INCLUDE ADDITIONAL WIDTH FOR ON–STREET PARKING.

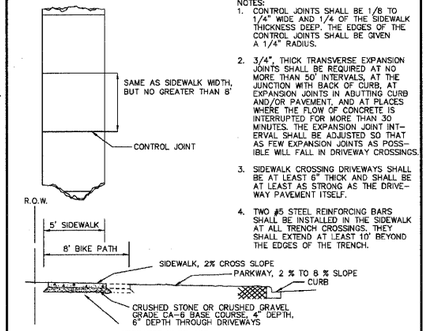
(a) FIFTY (50) FEET FOR EACH ONE (1) PERCENT ALGEBRAIC DIFFERENCE OF GRADE BUT IN NO CASE LESS THAN TWO HUNDRED (200) FEET.
(b) FORTY (40) FEET FOR EACH ONE (1) PERCENT ALGEBRAIC DIFFERENCE OF GRADE BUT IN NO CASE LESS THAN ONE HUNDRED (100) FEET.

EXHIBIT NO. 24



NOTES:
1. CONTROL JOINTS SHALL BE SAWCUT AT 15' (MAX) INTERVALS. CONTROL JOINTS SHALL BE 1–1/2" DEEP.
2. EXPANSION JOINTS SHALL BE INSTALLED AT 60' (MAX) INTERVALS.
3. COMBINATION CONCRETE CURB AND GUTTER SHALL BE PLACED ON A MINIMUM OF 4" OF SUBBASE MATERIAL MEETING THE SAME SPECIFICATIONS AS THE PAVEMENT SUBBASE MATERIAL. THIS ADDITIONAL SUBBASE SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF COMBINATION CONCRETE CURB AND GUTTER.
4. SUBBASE IS TO BE CA–6 OR GRADE 9.

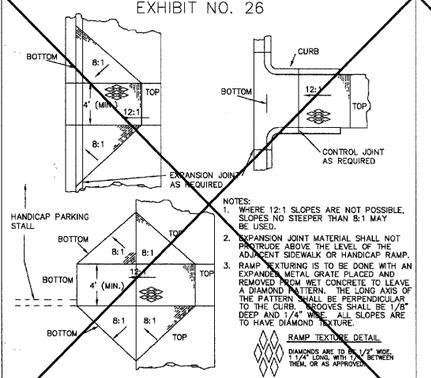
EXHIBIT NO. 25



NOTES:
1. CONTROL JOINTS SHALL BE 1/8 TO 1/4" WIDE AND 1/4 OF THE SIDEWALK THICKNESS DEEP. THE EDGES OF THE CONTROL JOINTS SHALL BE GIVEN A 1/4" RADIUS.
2. 3/4", THICK TRANSVERSE EXPANSION JOINTS SHALL BE REQUIRED AT NO MORE THAN 50' INTERVALS, AT THE JUNCTION WITH BACK OF CURB, AT EXPANSION JOINTS IN ABUTTING CURB AND/OR PAVEMENT, AND AT PLACES WHERE THE FLOW OF CONCRETE IS INTERRUPTED FOR MORE THAN 30 MINUTES. THE EXPANSION JOINT INTERVAL SHALL BE ADJUSTED SO THAT AS FEW EXPANSION JOINTS AS POSSIBLE WILL FALL IN DRIVEWAY CROSSINGS.
3. SIDEWALK CROSSING DRIVEWAYS SHALL BE AT LEAST 6" THICK AND SHALL BE AT LEAST AS STRONG AS THE DRIVEWAY PAVEMENT ITSELF.
4. TWO #5 STEEL REINFORCING BARS SHALL BE INSTALLED IN THE SIDEWALK AT ALL TRENCH CROSSINGS. THEY SHALL EXTEND AT LEAST 10' BEYOND THE EDGES OF THE TRENCH.

WATER SERVICE CONNECTION

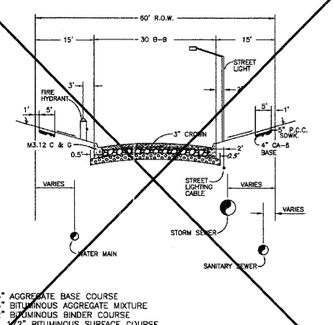
EXHIBIT NO. 26



NOTES:
1. WHERE 12:1 SLOPES ARE NOT POSSIBLE, SLOPES NO STEEPER THAN 8:1 MAY BE USED.
2. EXPANSION JOINT MATERIAL SHALL NOT PROTRUDE ABOVE THE LEVEL OF THE ADJACENT SIDEWALK OR HANDICAP RAMP.
3. RAMP TEXTURING IS TO BE DONE WITH AN EXPANDED METAL GRATE PLACED AND REMOVED FROM WET CONCRETE TO LEAVE A DIAMOND PATTERN. THE LONG AXIS OF THE PATTERN SHALL BE PERPENDICULAR TO THE CURB. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE. ALL SLOPES ARE TO HAVE DIAMOND TEXTURE.

DIAMONDS ARE TO BE 1 1/2" WIDE, 1 1/4" LONG, WITH 1/4" BETWEEN THEM, OR AS APPROVED.

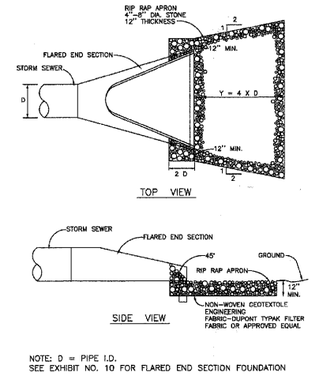
MINIMUM STANDARDS FOR STREET DESIGN



3" AGGREGATE BASE COURSE
5" BITUMINOUS AGGREGATE MIXTURE
2" BITUMINOUS BINDER COURSE
1 1/2" BITUMINOUS SURFACE COURSE

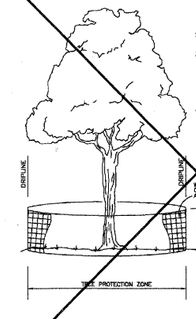
SEE EXHIBIT 12 AND EXHIBIT 19 FOR OTHER STREET DIMENSIONS

BARRIER CURB



NOTE: D = PIPE I.D.
SEE EXHIBIT NO. 10 FOR FLARED END SECTION FOUNDATION

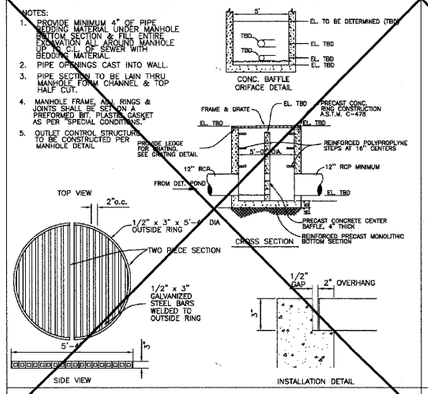
SIDEWALK



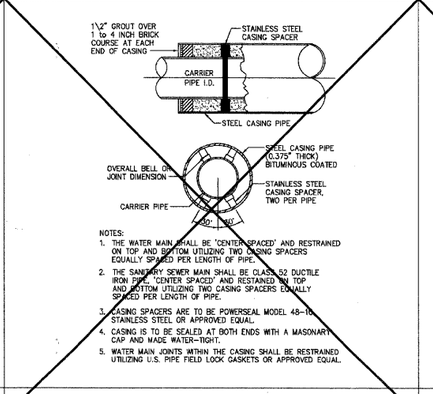
1. THE CONTRACTOR SHALL ERECT A TEMPORARY FENCE AROUND ALL TREES WITHIN THE CONSTRUCTED AREA. THE FENCE SHALL BE PLACED AT THE DRIP–LINE OF THE TREE OR AS APPROVED BY ENGINEER.
2. THE FENCE SHALL BE ERECTED AT THE DRIP–LINE OF THE TREE OR AS APPROVED BY ENGINEER.
3. TREES DESIGNATED FOR PROTECTION SHOULD BE WATERED DURING PERIODS OF DROUGHT WHEN THERE IS LESS THAN ONE INCH OF RAIN FALL DURING ANY 30 DAY PERIOD. THE AMOUNT OF WATER PER TREE SHOULD BE APPLIED UPON 40 GALLONS PER INCH DIAMETER. THE WATER SHOULD BE APPLIED SO THAT THE WATER SLOWLY SOAKS INTO THE GROUND AND DOES NOT RUN OFF.
4. IN AREAS WHERE THE "TREE PROTECTION ZONE" FENCING CANNOT BE MAINTAINED WOOD CHIPS OR OTHER APPROVED MULCH MUST BE APPLIED TO A DEPTH OF 6" OVER THE AREA NOT PROTECTED BY FENCING. ENGINEER SHALL BE CONSULTED PRIOR TO PLACEMENT AND REMOVAL OF THE MULCHING. AREA SHALL BE INCIDENTAL TO THE ESTABLISHMENT OF THE "TREE PROTECTION ZONE."

WOOD LATH SNOW FENCE, OR AS THE SITUATION DICTATES AS APPROVED BY ENGINEER

UTILITY MATERIAL STANDARDS

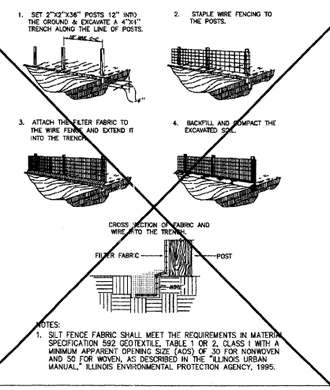


HANDICAP RAMP



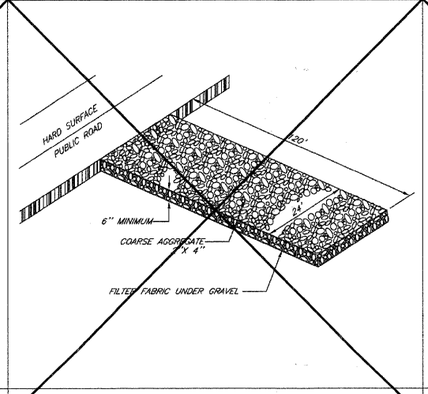
NOTES:
1. THE WATER MAIN SHALL BE "CENTER–SPACED" AND RESTRAINED ON TOP AND BOTTOM UTILIZING TWO CASING SPACERS EQUALLY SPACED PER LENGTH OF PIPE.
2. THE SANITARY SEWER MAIN SHALL BE CLASS 52 DUCTILE IRON PIPE, "CENTER SPACED" AND RESTAINED ON TOP AND BOTTOM UTILIZING TWO CASING SPACERS EQUALLY SPACED PER LENGTH OF PIPE.
3. CASING SPACERS ARE TO BE POWERSEAL MODEL 48–16 STAINLESS STEEL OR APPROVED EQUAL.
4. CASING IS TO BE SEALED AT BOTH ENDS WITH A MASONARY CAP AND MADE WATER–TIGHT.
5. WATER MAIN JOINTS WITHIN THE CASING SHALL BE RESTRAINED UTILIZING U.S. PIPE FIELD LOCK GASKETS OR APPROVED EQUAL.

TYPICAL MINOR STREET DESIGN DETAIL



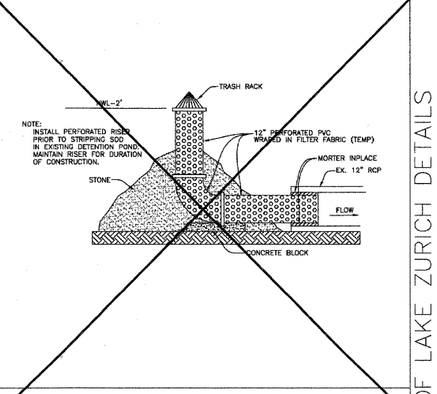
NOTES:
1. SILT FENCE FABRIC SHALL MEET THE REQUIREMENTS IN MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS 1 WITH A MINIMUM APPARENT OPENING SIZE (AOS) OF 30 FOR NONWOVEN AND 50 FOR WOVEN, AS DESCRIBED IN THE "ILLINOIS URBAN MANUAL," ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, 1995.

FLARED END SECTION RIP RAP



GRAVEL CONSTRUCTION ENTRANCE

TREE PROTECTION FENCE



TEMPORARY PERFORATED RISER DETAIL

OUTLET CONTROL STRUCTURE

PIPE CASING DETAIL

SILT FENCE DETAIL

VILLAGE OF LAKE ZURICH DETAILS

VILLAGE OF LAKE ZURICH
70 EAST MAIN STREET
LAKE ZURICH, IL 60047
(847) 540–1694

REVISIONS

VILLAGE OF LAKE ZURICH DETAILS

SHEET 2

PROJECT NO.	DETAILS
DATE	1/10/03
SCALE	NTS
DESIGNED BY	DESIGN
DRAWN BY	DTM
CHECKED BY	EL

SHEET 2 3

VILLAGE OF LAKE ZURICH DETAILS

FILE NAME =	DESIGNED LSM	REVISED –
	DRAWN AO	REVISED –
USER NAME = TRICE	CHECKED OIU	REVISED –
PLOT DATE = 03/28/2011	DATE 03/28/2011	REVISED –

2IM GROUP
2IM Group, LLC
203 North Wabash Avenue
Suite 804
Chicago, IL 60601

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VILLAGE OF LAKE ZURICH
STANDARD DETAILS

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3504	09–00071–00–SW	LAKE	27	21
		CONTRACT NO. 63589		
		ILLINOIS FED. AID PROJECT		