

FINAL

# HARRIS COUNTY TOLL ROAD AUTHORITY

## PLANS OF PROPOSED SAM HOUSTON TOLLWAY SOUTH IMPROVEMENTS

### INDEX OF SHEETS

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23	ELECTRICAL SERVICE DATA SHEET & GROUND BOX DETAILS

NET LENGTH OF PROJECT:  
 ROADWAY 51,264.26 FT. - 9.709 MI.    BRIDGE 0.00 FT. - 0.00 MI.    TOTAL 51,264.26 FT. - 9.709 MI.

HARRIS COUNTY

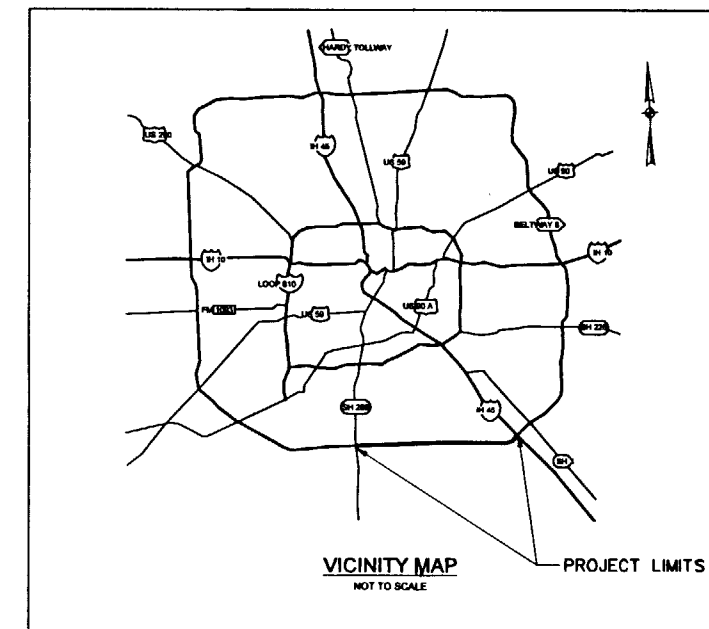
## SAM HOUSTON TOLLWAY- SOUTHEAST

### ROADWAY ILLUMINATION

FROM SH 288 TO 1.25 MILES WEST OF IH 45

CONSISTING OF  
INSTALLATION OF ROADWAY ILLUMINATION

FEDERAL AID PROJECT NO. NH 96(7)  
CONTROL, SECTION, JOB NO. 3256-04-053



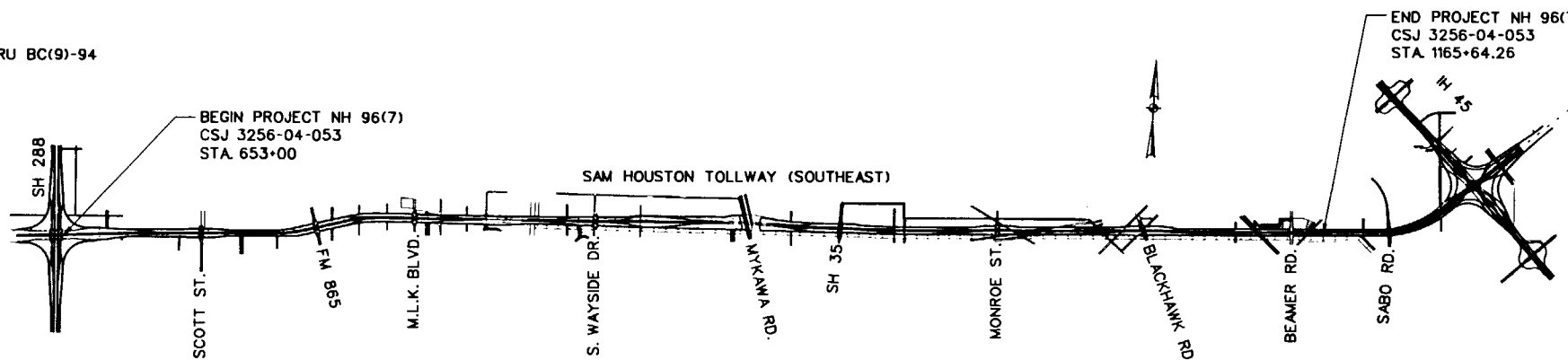
### STANDARD DETAIL DRAWINGS

- 24-26 \* LIGHTING DETAILS - HOUSTON DISTRICT, 12-93 (3 SHEETS)
- 27-31 \* ELECTRICAL DETAILS, ED(1)-93 THRU ED(5)-93
- 32-35 \* ROADWAY ILLUMINATION DETAILS, RID(1)-93 THRU RID(4)-93
- 36-37 \* HIGH MAST ILLUMINATION POLES 100'-125'-150'-175' (HMIP) (2 SHEETS)
- 38-39 \* HIGH MAST ILLUMINATION POLE FOUNDATIONS (HMIF) (2 SHEETS)
- 40-49 \* HIGH MAST ILLUMINATION DETAILS, HMID(1)-86 THRU HMID(10)-86
- 50 \* CONCRETE TRAFFIC BARRIER, TYPE 2, ROADWAY CTB AT LIGHT POLES CTB(3)-85
- 51 \* CONCRETE TRAFFIC BARRIER CTB(4)-94
- 52 \* METAL BEAM GUARD FENCE MBGF-94
- 53-61 \* BARRICADE AND CONSTRUCTION STANDARDS, BC(1)-94 THRU BC(9)-94
- 62 \* HIGH MAST ILLUMINATION, HUHM 1-84



\* THE STANDARD DRAWINGS SPECIFICALLY IDENTIFIED BY (\*) HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

*Joel Schramm 10-30-95*



### NOTE:

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, MARCH 1, 1993 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, DECEMBER 1993).

SCALE: 1" = 3500'  
 EQUATIONS: NONE  
 EXCEPTIONS: NONE  
 RAILROAD CROSSINGS: NONE

*CSJ*

PREPARED BY:

**TRAFFIC ENGINEERING & DESIGN SYSTEMS, INC.**  
 TEESI  
 Traffic & Transportation Consultants

*Joel M. Morris, Jr.*  
 JOEL M. MORRIS, JR., P.E.  
 PRINCIPAL

DATE: 10/27/95



RECOMMENDED BY:

**Turner Collier & Braden Inc.**  
 ENGINEERS PLANNERS PROJECT MANAGERS

*Robert W. Barnett*  
 ROBERT W. BARNETT, P.E.  
 PROJECT DIRECTOR

DATE: 10-30-95



RECOMMENDED BY:

HARRIS COUNTY TOLL ROAD AUTHORITY

*Mike Strech*  
 MIKE STRECH, P.E.  
 ASSISTANT DIRECTOR - SERVICES

DATE: 11-2-95

APPROVED BY:

HARRIS COUNTY TOLL ROAD AUTHORITY

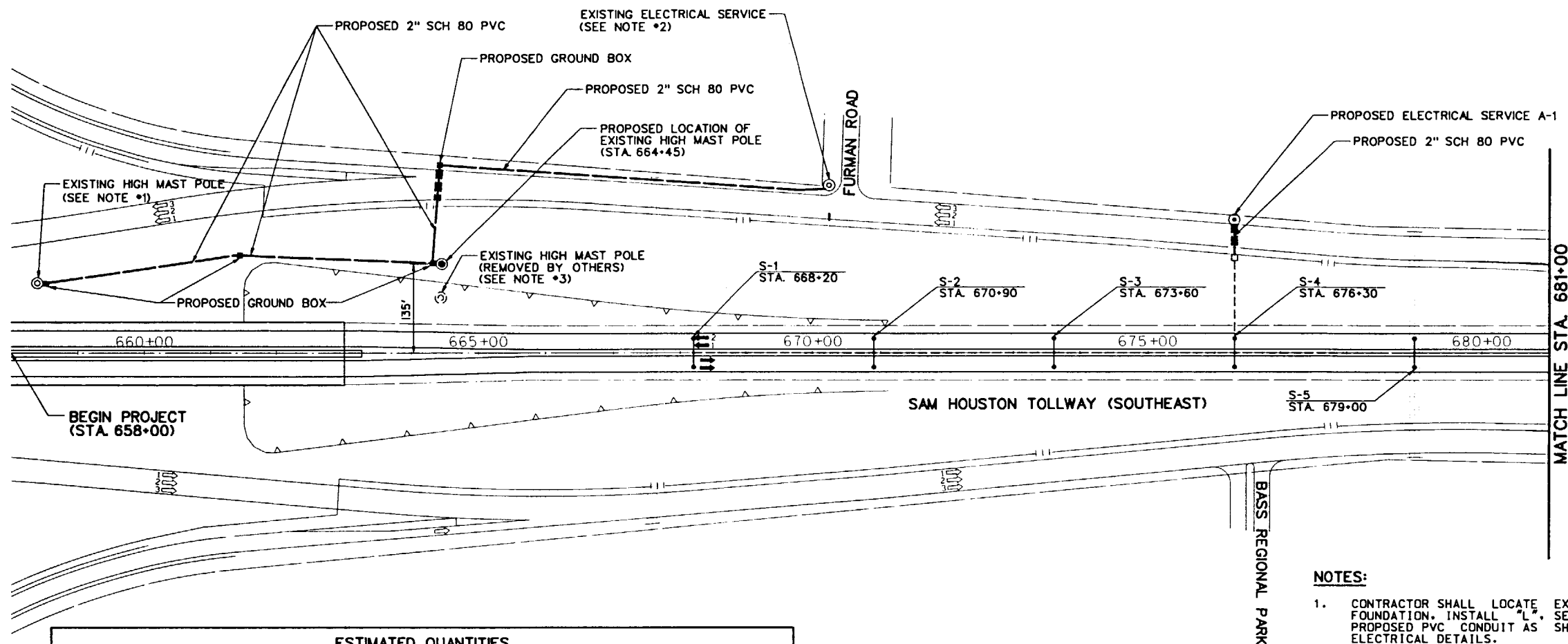
*Wesley F. Freise*  
 WESLEY FREISE, P.E.  
 EXECUTIVE DIRECTOR

DATE: 11-2-95

FED. DIST. DIV. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
6	TEXAS	NH 96(7)	1
STATE DIST. NO.	COUNTY	CONT. SECT. JOB	HWY. NO.
HOUSTON	HARRIS	3256 04 053	HTW-5

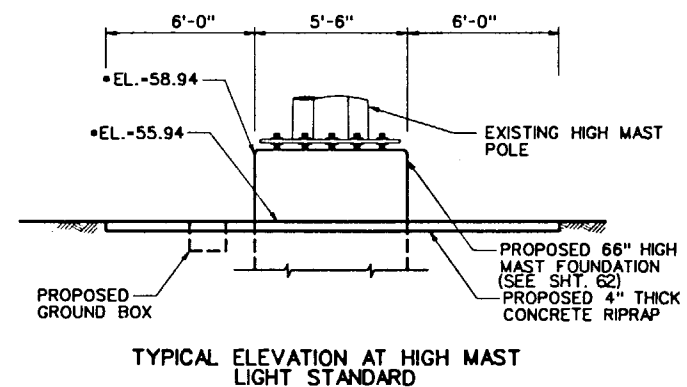
**LEGEND**

- PROPOSED 50' SHOE BASE POLE WITH 2-8' ARMS (TY SP 50S-8-8) (.4 KW) S
- PROPOSED 50' TRANSFORMER BASE POLE WITH 1-8' ARM (TY SA 50T-8) (.4 KW) S
- ▶ PROPOSED UNDERPASS LIGHT FIXTURE (TY SPL-CO) (.15KW) S (TY3)
- ⊙ PROPOSED 150' HIGH MAST POLE (12-400 WATT ASYMMETRIC FIXTURES)
- PROPOSED GROUND BOX
- EXISTING GROUND BOX
- ⊙ PROPOSED TYPE A SERVICE POLE
- EXISTING 2" SCH 80 PVC CONDUIT
- PROPOSED 2" SCH 80 PVC CONDUIT
- PROPOSED 3/4" RIGID METAL CONDUIT
- PROPOSED SCH 80 PVC CONDUIT (BORED)



**NOTES:**

1. CONTRACTOR SHALL LOCATE EXISTING CONDUIT FROM THIS FOUNDATION. INSTALL "L", SET PROPOSED GROUND BOX AND PROPOSED PVC CONDUIT AS SHOWN. SEE SHEET NO. 16 FOR ELECTRICAL DETAILS.
2. CONTRACTOR TO CONNECT PROPOSED 2-INCH CONDUIT AND PROPOSED #2 CONDUCTORS TO THE EXISTING ELECTRICAL SERVICE #71714661 LOCATED AT THE CORNER OF BELTWAY 8 WESTBOUND FRONTAGE ROAD AND FURMAN ROAD. SEE SHEET NO. 16 FOR ELECTRICAL DETAILS.
3. CONTRACTOR TO COORDINATE WITH ENGINEER AS TO THE LOCATION OF EXISTING HIGH MAST POLE (REMOVED BY OTHERS). SAME SAID POLE SHALL BE INSPECTED BY ENGINEER AND INSTALLED ON NEW FOUNDATION AS SHOWN HEREON. EXISTING HIGH MAST LUMINAIRES AND ASSEMBLIES SHALL BE OBTAINED FROM THE HCTRA MAINTENANCE BARN LOCATED AT 1631 EAST BELT. SUCH LUMINAIRES AND ASSEMBLIES SHALL BE INSPECTED BY ENGINEER AND REINSTALLED ON RELOCATED POLE. ANY LUMINAIRES, ASSEMBLIES, OR PORTIONS THEREOF WHICH ARE NON-FUNCTIONAL SHALL BE REPLACED AND CONSIDERED INCIDENTAL TO THE WORK PERFORMED. SEE SPECIAL SPECIFICATION ITEM "INSTALLING HIGH MAST ILLUMINATION POLES (175 FT) AND ASSEMBLIES" FOR ADDITIONAL INFORMATION.
4. ONCE NEW CONDUIT AND CONDUCTOR IS INSTALLED, CONTRACTOR SHALL REMOVE ALL EXISTING UNUSED CONDUIT. ALL EXISTING UNUSED CONDUIT SHALL BE ABANDONED IN PLACE.



TYPICAL ELEVATION AT HIGH MAST LIGHT STANDARD (NOT TO SCALE)

\*ELEVATIONS ARE APPROXIMATE.

**ESTIMATED QUANTITIES**

ITEM NO.	DESC. CODE	SP	DESCRIPTION	UNIT	PROJECT TOTAL
6510	501		INSTALL HIGH MAST ILLUM POLE/ASSEM (175 FT)	EA	1
416	546		DRILL SHAFT (66 IN) (HIGH MAST POLE)	LF	34
416	524		DRILL SHAFT (60 IN) (HIGH MAST POLE)	LF	144
432	501		RIPRAP (CONC) (CL B)	CY	12.7
502	501		BARRICADES, SIGNS AND TRAF HANDLE	MO	9
540	505		TERM ANCHOR SECT (12 GA)	EA	8
540	507		MTL BEAM GO FEN (BLK OUT) (12 GA) TIM POST	LF	700
610	501		RDWY ILL ASSEM (TY SA 50T-8) (.4 KW) S	EA	22
610	514		RDWY ILL ASSEM (TY SP 50S-8-8) (.4 KW) S	EA	162
610	519		RDWY ILL AM U/P (TY SPL-CO) (.15KW) S (TY3)	EA	64
613	510		HIGH MAST ILL POLE (150 FT) (100 MPH)	EA	4
614	506		HIGH MAST ILL ASM (12-400 WATT) (ASYM) (TYC)	EA	4
618	501		CONDUIT (RM) (3/4")	LF	2250
618	518		CONDUIT (PVC) (SCHD 80) (2")	LF	8165
618	539		CONDUIT (PVC) (SCHD 80) (2") (BORED)	LF	660
620	501		ELEC CONDUCTOR (NO. 12) BARE	LF	1280
620	503		ELEC CONDUCTOR (NO. 8) BARE	LF	56350
620	505		ELEC CONDUCTOR (NO. 4) BARE	LF	1825
620	506		ELEC CONDUCTOR (NO. 2) BARE	LF	1400
620	507		ELEC CONDUCTOR (NO. 12) INSULATED	LF	2560
620	510		ELEC CONDUCTOR (NO. 6) INSULATED	LF	104615
620	511		ELEC CONDUCTOR (NO. 4) INSULATED	LF	11560
620	512		ELEC CONDUCTOR (NO. 2) INSULATED	LF	2800
624	518		GROUND BOX (CONCRETE)	EA	12
628	543		ELEC SERV TYA (240/480) 060 (SS) SS (E) SP (U)	EA	10
628	561		ELEC SERV TYA (240/480) 100 (SS) SS (E) SP (U)	EA	1
628	611		ELEC SERV TYA (240/480) 060 (SS) SS (E) SP (O)	EA	1

**LIGHT STANDARD & UNDERPASS LIGHT FIXTURE SCHEDULE**

FIXT. NO.	STATION	LOCATION	WATT	TYPE	STANDARD TYPE
S-1	668+20	MEDIAN CONCRETE TRAFFIC BARRIER	2-400	HPS	TY SP 50S-8-8 (.4 KW) S
S-2	670+90	MEDIAN CONCRETE TRAFFIC BARRIER	2-400	HPS	TY SP 50S-8-8 (.4 KW) S
S-3	673+60	MEDIAN CONCRETE TRAFFIC BARRIER	2-400	HPS	TY SP 50S-8-8 (.4 KW) S
S-4	676+30	MEDIAN CONCRETE TRAFFIC BARRIER	2-400	HPS	TY SP 50S-8-8 (.4 KW) S
S-5	679+00	MEDIAN CONCRETE TRAFFIC BARRIER	2-400	HPS	TY SP 50S-8-8 (.4 KW) S

**ESTIMATED QUANTITIES**

ITEM NO.	DESC. CODE	SP	DESCRIPTION	UNIT	SHEET TOTAL
			INSTALL HIGH MAST ILLUM POLE/ASSEM (175 FT)	EA	1
416			DRILL SHAFT (66 IN) (HIGH MAST POLE)	LF	34
432	501		RIPRAP (CONC) (CL B)	CY	2.7
610	514		RDWY ILL ASSEM (TY SP 50S-8-8) (.4 KW) S	EA	5
618	518		CONDUIT (PVC) (SCHD 80) (2")	LF	1295
618	539		CONDUIT (PVC) (SCHD 80) (2") (BORED)	LF	90
620	503		ELEC CONDUCTOR (NO. 8) BARE	LF	1770
620	506		ELEC CONDUCTOR (NO. 2) BARE	LF	1400
620	510		ELEC CONDUCTOR (NO. 6) INSULATED	LF	3540
620	512		ELEC CONDUCTOR (NO. 2) INSULATED	LF	2800
624	518		GROUND BOX (CONCRETE)	EA	4
628	543		ELEC SERV TYA (240/480) 060 (SS) SS (E) SP (U)	EA	1

SHEET TOTALS		
EST.	FINAL	DESCRIPTION

NO. DATE REVISION APP.

**JULIUS M. MORRIS, JR.**  
73543  
Professional Engineer  
11/21/15

**TRAFFIC ENGINEERING & DESIGN SYSTEMS, INC.**  
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**HCTRA**  
HOUSTON COUNTY TOLL ROAD AUTHORITY

**SAM HOUSTON TOLLWAY SOUTHEAST**  
ILLUMINATION LAYOUT  
BEGIN JOB TO STA. 681+00

SCALE: 1" = 100' SHEET 1 OF 11

FED. PROJ. NO.	STATE	FEDERAL PROJECT NO.	SHEET NO.
8	TEXAS	NH 98(7)	5
STATE DIST. NO.	COUNTY	CONT. SECT.	JOB HWY. NO.
HOUSTON	HARRIS	3256 04	053 SHT-W-5