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GENERAL SITE-WORK:

1. Pre-Construction meeting shall be conducted with City Staff and all Contractors prior to commencing any grading or underground utility construction activities (schedule meeting with the Engineering Division Inspection Services Coordinator at 815-356-3915).
2. 24-hour Emergency contact numbers shall be provided to City Staff at the Pre-Construction meeting.
3. Working hours shall be limited to the hours of 7:00 a.m. and 7:00 p.m. on weekdays only (except in cases of emergencies). Non-emergency work on weekends or holidays is not permitted per City Code except under a separate permit from the City Engineer, limited to a period of not more than three days and renewable only once.
4. Public/private streets shall be kept free of dirt and debris with regular cleaning, sweeping, and scraping conducted by the Contractor. Junk and debris shall not be allowed to accumulate, blow, or scatter onto streets or adjacent properties.
5. J.U.I.E. shall be contacted for utility locations on-site and in the adjacent rights-of-way.
6. Contractor shall provide and maintain fencing, barricades, traffic control signs, and other safeguarding measures during the course of all work to protect the public from the construction operations.
7. Maintain access to adjacent streets during construction. No closing of streets unless approval first obtained from the agency with jurisdiction (City Engineering Division, McHenry County Department of Transportation, Illinois Department of Transportation, etc).
8. Any damage to public right-of-way, public utilities, streets, curb, etc. shall be repaired/replaced as soon as possible and as directed by the Engineering Division.
9. The contractor shall give the City of Crystal Lake, Illinois Department of Transportation, and any other governmental agency having jurisdiction, at least two (2) working days notice excluding Saturday and Sunday prior to the initiation of any phase of construction. Contractor shall immediately notify if construction has ceased and renew the two (2) working day notification thereafter.
10. The Contractor shall be responsible for obtaining all required permits for construction along or across existing streets or highways. The Contractor shall make arrangements for the proper bracing, shoring and other protection of all roadways before construction begins.
11. The owner is responsible for the cost of overtime inspection beyond the normal eight (8) hour day, including weekends and holidays.

GRADING:

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

GE-02a

Approved: City Engineer

Victor C. Ramirez, P.E.  
Director of Engineering and Building

Drawing Name

STANDARD NOTES AND SPECIFICATIONS

Drawing Number

GE-02a

Date: 6/1/2007

Drawn EM

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1-ENGINEERING AND BUILDING-ENGINEERING-DETAILS AND STANDARDS

TOPSOIL STOCKPILING:

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

EROSION CONTROL:

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

UNDERGROUND UTILITY:

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

Approved: City Engineer

Victor C. Ramirez, P.E.  
Director of Engineering and Building

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GE-02b

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1-ENGINEERING AND BUILDING-ENGINEERING-DETAILS AND STANDARDS

GE-02b

SANITARY SEWER:

1. Non-shear stainless steel couplings shall be used when connecting sewer pipes of dissimilar materials and pipe with no hub joints. When connecting to an existing sanitary sewer by means other than an existing wye or manhole, contractor shall use a Shower-Tap and hub-wye or hub-toe saddle.
2. Unless an alternate method is approved, water stop gaskets shall be provided at all sanitary sewer manhole connections. Type and manufacturer to be approved by the City.
3. PVC plastic sewer pipe and fittings of sizes 4-inch through 15-inch shall conform to the latest revised specification requirements of ASTM D3034 for type PSM polyvinyl chloride (PVC) sewer pipe and fittings of minimum wall thickness SDR 35.
4. Joints shall be either the solvent weld type conforming to the latest revised specification requirements of ASTM D2564 and ASTM D2855, or elastomeric gasket type conforming to the latest revised specification requirements of ASTM D1889 and ASTM D3212.
5. A thicker walled pipe such as SDR 26 may be specified by the engineer depending on design and/or field conditions.
6. PVC plastic sewer pipe and fittings of sizes 18-inch through 36-inch shall conform to the latest revised specification requirements of ASTM F678 or polyvinyl chloride (PVC) large diameter ribbed gravity sewer pipe and fittings, with integral bell gasketed joints and elastomeric gaskets to form a watertight seal conforming to the latest revised specification requirements of ASTM F477 or ASTM D3212.
7. Pipe and fittings shall be the products of one approved manufacturer only, and there shall not be any mixing of pipe and fittings of different manufacturers.
8. The handling and installation of pipe, assembly or joints, and manhole connections shall be in accordance with the manufacturer's recommendations.
9. Gasket-type waterstop collars consist of a neoprene collar and a stainless steel band or other approved manhole waterstop shall be installed wherever the pipe passes through the manhole walls to provide a watertight joint to prohibit infiltration into the sewer system.
10. PVC pipe shall be installed in accordance with the latest revised specification requirements of ASTM D2321 using either compressed class I or class II granular embankment materials for bedding, haunching and initial backfill of 12 inches over the top of pipe to provide the necessary support for the pipe so that the maximum deflection does not exceed five percent (5%) of the pipe's original internal diameter.

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

GE-02c

Approved: City Engineer

Victor C. Ramirez, P.E.  
Director of Engineering and Building

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GE-02c

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1-ENGINEERING AND BUILDING-ENGINEERING-DETAILS AND STANDARDS

WATER MAIN:

1. Thrust blocking shall be installed on water mains at all bends, tees, elbows, etc. except as noted below.
2. Thrust blocks not permitted with 45° vertical bends in water main these shall be restrained with Mega-Lug or equivalent.
3. Water main shall be ductile iron pipe, Class 52 conforming to A.N.S.I. A-21.51 or AWWA C-151.
4. Gaskets and cast iron fittings shall conform to A.N.S.I. A-21.41 or AWWA C-110 and C-111 water main shall be cement lined in conformance with A.N.S.I. A-21.4 or AWWA C-104.
5. Minimum cover from finished grade to top of water main shall be six (6) feet; Maximum cover shall be eight (8) feet.
6. Water Main Taps: an Illinois licensed plumber is required for any water main tap.
7. All water mains shall be subjected to a pressure test and a separate leakage test at system pressure for 24 hours by the Contractor. Hydrostatic pressure test and leakage shall be based on 125 psi for two (2) hours. Water mains shall be chlorinated in accordance with the Standard Specifications.
8. The Underground Contractor shall consider incidental to the contract any chlorination and testing of existing water main where connections to and conclusion of such mains is included on the drawings. In the event that the pressure attributable to defective original workmanship and material, then the Contractor shall be entitled to additional payment for correcting the deficiencies.

PAVING:

1. All subgrade and base shall be proof-rolled and approved by the Engineering Division prior to base or binder installation.
2. Subgrade and proposed pavements shall be finished by the Excavation Contractor to within 0.1 foot plus or minus, of plan elevation.
3. The Paving Contractor shall ensure that the subgrade has been properly prepared and that the finished top of subgrade elevation has been graded within the tolerances allowed in these specifications. Unless the Paving Contractor advises the owner and engineer in writing prior to fine grading for base course construction, it is understood that the Contractor has approved and accepts responsibility for the subgrade.
4. For the purpose of providing handicap accessibility and complying with the American Disability Act and City Standards, curbs shall be depressed at locations where public walks or pedestrian paths intersect curb lines at street intersections and other locations as directed.
5. 1/2 inch thick non-wooded fibre expansion joints with two (2) No. 4 plain round steel dowel bars shall be installed at designated intervals and at all P.C., P.T., curb returns and at the end of each pour. Alternate ends of the dowel bars shall be greased and fitted with metal expansion tubes.
6. 3/4 inch thick fibre expansion joints shall be used in every case where the sidewalk coincides with the curb and gutter. Contraction joints shall be saw cut at designated intervals in the curb. The cost of these joints shall be considered as incidental to the cost of the contract.
7. All poured in place concrete curb and gutter shall incorporate two (2) No. 4 reinforcing bars installed wherever the curb and gutter crosses utility service lines, the cost of which shall be considered incidental to the cost of concrete curb and gutter.
8. Sidewalks (where required) shall be of the thickness and dimensions as shown in the construction plans. All sidewalk concrete shall be a minimum of 6.1 bag mix (or IDOT class S1 concrete) and shall develop a minimum of 3,500 psi compressive strength at twenty eight (28) days. Contraction joints shall be set at four (4) foot centers, and one-half inch (1/2 inch) prewooded fibre expansion joints at forty (40) foot centers and where the sidewalk meets the curb or another sidewalk, or at the end of each pour. All sidewalks constructed over utility trenches and/or abutting driveway aprons shall be reinforced with three (3) No. 4 reinforcing bars (10 foot minimum length).

Approved: City Engineer

Victor C. Ramirez, P.E.  
Director of Engineering and Building

Drawing Name

STANDARD NOTES AND SPECIFICATIONS

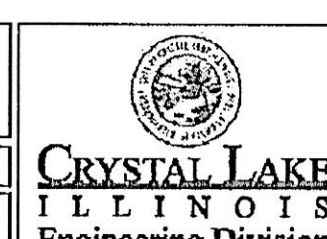
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1-ENGINEERING AND BUILDING-ENGINEERING-DETAILS AND STANDARDS

GE-02d

02/01/08			
12/07/07	3	CITY COMMENTS	
10/25/07	2	CITY COMMENTS	
09/07/07	1	CITY COMMENTS	
08/28/07		ISSUED FOR PERMIT	
	No.	Description	Date

SPECIFICATIONS  
AL & JOE'S RESTAURANT  
PARTNERS IN DESIGN  
CRYSTAL LAKE, IL

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