#### Bench Mark:

BM-10R Top of Chain Bolt of Fire Hydrant at SW Corner of Higgins and Oriole El. 655,73

# Salvage:

Metal Railing

# Existing Bridge Description:

Structure No. 016-1101 was built in 1958 as the N. Oriole Avenue Grade Separation. The Superstructure consists of a four span simple, Precast, Pretensioned Concrete Beam system, with a 7" thick reinforced concrete deck and a 2" concrete wearing surface. The span lengths from north to south are  $39'-3^{5}8''$ , 81'-6'', 81'-6'' and  $36'-0^{5}8''$ . Total length, back to back of abutments is 238'-4'4". The beam spacing is 6'-6' except for the two center stringers which have spacing of 4'-0'. The substructure consists of two reinforced concrete pile bent abutments with wing walls and three reinforced concrete piers. Both abutments and all three piers are founded on reinforced concrete pile caps and metal shell cast-in-place concrete piles. The deck out-to-out dimension is 61'-0" and varies at ends. The deck cross section consists of two 11'-0" traffic lanes in each direction and a 8'-6" sidewalk on each side. There are aluminum railings on either side of the deck. The abutment bearings and the bearing at pier 2 are fixed. Piers 1 and 3 provide expansion for all spans through sliding plate bearings. Bridge will be closed to traffic during construction. All adjacent streets and highways to remain open.

> STATION 8+00.00 REBUILT 201 BY STATE OF ILLINOIS SECTION 1515.1-B LOADING HL-93 STR. NO. 016-1101

# NAME PLATE

Std. 515001

The existing name plate if available is to be cleaned and attached adjacent to the new name plate. Cost is included with Pay Item "Name Plates".

#### Seismic Data

Soil Site Class: = D LRFD Seismic Preformance Zone (SPZ) = 1 Design Spectral Acceleration at 1.0 sec.  $(S_{DI})$  = .084g for Site Class D Design Spectral Acceleration at 0.2 sec.  $(S_{DS}) = .0144g$  for Site Class D

### Design Specification

2010 AASHTO LRFD

Bridge Design Specifications with 2010 Interims

#### Loading HL-93

Allow 50 psf for future wearing surface

Design Stresses New Construction <u>Concrete</u>

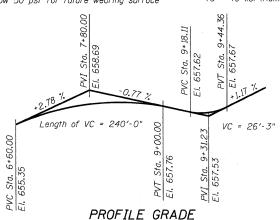
f'c = 3,500 psi

## fy = 60 ksi <u>Steel</u>

fy = 50 ksi (M270 Grade 50) fy = 36 ksi (M270 Grade 36)

# Existing Construction

f'c = 3,000 psi fs = 40 ksi (Reinf.)



N. ORIOLE AVENUE

Expires 11-30-2012

APPROVED FOR STRUCTURAL ADEQUACY (MP)

Parapet and Fence

IDOT Std. R-32

EL. 632.50

Proposed

Improvement

3'-3"

LOCATION SKETCH and Proposed 12" Ø Metal Shell Concrete Piles Estimated Length 54' South and 55' North 3'-6" min, to Exist, and 2'-7" Tall Concrete Barrier or Guardrail under structure Future Grade (Typ.) Exist. Barrier to Roadway Item (Typ.) Remain in Place MSE Wall Front and Sides (Typ.) 42" Web Plate Girder (Composite Full Length) **ELEVATION** Hot Dipped Galvanized Exist. Single Face Barrier Wall £ Kennedy Expy. (1-90) Exist. B6.24 Comb. C & G 16" Ø Medium Pressure Face of Face of Wall-Gas Line to be Relocated 10'-0" Exist. B6.24 Comb. C & G **→**�→Z - R=73'-0' Boring Concrete Curb & Gutter #HA-2-Type B-6.18 (Тур.) Boring #SB-|Light Pole Fdn. Sta. 7+61.00 | © Brg. S. Abut. Sta. 7+01.00 El. 656.37 —— -Boring #DB-2 Sta. 9+46.00 33′-0" Left R=4'-7 - Skew Back of S. Abut Sta. 6+97.5 Sta. 6+31.37 17°56′00" & Brg. N. Abut Sta. 8+96.50 Sta. 9+55.41 Oriole Avenue Oriole Avenue Sta. 7+11.29 EL. 656.29 (Typ.) 108°04'00" EL. 657.79 Higgins Avenue 71052120 Sta 50+00.00 Higgins Road Sta. 6+43.11 Oriole Avenue Sta. 9+60.79 72 0 300 52'40' Oriole Ave. Oriole Avenue = Sta 50+00.00 Sta. 50+00.00 Oriole Ave. Sta. 8+00.00 / © I-90 Sta. 3437+50.20 / Back of N. Abut. <sup>I</sup> Bridge and Profile Grade Line-Higgins Road Sta. 9+00.00 EL. 657.77 Bryn Mawr Avenue Name Plate 657.80 - R=5'-5" Location Boring #DB-1 Sta. 6+60.56 Light Pole Edn. Face of Sidewalk Sta. 8+46.00 -PT Sta. 7+11.29 #HA-1 Exist. Sinale Boring Face Barrier Wall Removal of Existing #SB-2 Drainage Scupper, DS-11 (Typ. 4 Locations) Substructure Unit 30'-0" 30'-0" 10'-0" Min. to Handicap Acc. Ramp (Typ.) Each Corner. See Roadway Plans. Approach Slab Face of MSE Wal Approach Slab 3'-6" 3'-6" 102'-6" Span 2 100'-0" Span 1 Light Pole Bump Out 202'-6" Back to Back Abutments (2 Locations) MSE Wall (Typ.) GENERAL PLAN & ELEVATION PLAN

Bridge Omission Sta. 6+98.02 to 8+99.48

Limits of Protective Shield = 170' ±

New Light Poles (Typ.)

Exist.

Pier 2

C.T.A. Tracks

15'-0" Min. Exist.

Existing Pier

C.T.A. Tracks -

Remain in place



9901 S. Western Ave. Chicago, IL 60643 Ph. 773-881-4788

REVISED DESIGNED - SEA CHECKED - RJL REVISED DRAWN - JJE / SCS REVISED CHECKED - SEA REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**  **GENERAL PLAN AND ELEVATION STRUCTURE NO. 016-1101** SHEET NO. 1 OF 36 SHEETS

SECTION 90 1515.1-B COOK 101 44 STA. TO STA. CONTRACT NO. 60M79

ORIOLE AVE. OVER

KENNEDY EXPY. FAI-90

SEC. 1515.1-B

COOK COUNTY

STATION 8+00.00

STRUCTURE NO. 016-1101

\* 32'-6" Light Pole with 11'-6" Mast to be provided

by City of Chicago, Contractor Installed

Approach Slab Ftg. (Typ.)

EL. 632.50