

**SUMMARY OF QUANTITIES**

X071-2A

NUMBER	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	72
20300100	CHANNEL EXCAVATION	CU YD	500
20400800	FURNISHED EXCAVATION	CU YD	942
* 20700400	POROUS GRANULAR EMBANKMENT (SPECIAL)	CU YD.	104
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50
28000300	TEMPORARY DITCH CHECKS	EACH	2
28000400	PERIMETER EROSION BARRIER	FOOT	1,072
28100207	STONE RIPRAP, CLASS A4	TON	397
28200200	FILTER FABRIC	SQ. YD.	491
35101400	AGGREGATE BASE COURSE, TYPE B	TON	708
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	428
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	125
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	75
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	200
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	40
44000100	PAVEMENT REMOVAL	SQ YD	1,092
48101200	AGGREGATE SHOULDERS, TYPE B	TON	118
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD.	331
50300225	CONCRETE STRUCTURES	CU YD	98.0
50300255	CONCRETE SUPERSTRUCTURE	CU YD	243.0
50300260	BRIDGE DECK GROOVING	SQ YD	882
50300280	CONCRETE ENCASEMENT	CU YD	15.2
50300300	PROTECTIVE COAT	SQ YD	978
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	2,625
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	63,880
50800515	BAR SPLICERS	EACH	60
Δ 50901050	STEEL RAILING, TYPE SM	FOOT	530
51201400	FURNISHING STEEL PILES HP10X42	FOOT	320
51201600	FURNISHING STEEL PILES HP12X53	FOOT	588
51202305	DRIVING PILES	FOOT	908
51203400	TEST PILE STEEL HP10X42	EACH	2
51203600	TEST PILE STEEL HP12X53	EACH	2
51500100	NAME PLATES	EACH	1
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	64
* 60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	130
Δ 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	412.5
Δ 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	3
* Δ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	2
63200310	GUARDRAIL REMOVAL	FOOT	678
* 67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	6
67100100	MOBILIZATION	L SUM	1
* 70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
* Δ 78201000	TERMINAL MARKER-DIRECT APPLIED	EACH	2
* X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
* X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1

\*SEE SPECIAL PROVISIONS Δ SPECIALTY ITEMS

**PAVEMENT REMOVAL**

STA. 152+00 TO STA. 154+48.25 = 607 SQ YD  
 STA. 157+01.75 TO STA. 159+00 = 485  
 TOTAL = 1,092 SQ YD

**TEMPORARY EROSION CONTROL**

THE FOLLOWING QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD AND THERE WILL BE NO ADJUSTMENT IN ANY UNIT PRICE DUE TO A CHANGE IN PLAN QUANTITY.

PERIMETER EROSION BARRIER = 1,072 FOOT  
 TEMPORARY EROSION CONTROL SEEDING = 50 POUND  
 TEMPORARY DITCH CHECKS = 2 EACH

**GENERAL NOTES**

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED. THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.4 ACRE

**PAVEMENT DESIGN**

Structural Design Traffic (S.D.T.): Year 2016; P.V. = 479, S.U. = 10, M.U. = 10  
 Class III Road

Minimum Soil Support: I.B.R. = 3.0 (Assumed) (> 3 k.s.i.)

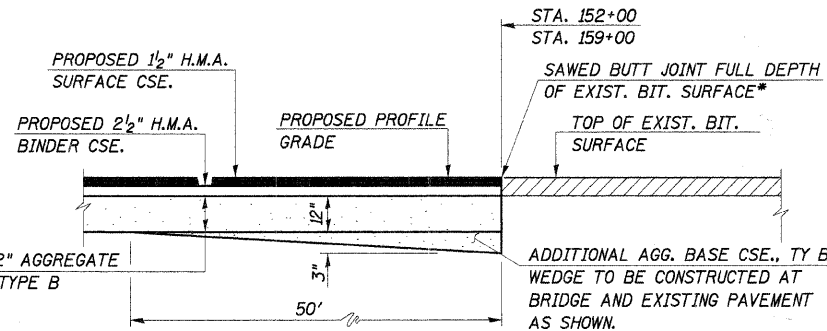
Percent of S.D.T. in Design Lane: P = 50%, S = 50%, M = 50%  
 T.F. = 0.041

Temp. = 75° F.; E<sub>Ac</sub> = 575 (AC-10); Design Strain = 368

**BITUMINOUS MIXTURE REQUIREMENTS**

MIXTURE USE(S)	SURFACE COURSE/ INCIDENTAL BITUMINOUS SURFACING	BINDER COURSE
AC/PG:	64-22	64-22
DESIGN AIR VOIDS:	4.0% • N <sub>des</sub> = 50	4.0% • N <sub>des</sub> = 50
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL 9.5	IL 19.0
FRICTION AGGREGATE:	MIXTURE C	N/A

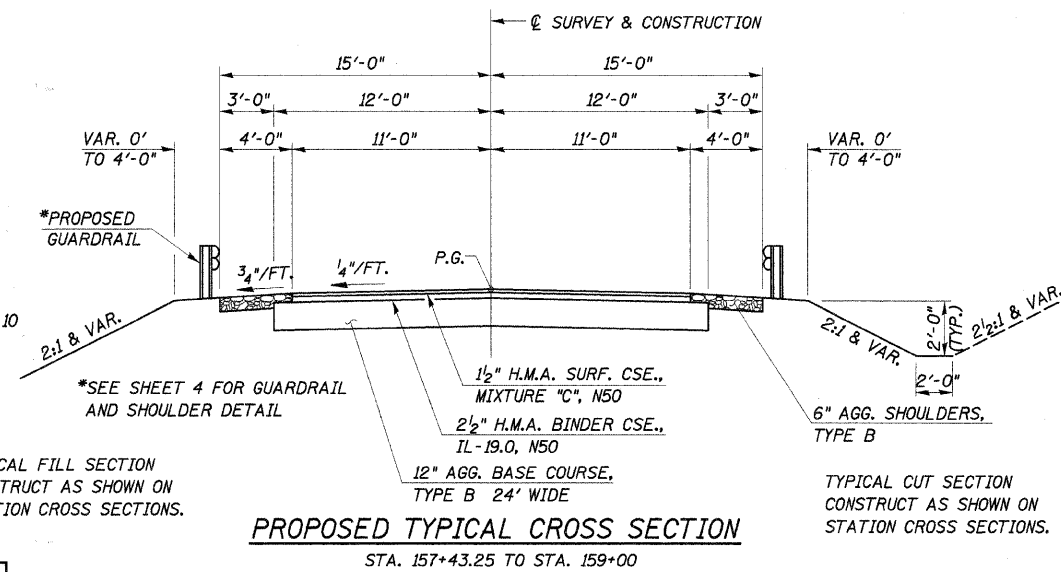
LOCATION	AGG. BASE COURSE, TYPE B	BITUMINOUS MATERIALS (PRIME COAT)	H.M.A. BINDER COURSE IL-19.0, N50	H.M.A. SURF. COURSE MIX "C", N50	AGGREGATE SHOULDERS, TYPE B
	TON	GALLON	TON	TON	TON
STA. 152+00 TO STA. 154+06.75	400	244	71	42.5	
STA. 157+43.25 TO STA. 159+00	308	184	54	32.5	
STA. 152+00 TO STA. 154+12.75					67
STA. 157+37.25 TO STA. 159+00					51
TOTAL	708	428	125	75	118



ELEVATION AT BEGINNING AND END OF IMPROVEMENT

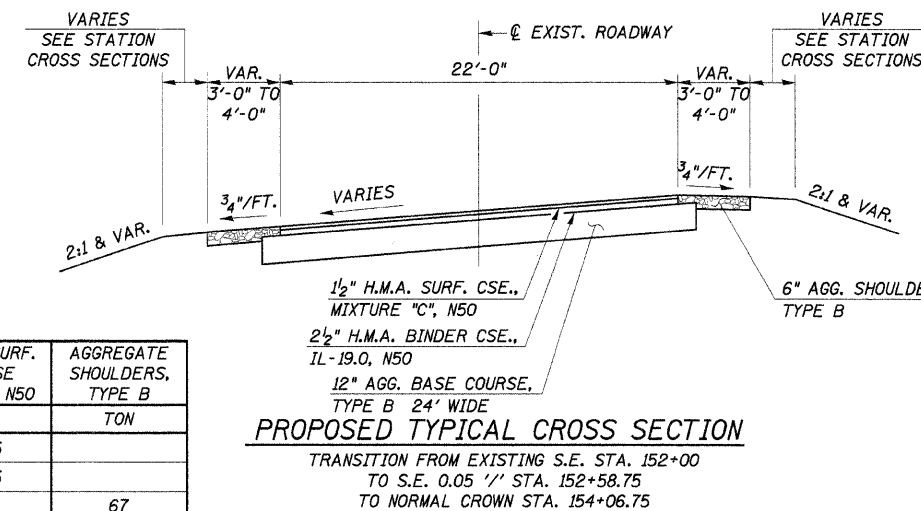
**JOINT DETAILS**

\*COST INCLUDED IN "PAVEMENT REMOVAL".



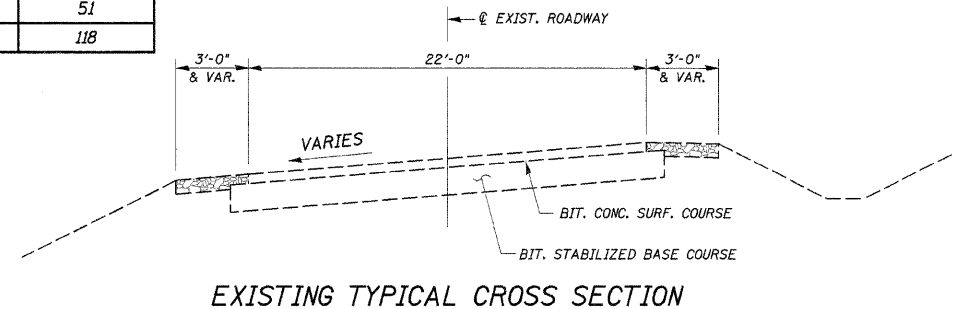
**PROPOSED TYPICAL CROSS SECTION**

STA. 157+43.25 TO STA. 159+00



**PROPOSED TYPICAL CROSS SECTION**

TRANSITION FROM EXISTING S.E. STA. 152+00 TO S.E. 0.05 ' ' STA. 152+58.75 TO NORMAL CROWN STA. 154+06.75



**EXISTING TYPICAL CROSS SECTION**

**SUMMARY OF QUANTITIES, GENERAL NOTES AND DETAILS**

SECTION 03-00147-01-BR  
 STARK COUNTY  
 COUNTY HIGHWAY 7  
 STATION 155+75

4440 ASH GROVE  
 SPRINGFIELD, IL 62711  
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 www.fehr-graham.com

**FEHR-GRAHAM & ASSOCIATES, LLC**  
 ENGINEERING AND SCIENCE CONSULTANTS  
 PROJECTS • HIGHWAYS • ROADS • AIRPORTS • BRIDGES

DRAWN: S.A.P.  
 DATE: 05/12/06

CHECKED: G.J.C.  
 DATE: 05/18/06

JOB NO.: 46808  
 FILE: 0423SUMTYP.DGN  
 DATE: 01/04/08