GENERAL STRUCTURAL NOTES

A. GENERAL

1. Contractor shall visit and become familiar with the project site and local conditions and verify all data pertaining to the site and its relationship to this work.

2. Contractor shall coordinate and verify all dimensions and elevations with architectural, mechanical, electrical and civil drawings. Where discrepancies occur, it is the contractor's responsibility to notify the architect prior to construction. Contractor shall verify the location of anchor bolts, plates, cast-in-place angles, location and sizes of openings, embedments and other miscellaneous items prior to placement of concrete.

3. All sections, details and notes shown on the drawings are intended to be typical and shall be construed to apply at any similar situation elsewhere on the job, except where a different detail is shown. Prepare working drawings to show the application of typical sections and details for similar situations.

B. DESIGN CODES

1. International Building Code (IBC), 2006.

2. ACI 350-06

C. CONSTRUCTION CODES

1. Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Adopted January 1, 2012 and Supplemental Specifications and Recurring Special Provisions, Adopted January 1, 2012.

D. DESIGN LOADS

1. Design Live Loads

1st Floor	150 psf
Other Floors	100 psf
Stairs	100 psf
Roof	25 psf

2. Roof Snow Load

Flat Roof Snow Load	18 psf
Snow Exposure Factor	1.0
Snow Load Importance Factor	1.0
Thermal Factor	1.0

3. Ground Snow Load 25 psf

4. Wind Load

Basic Wind Speed	90 mph
Wind Importance Factor	1.0
Wind Exposure	B
Main Wind Force Resisting System	22 psf

5. Earth Pressure

Equivalent Fluid Pressure	
Above Water Table	55 psf
Below Water Table	65 psf
Environmental Durablility Factor, S_d	1.69

6. Seismic Design Data

Seismic Importance Factor	1.0
Seismic Use Group	1
S_S	0.193%g
S_1	0.064%g
Site Class	C
Site Coefficient, F_a	1.2
Site Coefficient, F_v	1.7
Spectral Response Coefficient, S_{DS}	0.154
Spectral Response Coefficient, S_{D1}	0.073
Design Category	B
Basic Seismic Force Resisting System	Bearing Wall System
Design Base Shear	5.9 K
Seismic Response Coeff, C_S	0.103
Response Modification Factor	2
Analysis Procedure	Simplified Design Procedure

E. FOUNDATIONS

1. The soils and foundation engineering report is for informational purposes only and shall not be considered part of the contract documents, furthermore, no warranty is made by the owner with regard to the completeness and accuracy of the subsurface investigation data, soil test data or statements and interpretations given in the Geotechnical Investigation Report prepared by Geo Services, Inc. on May 13, 2011.

2. Water levels indicated on the boring logs may be subject to seasonal and/or annual variations. A dewatering system of sufficient capacity shall be walled and operated to maintain the construction area free of water at all times.

3. The bearing value of the soil was determined by field exploration and laboratory analysis. The foundation design is based on a net allowable bearing pressure of 3500 psf.

4. All footing excavations shall be inspected, prior to concrete placement, by a soils engineer to verfy suitable bearing material of capacity as specified.

5. Notify the Engineer when additional excavation is required to reach suitable bearing material.

6. The soils engineer shall certify in writing that all foundations were placed on soil with the bearing value as specified.

7. Within the excavation area of the foundations, all vegetation, topsoil, previously placed fill and unsuitable soils shall be removed. all footings shall bear on virgin soil or properly placed and compacted engineered fill.

8. Do not place backfill against substructure walls until floor slabs supporting top and bottom of the walls have attained a compressive strength of 3000 psi as indicated by cylinder testing. Place backfill evenly against each side of substructures to produce equal and opposite lateral pressures, the difference in elevation not to exceed 1-FT.

F. CONCRETE

1. Concrete work shall be in accordance with the Illinois Department of Transportation Standard Specifications Section 503.

2. All cast-in-place concrete shall be f'c = 3,500 psi at 14 days as shown in the drawings and in accordance with the Illinois Department of Transportation Standard Specifications, unless noted otherwise.

3. Reinforcement bars designated (E) shall be epoxy coated.

4. Reinforcement bar bending dimensions are out to out.

5. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths per line.

6. Reinforcement bending details shall be in accordance with the "Manual of Standard Practice for Detailing Reinforced Concrete Structures," ACI 315, latest edition.

7. Reinforcement bar splices shall be in accordance with the following table unless shown otherwise on the drawings.

	CLASS "B" SPLICE f'c = 3,500 psi		CLASS "C" SPLICE f'c = 3,500 psi	
Size	Top Bars	Other Bars	Top Bars	Other Bars
#4	2'-3"	2'-0"	2'-11"	2'-7"
#5	2'-10"	2'-6"	3'-8"	3'-3"
#6	3'-4"	3'-0"	4'-5"	3'-10"
#7	4'-6"	3'-11"	5'-10"	5'-2"
#8	5'-10"	5'-2"	7'-8"	6'-9"
#9	7'-5"	6'-7"	9'-8"	8'-7"
#10	9'-5"	8'-4"	12'-4"	10'-10"
#11	11'-7"	10'-2"	15'-1"	13'-4"

8. Unless otherwise shown on the drawings. rebar clearances shall be as follows:

Cast against earth	3"
Exposed to earth or weather	2"
All other locations	$1\frac{1}{2}$"

9. All exposed concrete edges shall have a $\frac{3}{4}$" x 45? chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

10. Dowel holes shall be drilled $\frac{1}{4}$" larger than the diameter of the dowels. Depth of embedment shall be as shown on the drawings.

G. CONSTRUCTION

1. Contractor shall follow written dimensions only and not scale dimensions from the contract plans for construction purposes.

2. No construction joints except those shown on the plans will be allowed unless approved by the Engineer.

3. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 1-800-892-0123 and the department.

ABBREVIATIONS

B.F.	back face
℄	centerline
cts.	centers
cl.	clearance
ϕ	diameter
E.F.	each face
elev.	elevation
exist.	existing
F.F.	front face
I.F.	inside face
jt.	joint
max.	maximum
min.	minimum
no.	number
O.F.	outside face
PJF	preformed joint filler
prop.	proposed
typ.	typical
req'd.	required
spa.	spaces

SYMBOLS

■ waterstop

INDEX OF DRAWINGS

STATE OF ILLINOIS
WILLIAM P. MURPHY
081-004491
CHICAGO IL
LICENSED STRUCTURAL ENGINEER

Expires 11-30-2012

Date: 3/22/2012

for drawings SA-01 thru SA-34

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Structures	Cu. Yd.	617.0
Reinforcement Bars, Epoxy Coated	Pound	70950
Bar Splicers	Each	12
Sheet Waterproofing Membrane System	Sq. Yd.	600.0
Braced Excavation	Cu. Yd.	2730.0

KNIGHT
Engineers & Architects

	DESIGNED - WPM	REVISED -	
	CHECKED - TB	REVISED -	
SCALE - NONE	DRAWN - TB	REVISED -	
DATE - 3/22/2012	CHECKED - WPM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES
PUMP STATION 47
SHEET NO. SA-01 OF 34 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338/IL 59	2011-035-I	DUPAGE	181	76
		CONTRACT NO. 60P41		
	ILLINOIS	FED. AID PROJECT		