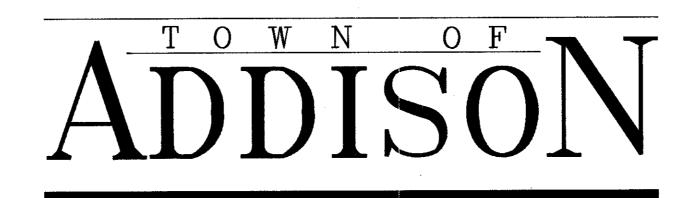
RAILROAD CROSSING IMPROVEMENTS AND TRACK REALIGNMENT

FOR



TOWN OF ADDISON

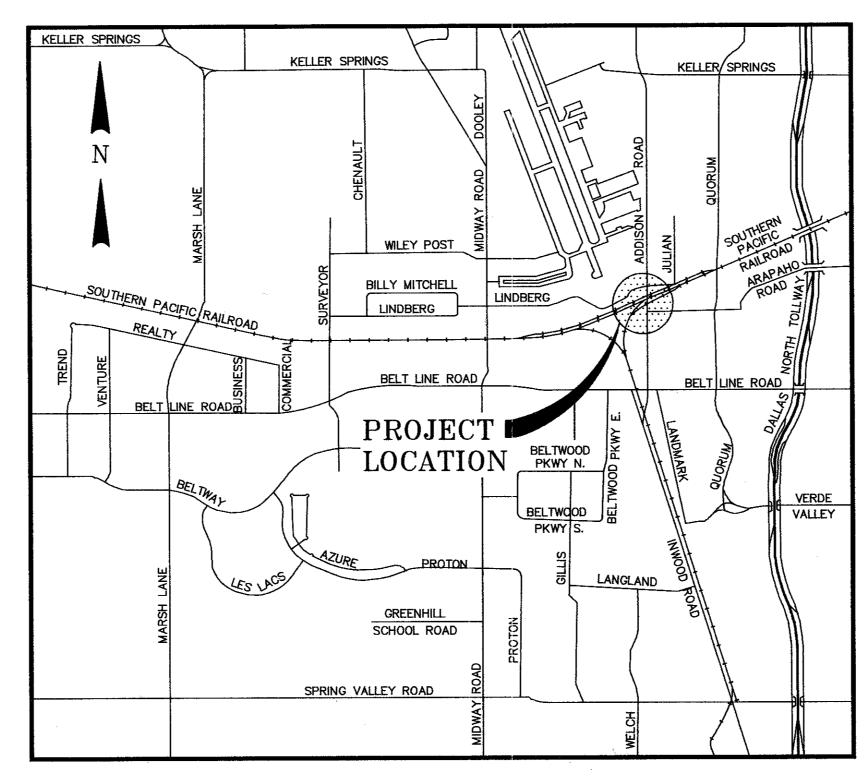
LYNN SPRUILL MAYOR

RON WHITEHEAD

CITY MANAGER

CITY COUNCIL

RICH BECKERT
MARY DOLAN
SUE HALPERN
STEVE MINSHEW
DICK WILKE





LOCATION MAP

EH&A JOB NO. 14163

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ADDISON STANDARD DETAILS
12—15

TOWN OF ADDISON ENGINEER

JOHN BAUMGARTNER, P.E.

EH&A PROJECT MANAGER

BRUCE GRANTHAM, P.E.



ENGINEER:
ESPEY, HUSTON & ASSOC., INC.
13800 MONTFORT DRIVE
SUITE 230
DALLAS, TEXAS 75240



SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
101	MOBILIZATION	L.S.	1
102	CLEARING AND GRUBBING	S.Y.,	3000
103	UNCLASSIFIED EXCAVATION	C.Y.	1000
104	BORROW	C.Y.	500
105	REMOVE EXISTING ASPHALT PAVEMENT	S.Y.	150
106	REMOVE EXISTING ASPHALT PAVEMENT (4" DEPTH) BY MILLING	S.Y.	30
107	INSTALL NEW 4" ASPHALT PAVEMENT	S.Y.	170
108	SAWCUT EXISTING PAVEMENT (FULL DEPTH)	L.F.	122
109	SAWCUT EXISTING PAVEMENT (4" DEPTH)	L.F.	122
110	CONCRETE STREET HEADER AT RAILROAD	L.F.	122
111	8" REINFORCED CONCRETE PAVEMENT (EARLY HIGH-STRENGTH, MIN. 3600 PSI)	S.Y.	150
112	3" DIAMETER GALVANIZED CONDUIT	L.F.	15
113	SHIFT EXISTING RAILROAD TRACKAGE INCLUDING ALL RAILROAD APPURTENANCES	L.F.	1769
114	CONSTRUCT NEW 11525 WELDED TRACKAGE COMPLETE	L.F.	131
115	RESERVED		
116	RUBBER GRADE CROSSING (OMNI FULL-DEPTH HEAVY DUTY OR APPROVED EQUAL)	L.S.	1
117	RESERVED		
118	RAILROAD FLAGMAN	DAY	50
119	4" PERFORATED PVC UNDERDRAIN	L.F.	132
120	4" NON-PERFORATED PVC UNDERDRAIN W/FITTINGS	L.F.	31
121	2'-0" WIDE PETRO-MAT FABRIC (OR APPROVED EQUAL)	L.F.	122
122	PLACE TEMPORARY TYPE "D" COLD MIX LIMESTONE ROCK ASPHALT PAVEMENT (CLASS A)	C.Y.	20
123	BITUMINOUS BASE	S.Y.	65
124	TYPE I C-4 BUTTONS	EA.	300
125	TYPE C-4 BUTTONS	EA.	1205
126	TYPE II AA-4 BUTTONS	EA.	430
127	TYPE A-4 BUTTONS	EA.	1300
128	STOP BAR	L.F.	150
129	ELONGATED ARROWS	EA.	5

BUTTON AND PAVEMENT MARKING NOTES

- CONTRACTOR SHALL INSTALL NEW BUTTONS IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEETS 2A AND 2B AT THE FOLLOWING LOCATIONS:
 - A) ADDISON ROAD FROM THE RAILROAD IMPROVEMENTS CONTAINED HEREIN TO AIRPORT PARKWAY;
 - B) FROM ADDISON ROAD WESTBOUND ON AIRPORT PARKWAY A DISTANCE OF 180 FEET;
 - C) FROM ADDISON ROAD WESTBOUND ON LINDBERG DRIVE A DISTANCE OF 1400 FEET:
- CONTRACTOR SHALL INSTALL PAVEMENT MARKINGS AS DIRECTED BY THE TOWN OF ADDISON. THESE MARKINGS SHALL BE INSTALLED WITH THE BUTTON LIMITS DESCRIBED IN NOTE 1.

SUGGESTED CONSTRUCTION SEQUENCING

UNLESS OTHERWISE APPROVED BY THE TOWN OF ADDISON. THE CONTRACTOR SHALL EXECUTE THE WORK IN ACCORDANCE WITH THE FOLLOWING SEQUENCING:

PHASE 1

BETWEEN THE HOURS OF 9:00 P.M. FRIDAY AND 6:00 P.M. SUNDAY ON WEEKEND 1, THE CONTRACTOR SHALL CLOSE ADDISON ROAD AND REMOVE EXISTING RAILROAD TRACKAGE AND APPURTENANCES FROM STATION -0+97± TRACK 1 TO EXISTING TURNOUT T-5 AND INSTALL NEW WELDED TRACK WITH RUBBERIZED CROSSING. FILL REMAINING VOID AREA ON WEST SIDE OF ADDISON ROAD BETWEEN EXISTING PAVEMENT EDGE AND NEW CROSSING BALLAST WITH TEMPORARY COLD MIX ASPHALT (NO SEPARATE PAY).

PHASE 2

BETWEEN THE HOURS OF 9:00 P.M. FRIDAY AND 6:00 P.M. SUNDAY ON WEEKEND 2, THE CONTRACTOR SHALL REMOVE ALL REMAINING AFFECTED TRACKAGE ON TRACK 1 AND INSTALL TURNOUT T-4 AND T-5.

PHASE 3

BETWEEN THE HOURS OF 9:00 P.M. FRIDAY AND 6:00 P.M. SUNDAY ON WEEKEND 3. THE CONTRACTOR SHALL CLOSE ADDISON ROAD AND INSTALL NEW ADDISON ROAD PAVEMENT ON THE NORTH SIDE OF TRACK 1.

PHASE 4

BETWEEN THE HOURS OF 9:00 P.M. FRIDAY AND 6:00 P.M. SUNDAY ON WEEKEND 4, THE CONTRACTOR SHALL CLOSE ADDISON ROAD AND INSTALL NEW ADDISON ROAD PAVEMENT ON THE SOUTH SIDE OF TRACK 1.

PHASE 5

THE CONTRACTOR SHALL COMPLETE ALL REMAINING TRACK RELOCATION WORK AND COMPLETE PROJECT CLEANUP.

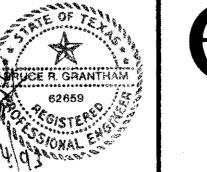
GENERAL SEQUENCING

- 1. THE MAIN TRACK (TRACK 1) SHALL REMAIN OPEN AT ALL TIMES EXCEPT AS NOTED BETWEEN THE HOURS OF 9:00 P.M. FRIDAY AND 6:00 P.M. SUNDAY ON WEEKENDS 1 THROUGH 4. NO TRAINS OPERATE ON THIS TRACK DURING THESE HOURS.
- THE CONTRACTOR MAY PERFORM THE WORK OUTLINED IN PHASES 1 THROUGH 4 SIMULTANEOUSLY, PROVIDED THE TIME RESTRICTIONS OF NOTE 1 ARE MET.
- THE WORK OUTLINED IN PHASE 5 SHOULD PROCEED ON AN ONGOING BASIS IN ACCORDANCE WITH THE RAILROAD TRAIN SCHEDULE AFTER THE WORK IN PHASE 1 IS COMPLETED. CONTRACTOR SHALL COORDINATE WITH THE RAILROAD ON ITS TRAIN SCHEDULE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUBLIC SAFETY DURING CONSTRUCTION AND WILL PROVIDE NECESSARY TRAFFIC BARRICADES, WARNING SIGNAGE AND TEMPORARY PAVEMENT MARKINGS TO PROTECT THE CONSTRUCTION SITE. CONSTRUCTION BARRICADES, SIGNAGE AND MARKINGS SHALL BE IN CONFORMANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IN AREAS WHERE LONG TERM NIGHTTIME BARRICADES ARE USED, BARRICADES SHOULD INCLUDE HIGH INTENSITY REFLECTIVE SHEETING (NO SEPARATE PAY
- THE CONTRACTOR SHALL CONTACT THE RAILROAD TO COORDINATE THE SIGNAL RELOCATION WORK WHICH THE RAILROAD WILL PERFORM AND DRILL HOLES AND CUT RAIL AS REQUIRED BY THE RAILROAD (NO SEPARATE PAY ITEM).

GENERAL NOTES

- ALL ROADWAY CONSTRUCTION SHALL CONFORM TO THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) SPECIFICATIONS AND TOWN OF ADDISON STANDARDS AND SPECIFICATIONS, EXCEPT AS NOTED.
- ALL RAILROAD CONSTRUCTION SHALL CONFORM TO THE SOUTHERN PACIFIC TRANSPORTATION COMPANY SPECIFICATIONS FOR CONSTRUCTION OF INDUSTRY TRACK SYSTEM.
- ALL LOCATIONS OF UNDERGROUND UTILITY LINES SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL NOTIFY ALL APPLICABLE UTILITY COMPANIES 48 HOURS PRIOR TO CONSTRUCTION SO THAT UNDERGROUND LINES CAN BE MARKED.
- VERIFY LOCATIONS OF UNDERGROUND ELECTRIC, GAS, PETROLEUM, TELEPHONE FACILITIES AND RAILROAD SIGNAL CABLES PRIOR TO BEGINNING EXCAVATION. IF NECESSARY, DIG TEST DITCHES TO DETERMINE ACTUAL FIELD CONDITIONS. SEE PLAN VIEW FOR WARNING NOTES AND TELEPHONE NUMBERS.
- THE CONTRACTOR SHALL NOT PLACE FILL OR WASTE MATERIAL ON ANY PRIVATE PROPERTY WITHOUT A PRIOR WRITTEN AGREEMENT WITH THE PROPERTY OWNER. IF THE CONTRACTOR PLACES EXCESS MATERIAL IN AREAS WITHOUT WRITTEN PERMISSION, HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE MATERIAL AT HIS OWN EXPENSE.
- 6. NO TREES SHALL BE CUT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PUBLIC SAFETY DURING CONSTRUCTION AND WILL PROVIDE THE NECESSARY TRAFFIC BARRICADES AND WARNING SIGNAGE TO PROTECT THE CONSTRUCTION SITE. ALL BARRICADES, WARNING SIGNS, LIGHTS, DEVICES, ETC. FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS MUST CONFORM TO THE 1980 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AS CURRENTLY AMENDED, BY THE TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION. (NO SEPARATE PAY ITEM)
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,600 PSI AT 24 HOURS, UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL AND DOWEL BARS IN PAVEMENT SHALL BE SUPPORTED AND MAINTAINED AT THE CORRECT CLEARANCES BY THE USE OF BAR CHAIRS OR OTHER APPROVED SUPPORT.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO THE PROJECT FREE OF MUD AND DEBRIS FROM THE CONSTRUCTION.
- HAND FINISHING OF CONCRETE PAVEMENT SHALL NOT BE A SEPARATE PAY ITEM ON THIS PROJECT.
- THE CONTRACTOR SHALL MAINTAIN ADEQUATE SANITARY FACILITIES FOR USE BY THE WORKERS THROUGHOUT CONSTRUCTION.
- NO PERSON SHALL OPEN, TURN OFF, INTERFERE WITH, ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE TOWN UNLESS DULY AUTHORIZED TO DO SO BY THE TOWN OF ADDISON WATER DEPARTMENT (450-2879). ARRANGEMENTS FOR CONSTRUCTION WATER SHALL BE MADE THROUGH THE TOWN OF ADDISON.
- 14. ALL PAVING TO BE REMOVED SHALL BE SAWCUT (FULL DEPTH) TO A NEAT LINE AND THEN REMOVED.
- 15. NO TRAFFIC SIGNS ARE TO BE RELOCATED OR REMOVED WITHOUT PRIOR APPROVAL BY THE TOWN.
- 16. NO RAILROAD SIGNS, WARNING LIGHTS, SIGNAL WIRES OR OTHER SIGNAL EQUIPMENT ARE TO BE RELOCATED OR REMOVED WITHOUT PRIOR APPROVAL BY SOUTHERN PACIFIC TRANSPORTATION COMPANY.
- 17. NO UTILITY MARKERS OR SIGNS ARE TO BE RELOCATED OR REMOVED WITHOUT PRIOR APPROVAL OF THE UTILITY COMPANY.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION. NO FEES WILL BE REQUIRED BY THE TOWN OF ADDISON.
- 19. ALL UTILITIES (i.e. VALVE BOXES, METER BOXES) LOCATED UNDER THE PROPOSED PAVEMENT SHALL BE RAISED OR LOWERED AS REQUIRED AND RESET TO MATCH PROPOSED ELEVATION (NO SEPARATE ITEM).
- CONTRACTOR SHALL INSURE POSITIVE SURFACE DRAINAGE RESULTS FROM ALL GRADING
- 21. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING FACILITIES RESULTING FROM CONSTRUCTION WORK SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 22. THE CONTRACTOR SHALL NOT DISTURB OR COME WITHIN 15' OF ANY RAIL OR TRACK STRUCTURE WITHOUT PRIOR AUTHORIZATION IN WRITING FROM SOUTHERN PACIFIC TRANSPORTATION COMPANY. CONTACT SOUTHERN PACIFIC TRANSPORTATION COMPANY AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- 23. A RAILROAD FLAGMAN WILL BE REQUIRED WHENEVER WORK IS TO BE PERFORMED WITHIN 15' OF ANY TRACK.
- 24. ALL SIGNAL RELOCATION WORK SHALL BE PERFORMED BY THE SOUTHERN PACIFIC TRANSPORTATION COMPANY (RAILROAD).
- 25. CONTRACTOR SHALL EXCAVATE EXISTING SUBGRADE FROM RELOCATED TRACKS 2, 3, 4, AND 5 FOR USE IN BUILDING SUBGRADE FOR THE NEW TRACK ALIGNMENTS. EXISTING SUBGRADE SHALL BE EXCAVATED TO MATCH THE ELEVATION OF THE ADJACENT UNDISTURBED GROUND. ADDITIONAL SUBGRADE MATERIAL WHICH IS REQUIRED SHALL BE OBTAINED FROM A SOURCE APPROVED BY THE TOWN OF ADDISON AND HAVE A P.I. LESS THAN 15.
- CONTRACTOR SHALL OBTAIN A FIRE PERMIT FROM THE TOWN OF ADDISON FIRE DEPARTMENT. CONTACT 450-7201.

				DESIGNED BY: J. WALDBAUER
				DRAWN BY: EH&A
				CHECKED BY: B. GRANTHAM
•				SCALE: NO SCALE
				DATE: JULY 1992
NO.	REVISION	ВҮ	DATE	FILE: \ADDRR\QUANTITY



ESPEY, HUSTON & ASSOCIATES, INC. QUANTITY SUMMARY/GENERAL NOTES

Engineering & Environmental Consultants 13800 Montfort Drive Suite 230 Dallas, Texas 75240 (214) 387-0771

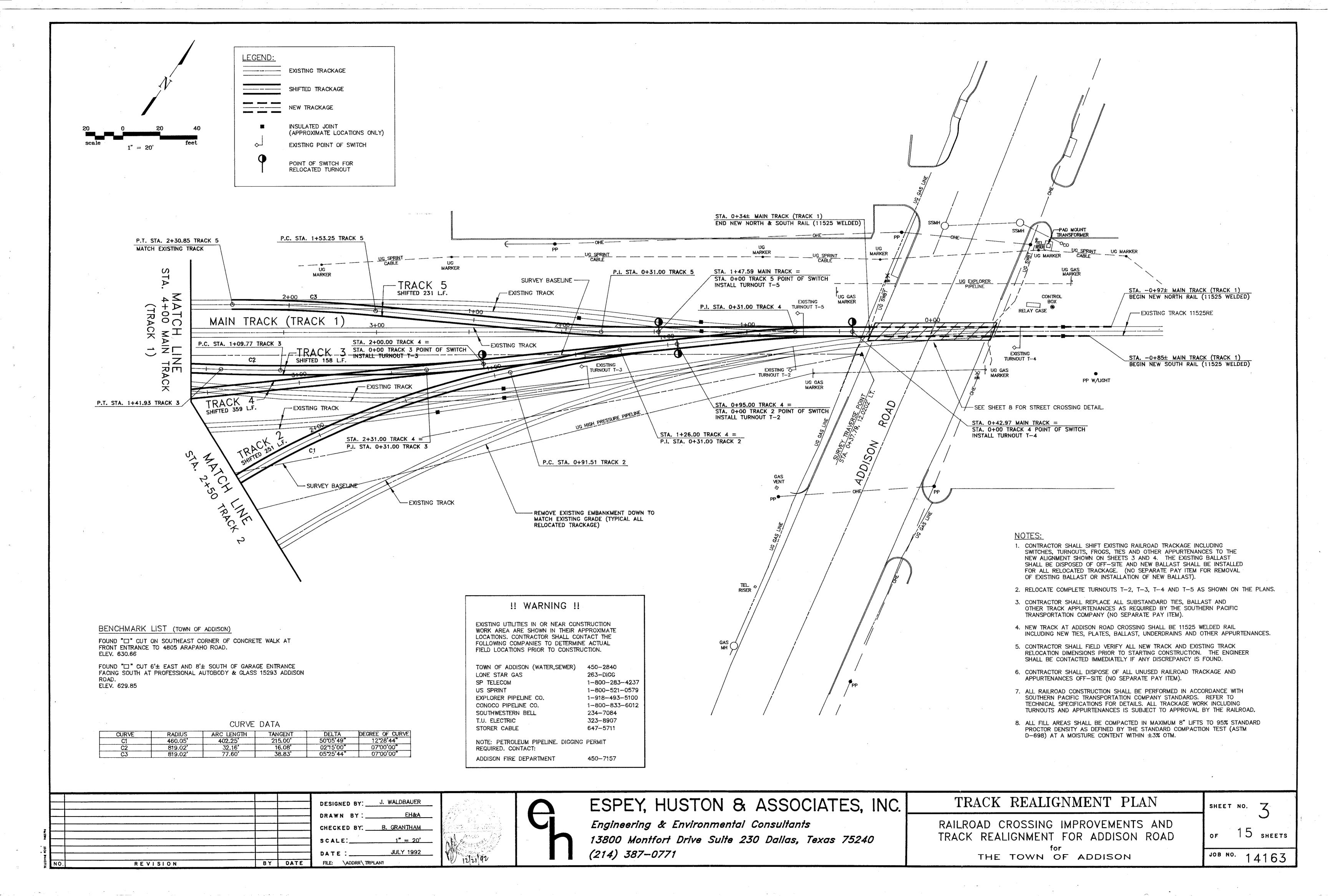
RAILROAD CROSSING IMPROVEMENTS AND TRACK REALIGNMENT FOR ADDISON ROAD

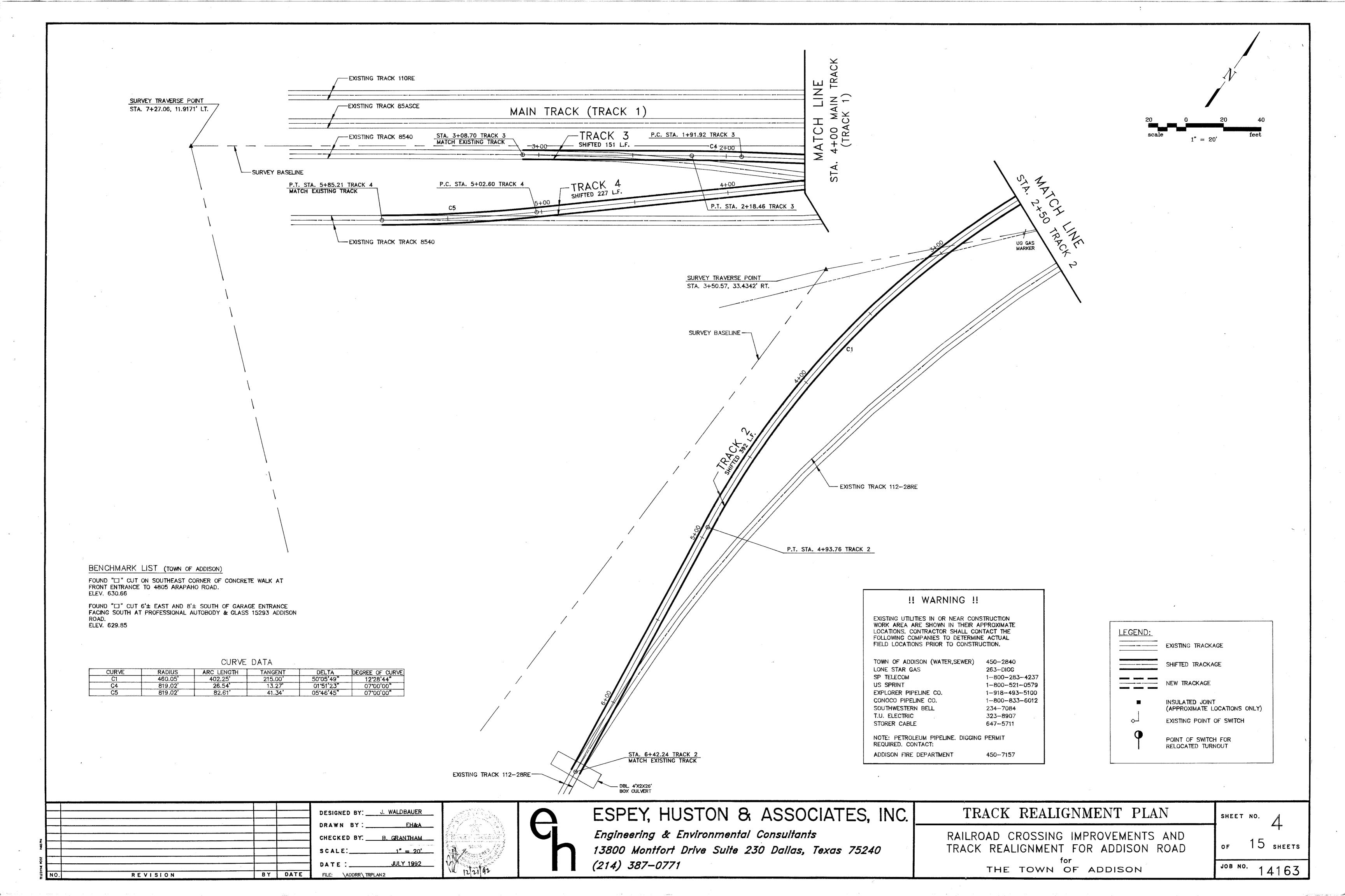
THE TOWN OF ADDISON

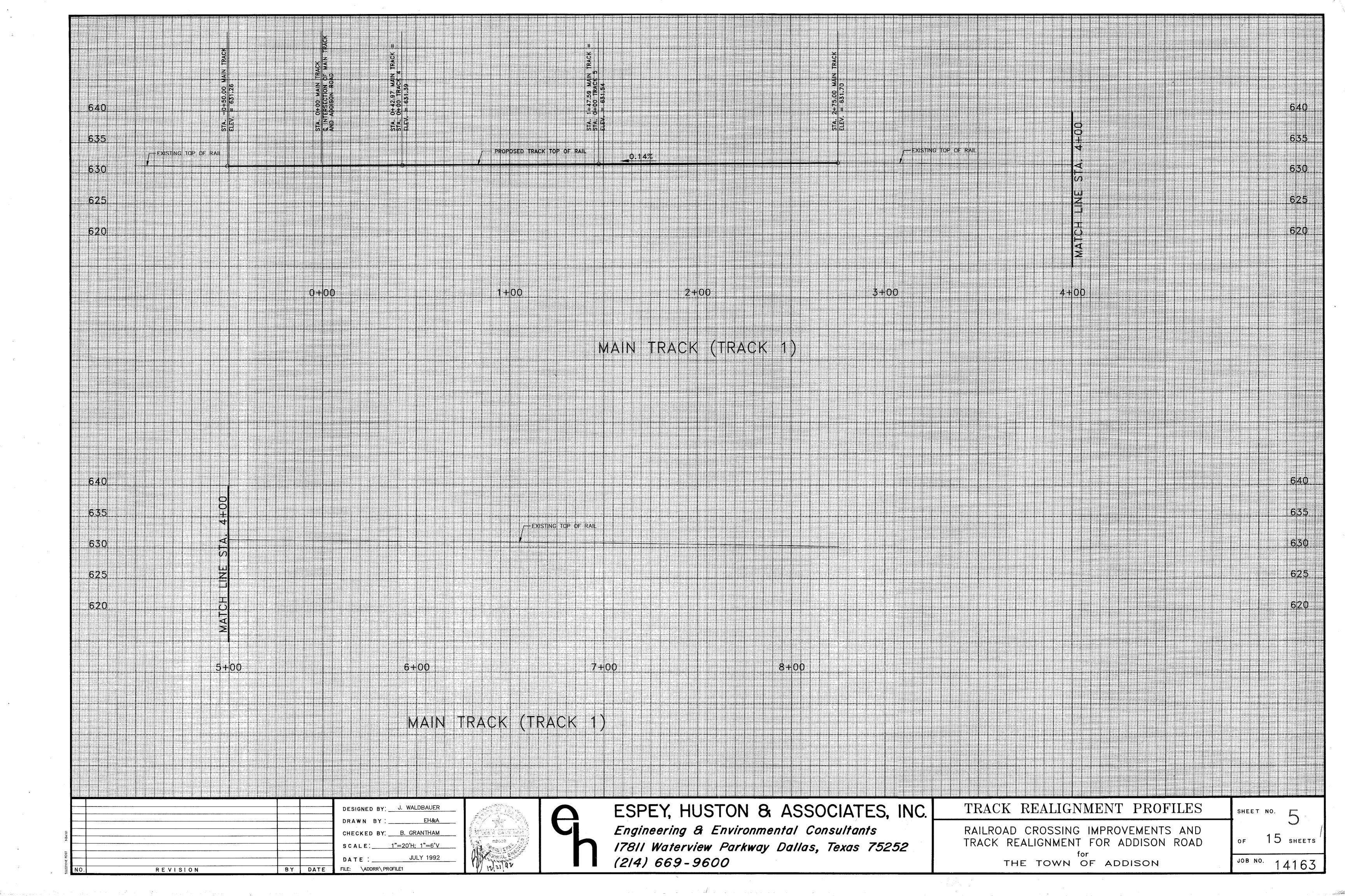
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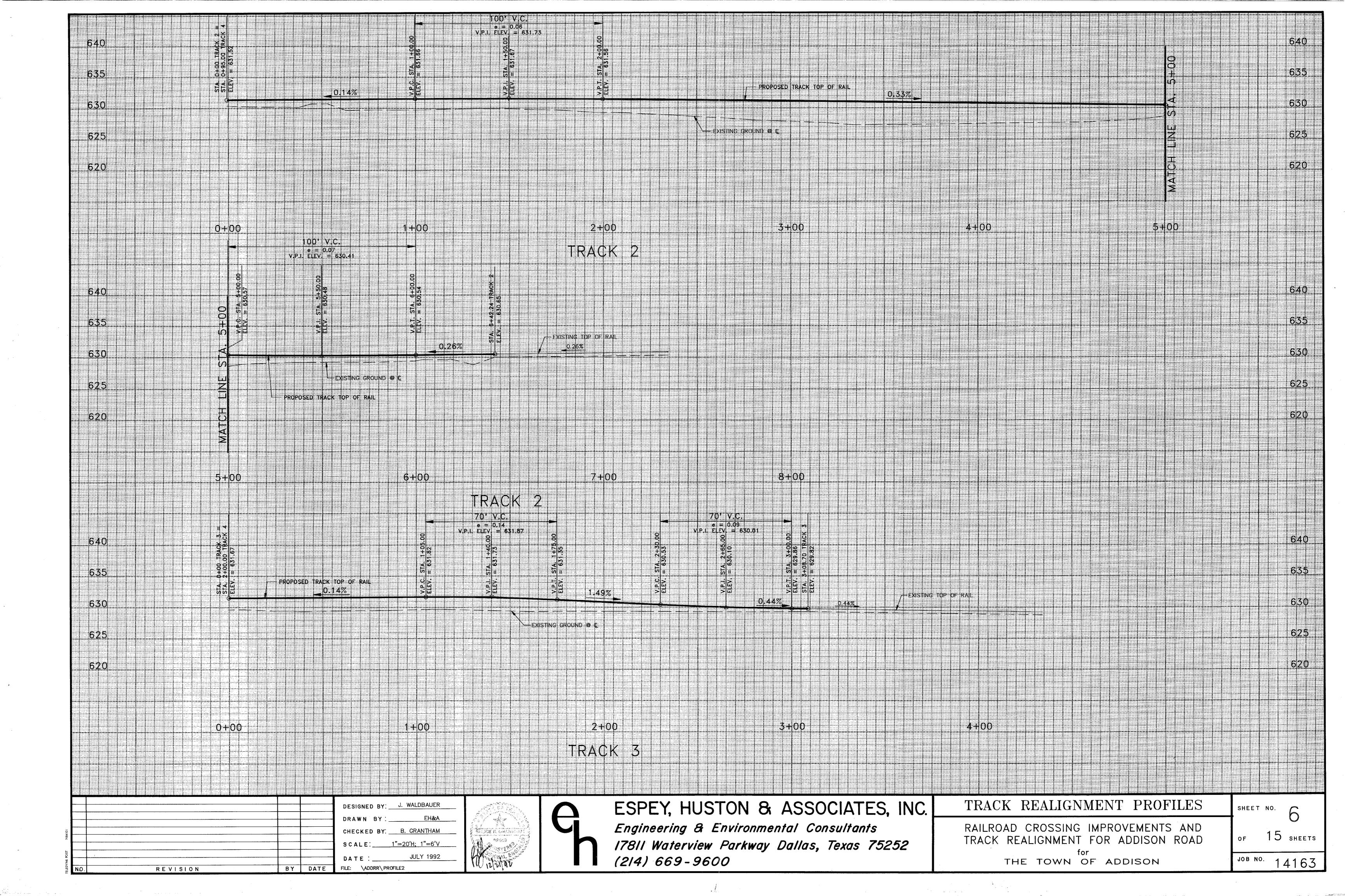
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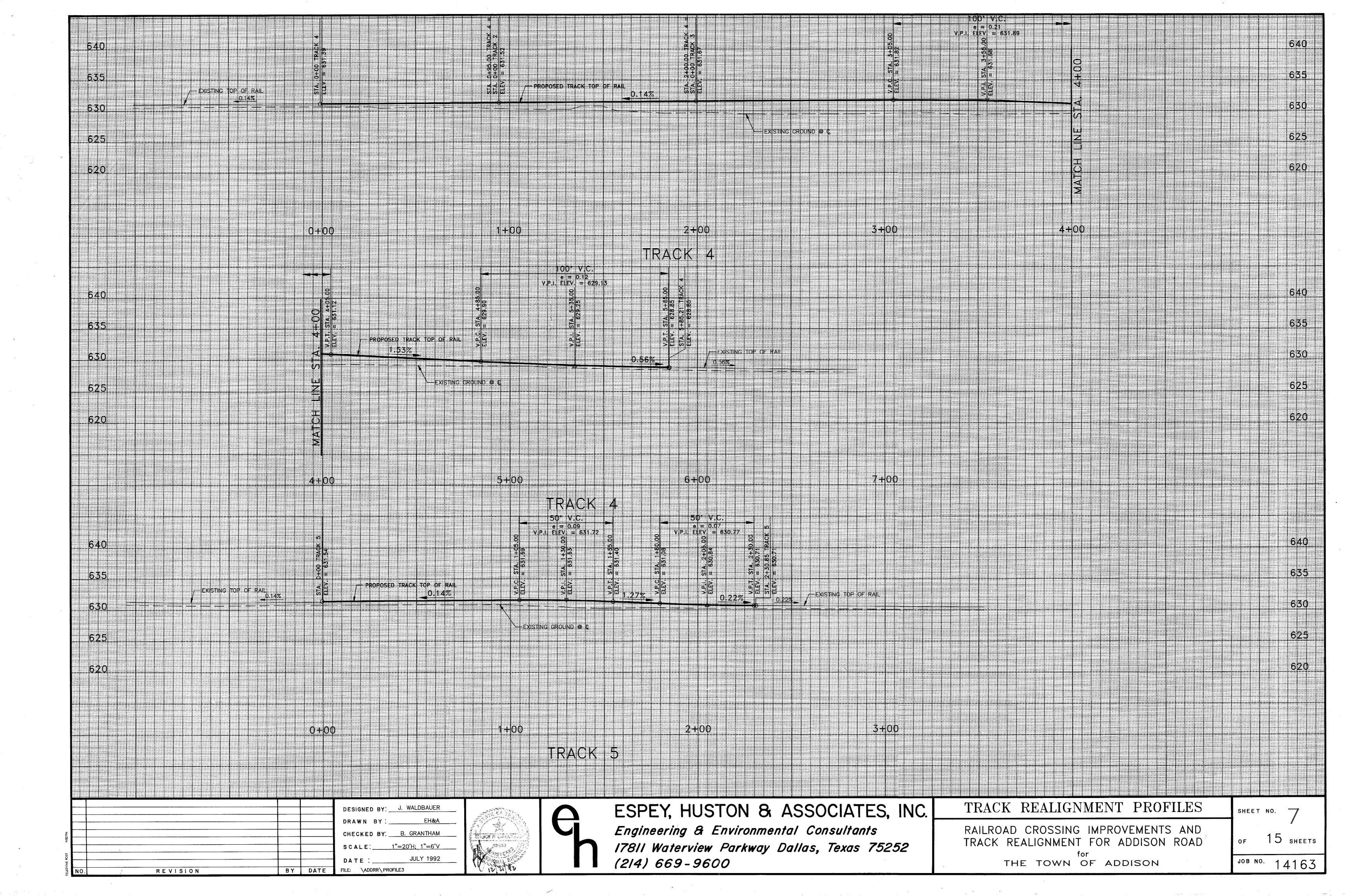
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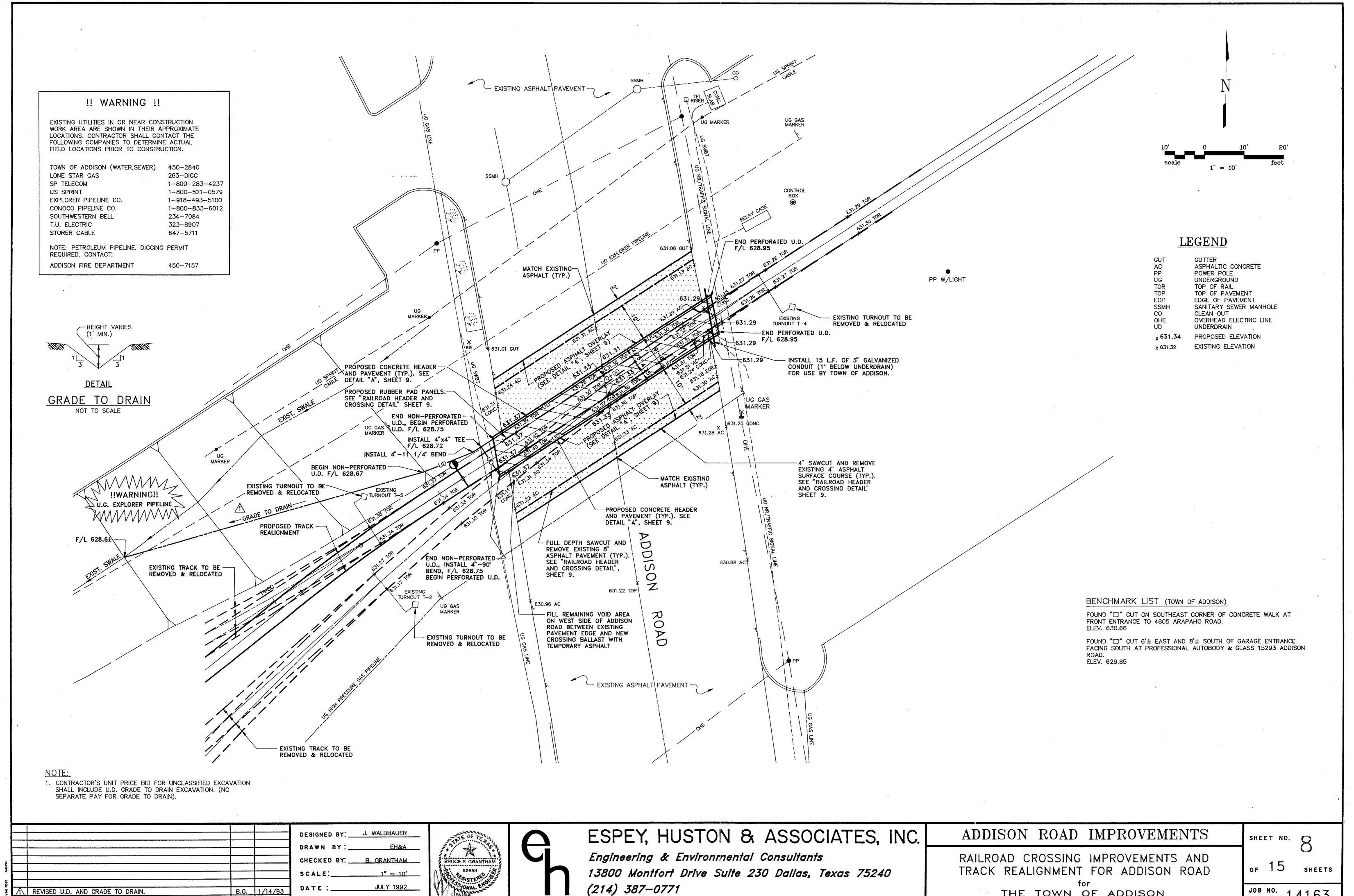












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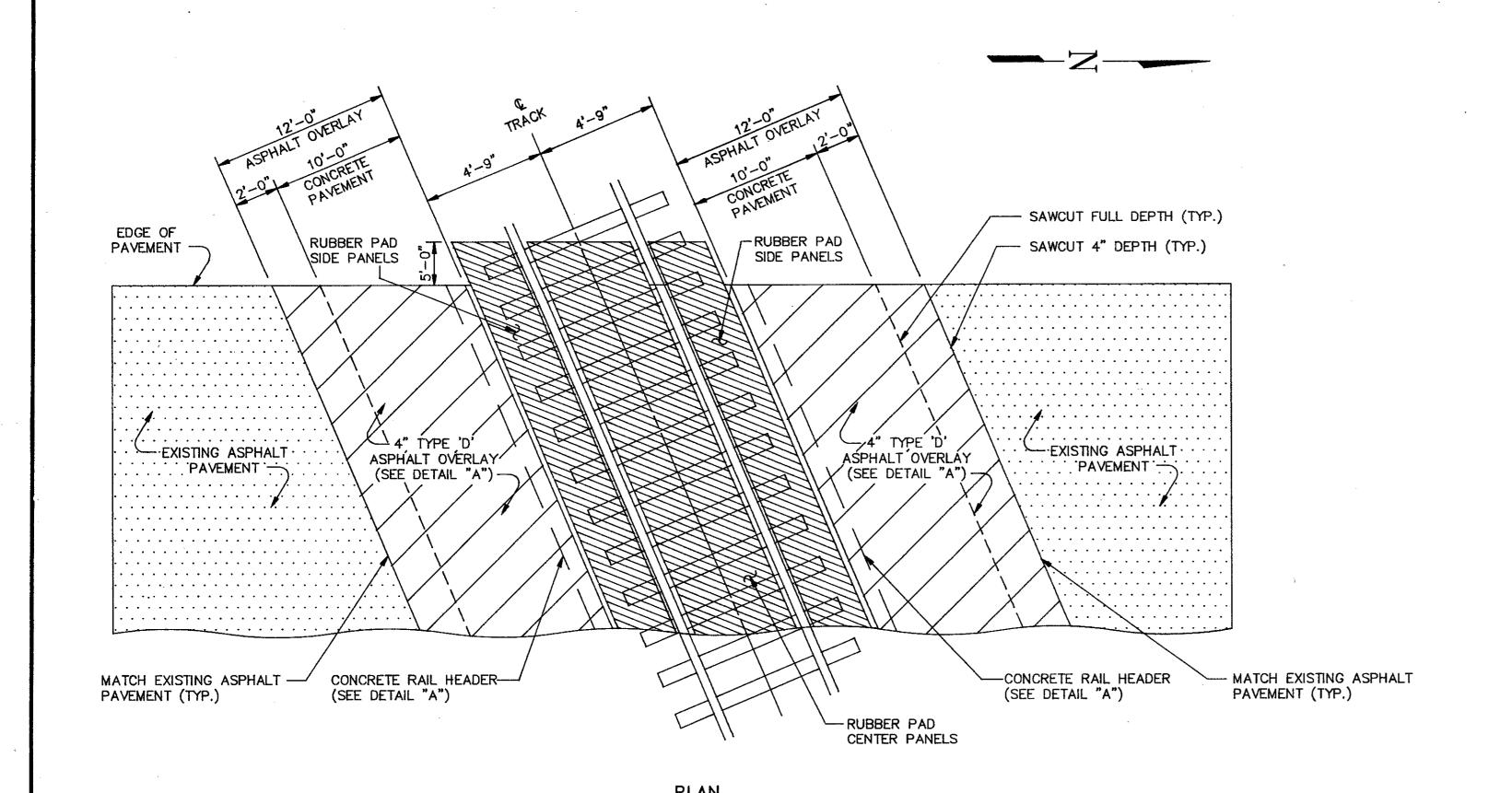
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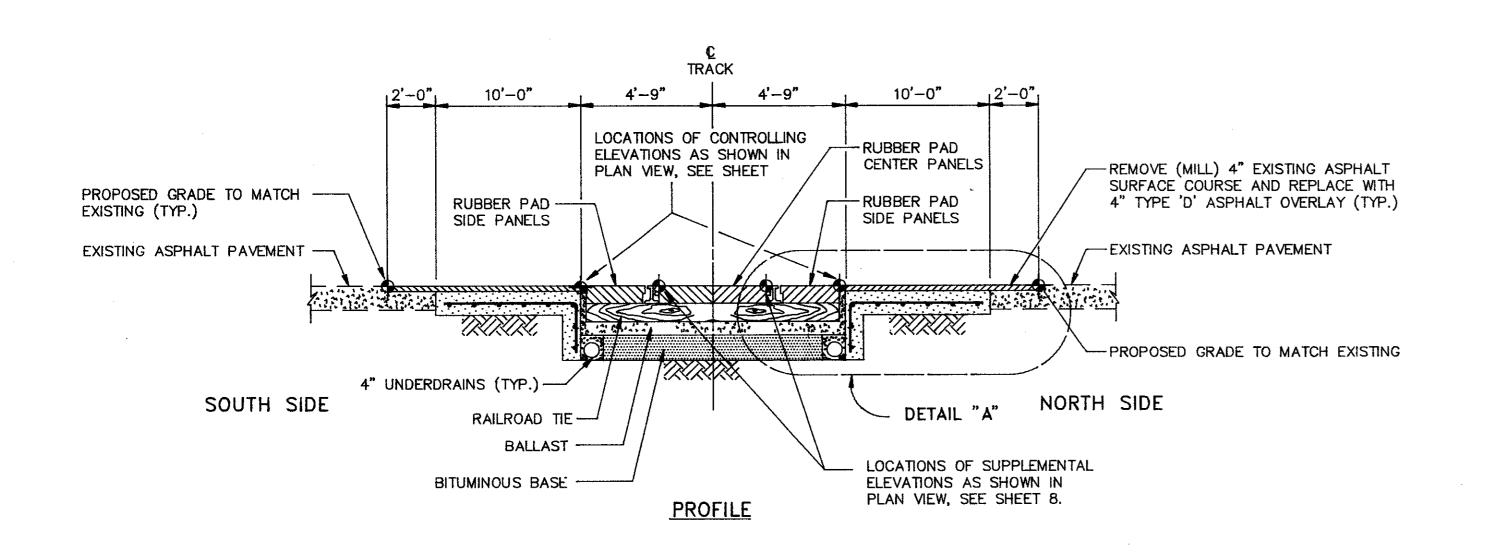
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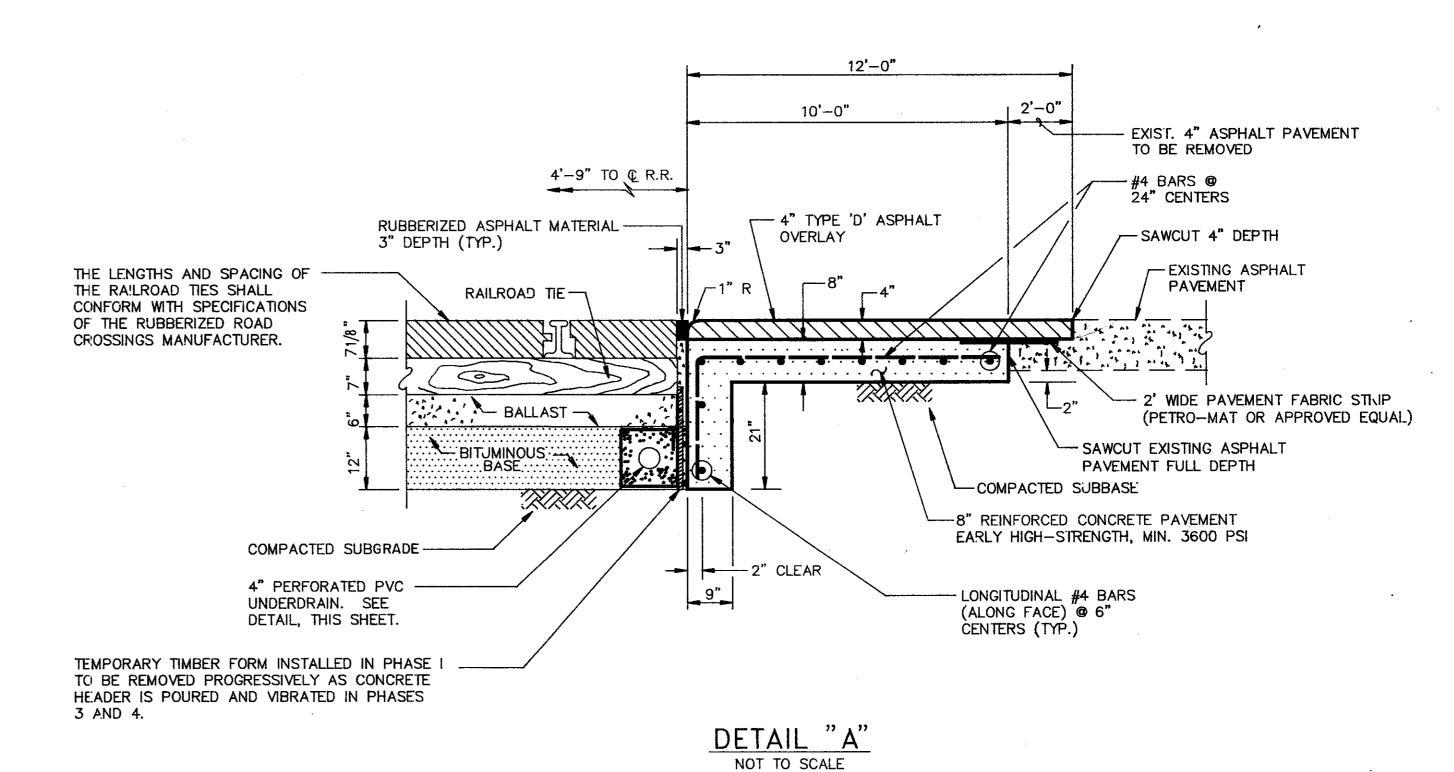
THE TOWN OF ADDISON





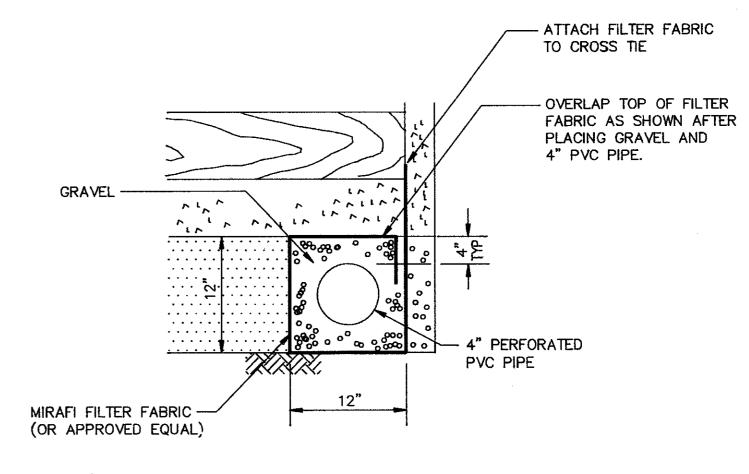
RAILROAD HEADER AND CROSSING DETAIL

NOTE: RUBBER CROSSING PADS SHALL BE OMNI FULL-DEPTH HEAVY DUTY (PANELIZED) OR APPROVED EQUAL.



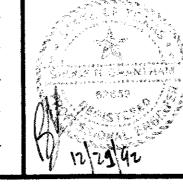
NOTES:

- 1. SYMMETRICAL ABOUT RR C/L FOR NORTH AND SOUTH SIDES.
- CONCRETE SHALL BE EARLY HIGH-STRENGTH CONCRETE FOR MIN. 3600 PSI TO ALLOW FOR TRAFFIC LOADS AFTER ONE DAY.



UNDERDRAIN DETAIL
NOT TO SCALE

				DESIGNED BY: J. WALDBAUER
				DRAWN BY: EH&A
				CHECKED BY: B. GRANTHAM
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ESPEY, HUSTON & ASSOCIATES, INC.

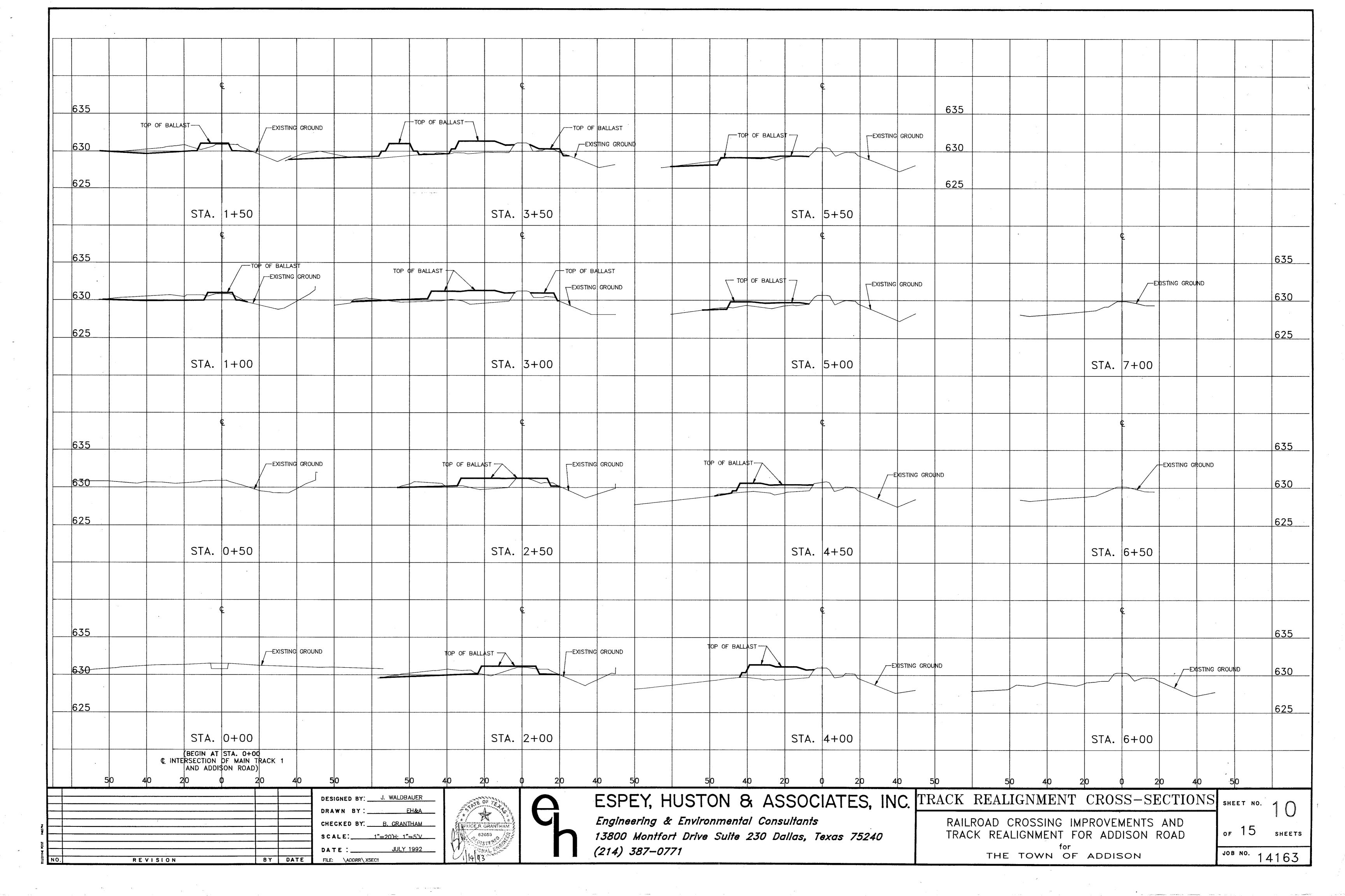
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13800 Montfort Drive Suite 230 Dallas, Texas 75240
(214) 387-0771

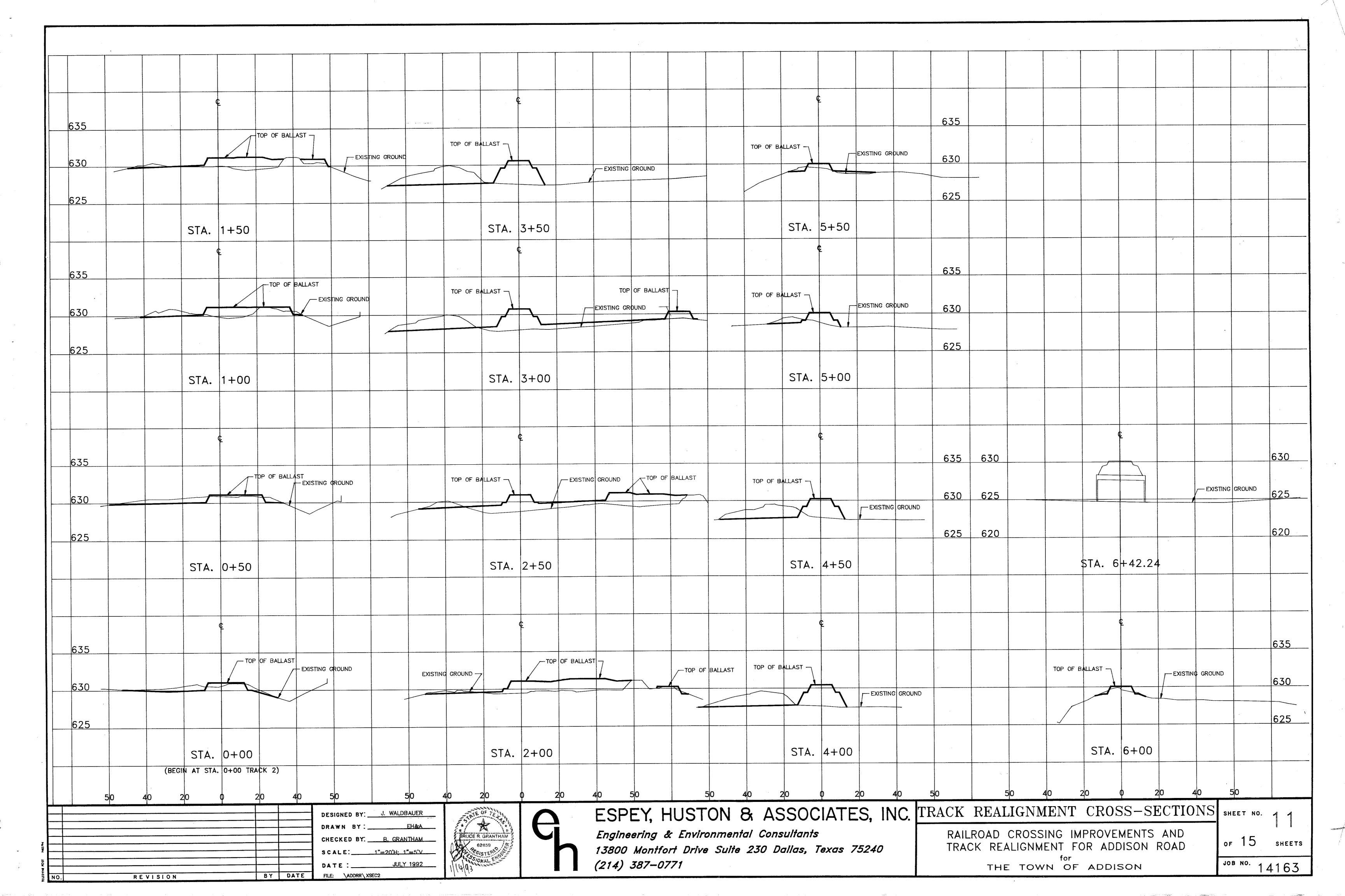
CONSTRUCTION DETAILS

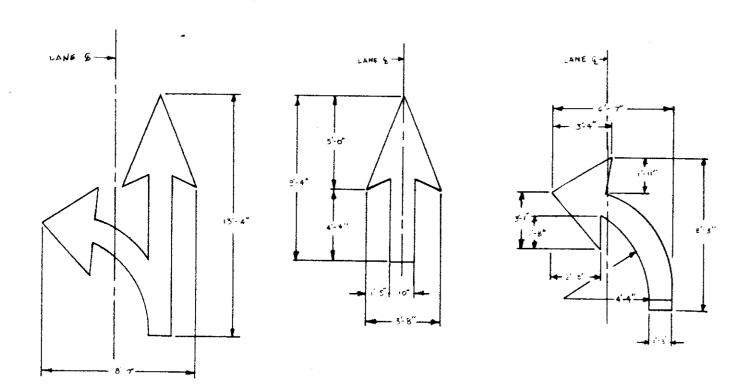
RAILROAD CROSSING IMPROVEMENTS AND TRACK REALIGNMENT FOR ADDISON ROAD

of 15 sheets

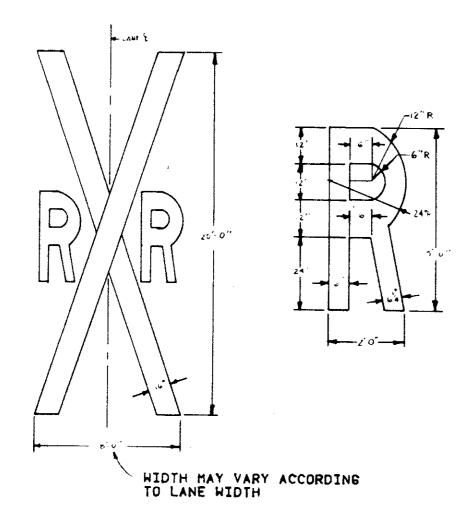
THE TOWN OF ADDISON JOB NO. 14163







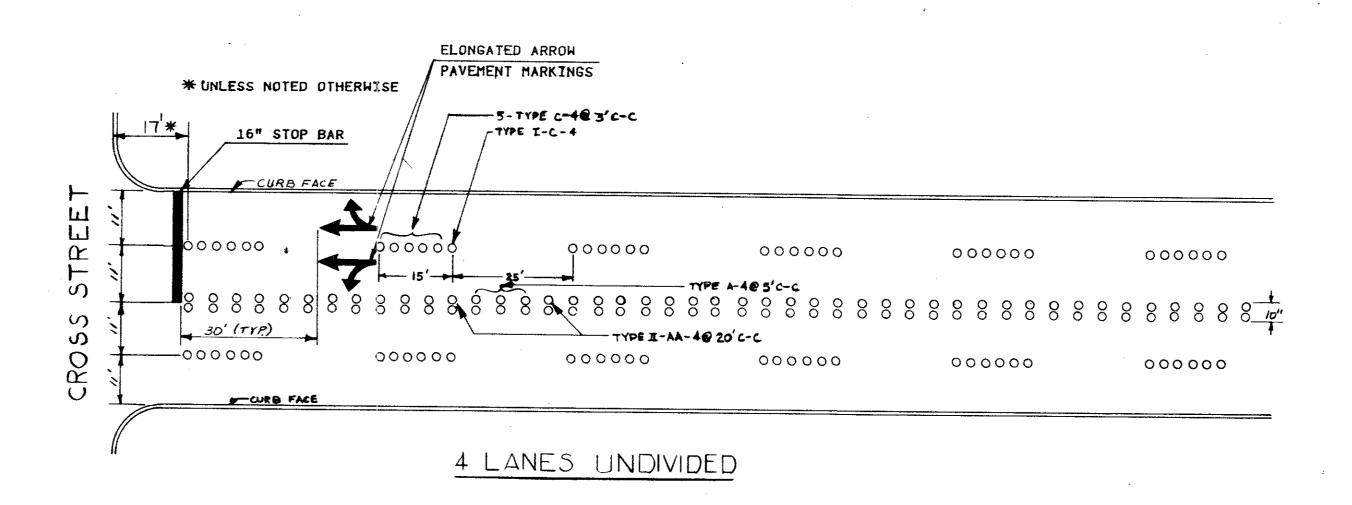
ELONGATED ARROWS FOR PAVEMENT MARKINGS

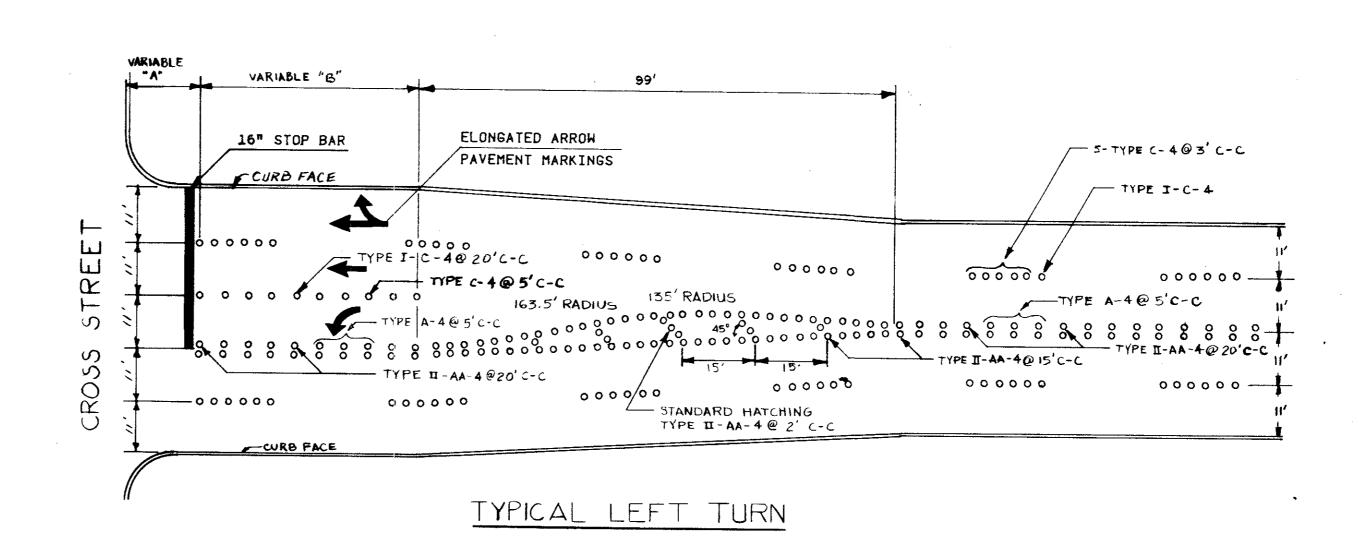


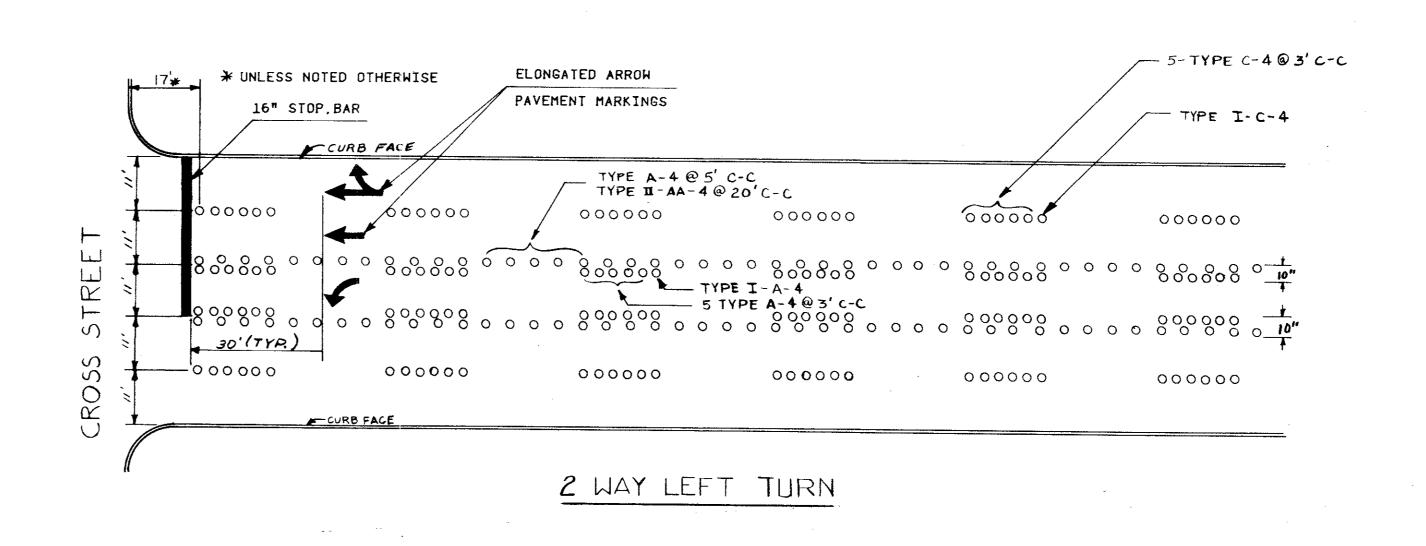
RAILROAD - HIGHWAY GRADE CROSSING FOR PAVEMENT MARKINGS

STOP BARS AND PAVEMENT MESSAGES

- STOP BARS AND PAVEMENT MESSAGES SHALL BE ALKALYD THERMOPLASTIC OR APROVED EQUAL EXCEPT WHERE THEY ARE LOCATED IN AREAS WHICH ARE TO BE MARKED WITH REFLECTORIZED PAINT.
 A SIXTEEN INCH TAPE WILL BE USED FOR A STOP BAR, NOT FOUR-FOUR INCH TAPES.
- 2. ALL STOP BARS AND PAVEMENT MESSAGES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED IN THE 1978 VOLUME.







DESIGNED BY:

DRAWN BY:

CHECKED BY:

SCALE:

DATE:

ERUCE R. GRANTHAM
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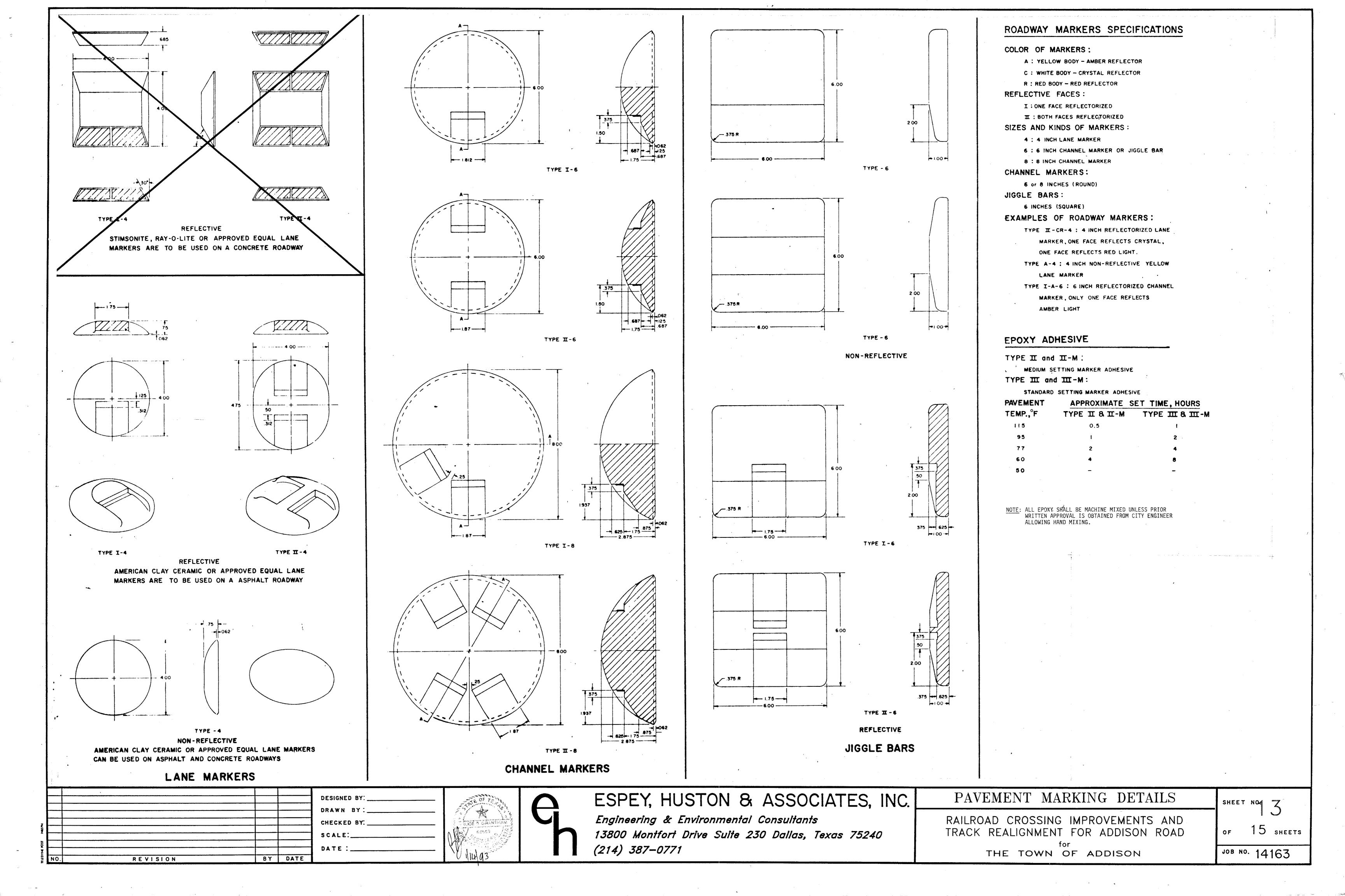
PAVEMENT MARKING LAYOUT

RAILROAD CROSSING IMPROVEMENTS AND TRACK REALIGNMENT FOR ADDISON ROAD

for THE TOWN OF ADDISON

of 15 SHEETS

JOB NO. 14163



CONSTRUCTION SIGN NOTES

- ALL SIGNS, SIGN COLOR, SIGN LETTERING AND SIGN REFLEC-TORIZATION SHALL CONFORM WITH THE TEXAS MANUAL ON TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. THE CONTRACTOR SHALL MAINTAIN EACH SIGN IN A CLEAN AND GOOD CONDITION.
- 2. CONSTRUCTION SIGNS SHALL BE MADE FROM WOOD OR METAL. THE DESIGNATION OF METAL AND WOOD AS PRIMARY MATERIALS FOR SIGNS SHALL NOT BE INTERPRETED TO EXCLUDE OTHER SUITABLE RIGID MATERIALS NOW OR HEREAFTER AVAILABLE.
- SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK.
 INDIVIDUAL WARNING SIGNS SHALL BE REMOVED, TURNED
 AWAY FROM THE VIEW OF TRAFFIC, OR COVERED WHENEVER
 THE SPECIFIC DANGER OF WHICH THE PARTICULAR SIGN
 WARNS HAS CEASED TO EXIST, EITHER PERMANENTLY OR
 TEMPORARILY. THE SIGN MUST BE PROMPTLY REPLACED,
 TURNED INTO VIEW, OR UNCOVERED WHEN THE SITUATION
 AGAIN BECOMES A POTENTIAL DANGER.
- 4. SIGNS ERECTED ON PORTABLE SUPPORTS FOR USE ON CONSTRUCTION PROJECTS NORMALLY MEAN SIGNS WHICH ARE USED DURING THE DAY TO WARN OR GUIDE TRAFFIC THROUGH AND OR AROUND THE ACTUAL CONSTRUCTION AREA, BUT AT THE END OF THE WORKDAY SUCH SIGNS ARE EITHER REMOVED OR TURNED AWAY FROM THE VIEW OF TRAFFIC. PORTABLE SUPPORTS SHALL BE AS SHOWN OR AS APPROVED BY THE ENGINEER. THE BOTTOM OF THE SIGN SHALL BE A MINIMUM OF ONE (1) FOOT ABOVE THE PAVEMENT EDGE. SIGNS REQUIRED FOR NIGHTTIME USAGE SHOULD NOT NORMALLY BE MOUNTED ON PORTABLE SUPPORTS EXCEPT WHEN APPROVED BY THE ENGINEER.
- SIGNS ERECTED ON FIXED SUPPORTS FOR USE ON CONSTRUC-TION PROJECTS NORMALLY MEAN SIGNS THAT ARE TO REMAIN IN PLACE FOR BOTH DAY AND NIGHT USAGE TO REGULATE, WARN AND GUIDE TRAFFIC IN ADVANCE OF AND WITHIN THE LIMITS OF THE PROJECT INCLUDING THE CROSSROAD APPROACHES. HOWEVER, UNDER CERTAIN CONDITIONS, SUCH AS WHERE A SIGN MAY BE REQUIRED FOR A FEW DAYS' DURATION AND THEN IS NO LONGER NEEDED, OR WHERE A SIGN IS MOVED FROM LOCATION TO LOCATION EVERY FEW DAYS OR WHERE IT IS NOT PRACTICAL OR DESIRABLE TO PROVIDE A FIXED MOUNTING, SUCH SIGNS MAY BE ERECTED ON A TEMPORARY TYPE OF SUPPORT. TEMPORARY SUPPORTS SHALL BE AS SHOWN OR AS APPROVED BY THE ENGINEER. SIGNS ERECTED ON TEMPORARY SUPPORTS SHOULD BE AT A MINIMUM HEIGHT OF 3 FEET. SIGNS ERECTED ON FIXED SUPPORTS SHOULD BE AT A MINIMUM OF SEVEN (7) FEET. REGARDLESS OF THE TYPE OF SUPPORT USED, REGULATORY

SIGNS SHOULD NOT BE ERECTED AT HEIGHT LESS THAN 7-FOOT MINIMUM SPECIFIED ABOVE UNLESS A LOWER HEIGHT IS APPROVED BY THE ENGINEER. POSTS FOR FIXED SUPPORTS SHOULD BE SET IN THE GROUND WITHOUT CONCRETE FOOTINGS.

WHERE PORTABLE OR TEMPORARY SUPPORTS REQUIRE THE USE OF WEIGHTS TO KEEP A SIGN OR BARRICADE FROM TURNING OVER, THE USE OF SOME TYPE OF SANDBAG IS RECOMMENDED. THE USE OF PIECES OF CONCRETE, ROCKS, IRON, STEEL OR OTHER SOLID OBJECTS WILL NOT BE PERMITTED.

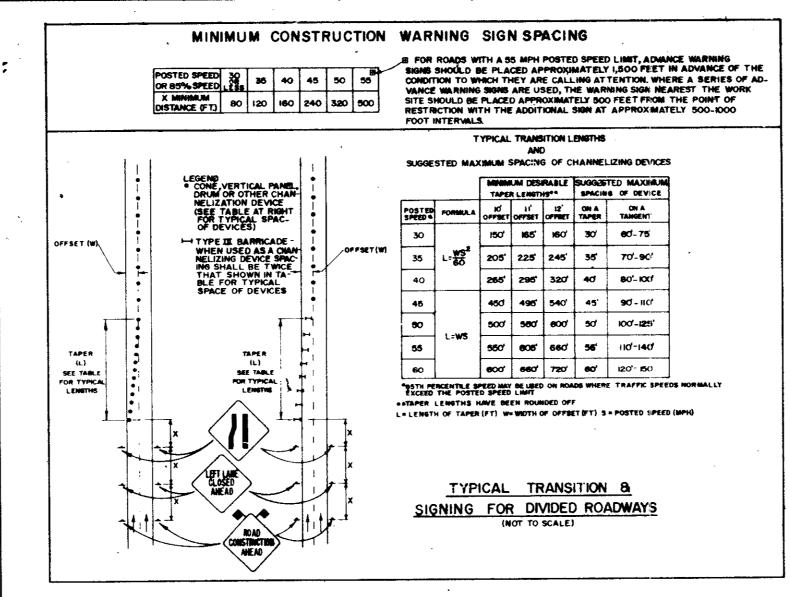
CONSTRUCTION PAVEMENT MARKINGS

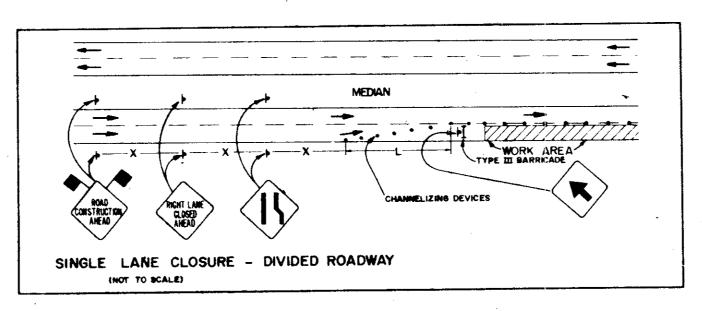
- WHEN REQUIRED ELSEWHERE IN THE PLANS, THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING PAVEMENT MARKINGS ON ALL ROADWAYS THAT ARE OPEN TO TRAFFIC WITHIN THE LIMITS OF THE PROJECT. ON PROJECTS INVOLVING ROADWAY SURFACING WHICH WILL REQUIRE PAVEMENT MARKING FOR CONTROL OF TRAFFIC DURING CONSTRUCTION, THE MARKINGS MAY INCLUDE BOTH STANDARD AND ABBREVIATED MARKINGS AS DEFINED BELOW:
- A. STANDARD PAVEMENT MARKINGS STANDARD MARKINGS PLACED IN CONFORMANCE WITH THE REQUIREMENTS OF THE TEXAS MUTCD. SUCH MARKINGS SHOULD BE PLACED ON ALL ROADWAYS OPEN TO TRAFFIC DURING CONSTRUCTION, INCLUDING NEW PAVEMENT, RESURFACING, DETOURS OR OTHER ROADWAYS WHERE CONSTRUCTION ACTIVITIES MAY HAVE COVERED OR OBLITERATED EXISTING MARKINGS. STANDARD MARKINGS SHOULD BE PLACED AS SOON AS POSSIBLE AND PRACTICAL. WHEN IT IS NOT PRACTICAL OR POSSIBLE TO PLACE STANDARD MARKINGS AT THE END OF EACH DAY'S WORK, ABBREVIATED MARKINGS MAY BE UTILIZED FOR SHORT PERIODS UNTIL STANDARD MARKINGS CAN BE PLACED.
- B. ABBREVIATED PAVEMENT MARKINGS -- ABBREVIATED PAVEMENT MARKINGS ARE SHORTER IN LENGTH THAN STANDARD MARKINGS. ABBREVIATED PAVEMENT MARKINGS MAY BE USED TO DELINEATE LANE CONTINUITY ONLY UNTIL SUCH TIME AS STANDARD MARKINGS CAN BE PLACED. THEY ARE NOT INTENDED TO SUBSTITUTE FOR STANDARD MARKINGS FOR PERIODS GREATER THAN TWO (2) WEEKS. TO SEPARATE TRAFFIC FLOWS IN OPPOSING DIRECTIONS, THE PAVEMENT MARKINGS SHALL BE YELLOW. WHITE PAVEMENT MARKINGS SHALL BE USED TO DELINEATE THE SEPARATION OF TRAFFIC FLOWS IN THE SAME DIRECTION.
- C. PAVEMENT MARKINGS, MATERIALS -- TEMPORARY PAVEMENT MARKING MAY BE ACCOMPLISHED BY USE OF STANDARD TRAFFIC PAVEMENT MARKING PAINT OR BY PAVEMENT MARKING TAPE (SCOTCHLANE OR STAMARK BRAND OR AS APPROVED BY THE ENGINEER). TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED IMMEDIATELY WHEN NO LONGER APPLICABLE.
- 2. WHEN ABBREVIATED PAVEMENT MARKINGS ARE USED, A DO NOT PASS SIGN SHALL BE USED TO MARK THE BEGINNING OF THE SECTION WHERE PASSING IS TO BE PROHIBITED AND A PASS WITH CARE SIGN SHALL BE USED TO MARK THE BEGINNING OF A SECTION WHERE PASSING IS PERMITTED.

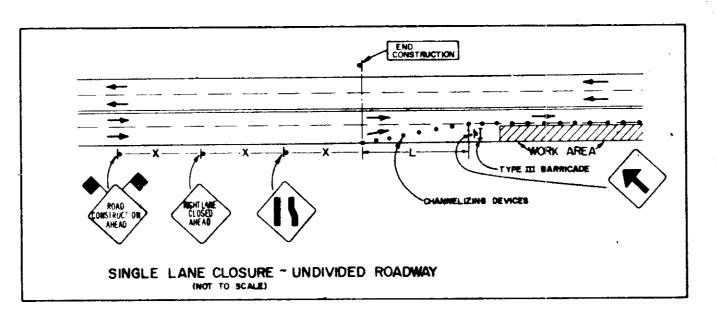
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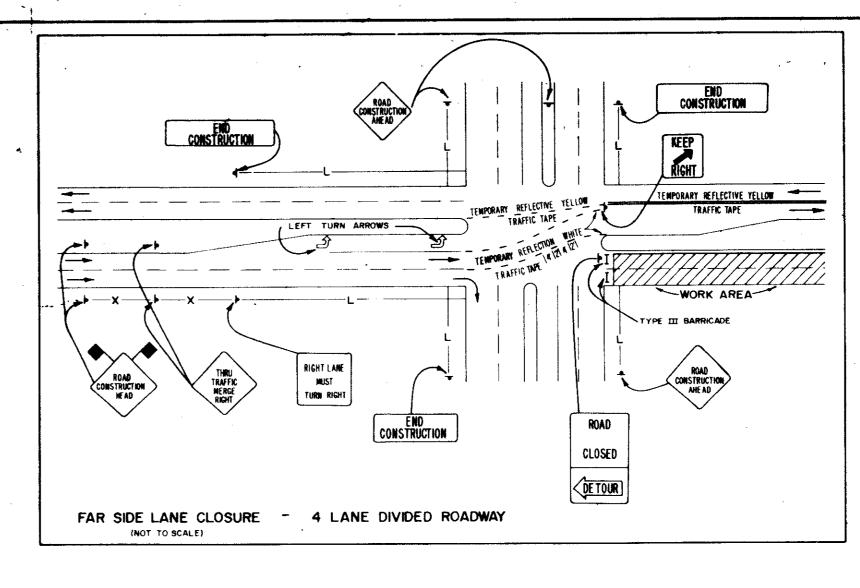
REMOVAL OF PAVEMENT MARKINGS

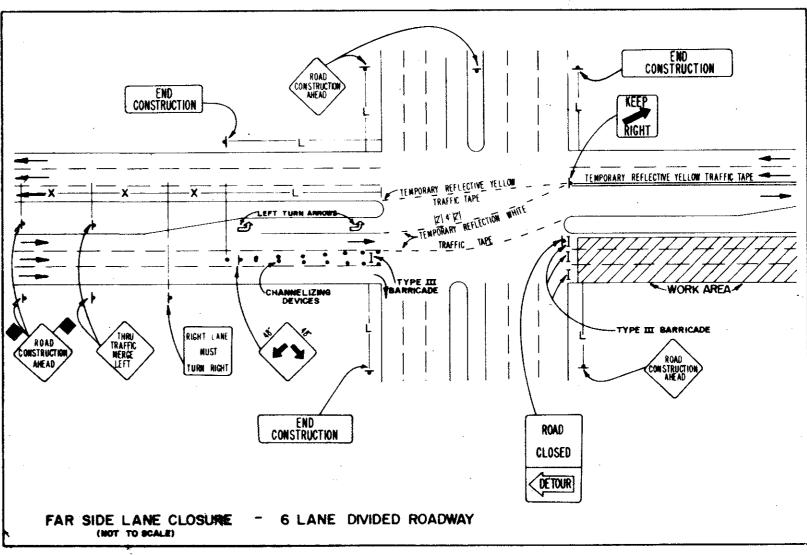
- I. REMOVAL OF PAVEMENT MARKINGS -- INCLUDES CENTERLINE, BARRIER LINES, LANE LINES, EDGE LINES, AND RAISED PAVEMENT MARKINGS.
- IMMEDIATELY UPON OPENING A DETOUR TO TRAFFIC, ANY PAVEMENT MARKINGS ON THE EXISTING ORIGINAL ROADWAY IN THE DETOUR TRANSITION AREA THAT ARE NO LONGER APPLICABLE AND WHICH MAY CREATE CONFUSION OR DIRECT A MOTORIST TOWARD OR INTO THE CLOSED PORTION OF THE ROADWAY, SHALL BE REMOVED OR OBLITERATED. IN ADDITION, WHEN A DETOUR IS TO BE DISCONTINUED, ANY PAVEMENT MARKINGS USED TO TRANSITION TRAFFIC INTO THE DETOUR WHICH MAY CREATE CONFUSION OR DIRECT A MOTORIST INTO THE DISCONTINUED DETOUR SHALL LIKEWISE BE REMOVED OR OBLITERATED. THE ABOVE SHALL NOT APPLY TO DETOURS OF A SHORT TIME DURATION OF A FEW HOURS WHERE FLAGMEN OR SUFFICIENT CHANNELIZING DEVICES ARE USED TO OUTLINE THE DETOUR ROUTE AND THE DETOUR IS NOT TO BE MAINTAINED OVERNIGHT.
- THE REMOVAL OF PAVEMENT MARKINGS SHALL BE AN INTEGRAL PART OF ESTABLISHING THE DETOUR. DETOURS SHALL BE PLANNED AND SCHEDULED WELL ENOUGH IN ADVANCE TO ALLOW ADEQUATE TIME TO COMPLETE ALL PHASES OF THE OPERATION PRIOR TO DARKNESS. IF INCLEMENT WEATHER OR DARKNESS BECOMES A FACTOR, IT WILL BE THE CONTRACTORS DECISION TO CONTINUE WITH THE DETOUR OPERATION OR RETAIN THE EXISTING TRAVELWAY OPEN TO TRAFFIC WHEN ANY OR ALL OF THE REQUIREMENTS OF THE DETOUR CANNOT BE ACCOMPLISHED.
- PAVEMENT MARKINGS SHALL BE REMOVED TO THE FULLEST EXTENT POSSIBLE, SO AS NOT TO LEAVE A DISCERNIBLE MARKING, BY ANY METHOD THAT DOES NOT MATERIALLY DAMAGE THE SURFACE OR TEXTURE OF THE PAVEMENT. SUBJECT TO THE APPROVAL OF THE ENGINEER, ANY METHOD THAT PROVES TO BE SUCCESSFUL ON A PARTICULAR TYPE PAVEMENT MAY BE USED. OVERPAINTING OF THE MARKING WILL NOT BE PERMITTED. REMOVAL OF RAISED PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.
- 5. WHERE MECHANICAL MEANS OF MARKING REMOVAL HAVE BEEN EMPLOYED TO COMPLETELY REMOVE THE MARKING AND ITS REFLECTIVITY, PAINT OF A COLOR MATCHING THE PAVEMENT SURFACE OR USED CRANKCASE OIL MAY BE EMPLOYED IF NECESSARY AS A MEANS OF COVERING CONTRASTING PAVEMENT TEXTURE. NIGHTIME INSPECTIONS ARE NEEDED TO VERIFY THE CONTINUED EFFECTIVENESS OF THE CHANGE.
- 6. PAVEMENT MARKINGS TO BE REMOVED SHALL BE AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. REMOVAL OF PAVEMENT MARKINGS WILL BE CONSIDERED SUBSIDIARY TO THE ITEM BARRICADES, SIGNS AND TRAFFIC HANDLING.

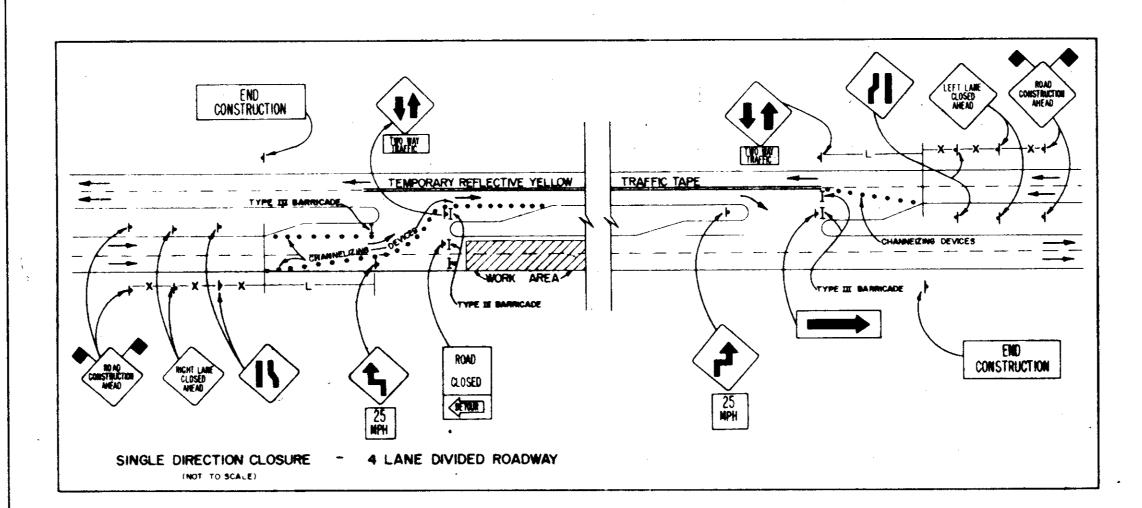


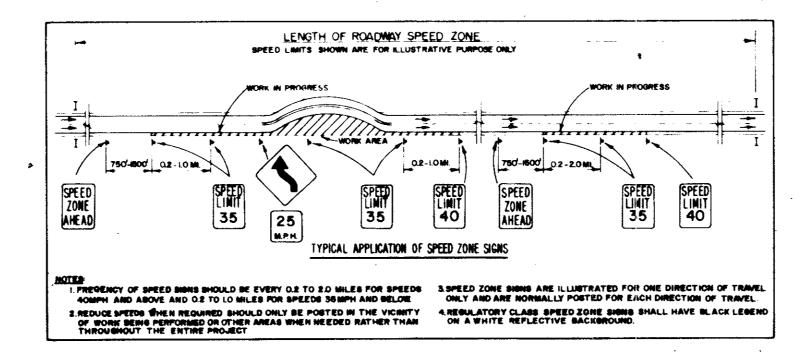












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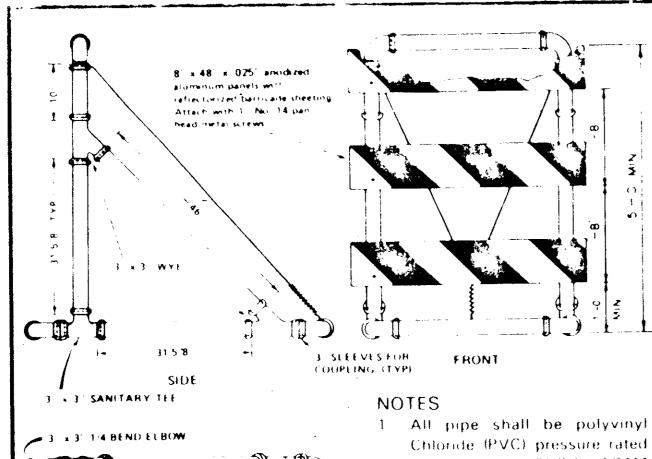
THE TOWN OF ADDISON

CONSTRUCTION SIGNING AND

BARRICADING DETAILS

DESIGN DRAWN DATE SCALE NOTES FILE NO.

SHT. 140 OF 15



THE WIFE

58 × 11

No. 8 SPRING

OPTIONAL

TYPE III PVC BARRICADES

TYPICAL DESIGN DETAILS

May be used at the option of the Contractor

smooth sealed outer surface which will display.

Reflectorization of tobular markers shall be a

minimum of two three meh bands placed a max

amorn of 2% from the top with a maximum of 6%

he provided by a minimum b" band placed a max

between the bands. Reflectorization of cones shall

Cones or tubular markers are generally only

suitable for temporary usage (up to 8 hours) with

other channelization devices such as vertical

panels or barricades preferred for longer term.

usage. Care should be taken to insure that they re-

main in their proper location and in an upright posi-

the same approximate color day and night.

amum of 3" from the top.

Chloride (PVC) pressure rated pipe SDR 21 or SDR 26 ASTM D2241

2 Joint fittings may be PVC-ASTM D2665 or Acrylomitrile Butadiene Styrene (ABS) ASTM D2661 (Dramage Waste)

3 All pipe and fittings shall be

- 4 All joints shall be free to separ ate upon vehicle impact
- 5 Shaded conduit to be tied together with rope threaded into pipe interior. Use 3.16° No 6 solid braided nylon or equivalent
- 6 A fixed frangible pavement connection is preferred Sand Bags may be substituted.

2"max

3" min

6"max

STRIPING FOR BARRICADE

Where a barricade extends entirely across a roadway, it is: desirable that the stripes slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided for, the chevron striping may slope downward in both directions from the center of the barricade

Striping should cover the full width of the rail. Striping of rails, panels and gates for the right side of the roadway is: shown above for the left side of the roadway, striping, should slope downward to the right

For all types of barricades with rails less than 3'-0" long, stripes 4" wide shall be used

The 8" rail width is a nominal dimension for rails made of

Identification markings may be shown only on back side of barricade rails

BARRICADE DETAILS

All lumber sizes are nominal dimensions Fabrication Details - ± 1/2

fabricated as detailed

BARRICADE NOTES

Channelizing devices other than barricades should normally be used for channelization purposes

Barricades should normally be placed perpendicular to the traffic flow. Other channelizing devices, such as drums, vertical panels or portable barriers, should be used where needed to separate traffic from the work area. In all cases, the barricades should be so located as to most advantageously warn and direct traffic

Barricades may be designed and constructed from wood, PVC pipe or any other suitable material in a manner approved by the Engineer. The construction details shown hereon are typical and are suggested details for wood and PVC pipe support systems for bar ricades. The details of rail width and striping, number and spacing of rails, minimum length and height (above pavement) of rails must be adhered to when alternate designs are used

TYPE I BARRICADE

For Type I Barricades, both sides of the top rail

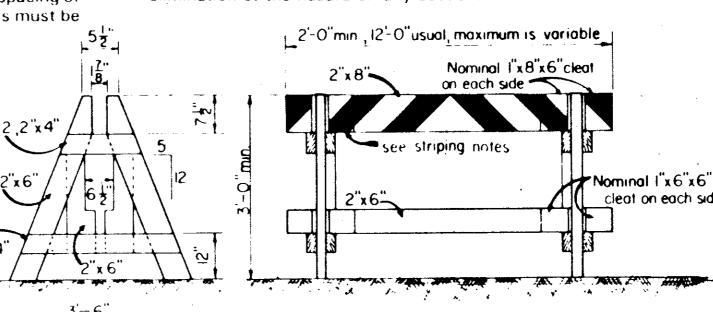
shall have reflective orange and reflective white

When signs are placed on barricades, a maximum number of 2 signs should be visable to the motorist.

Barricades are to be constructed in a first-class workmanship manner of clean sound material. All surfaces above ground, which are not striped, shall be white except the unpainted galvanized metal or aluminum components may be used. Components made of lumber shall be painted with a minimum of two coats of an approved brand of white paint to secure thorough coverage and a uniform white col-

The Contractor shall maintain each barricade in a clean and good

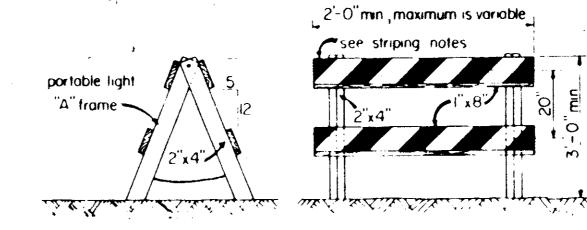
Barricades shall be removed upon completion of the work and/or the elimination of the hazard on any section.



TYPE II BARRICADE

STAND

For Type II Barricades, all four (4) rail faces shall have reflective orange and reflective white



1" x 8" rail and 2" x 4" stiffener. Otherwise the rail should be 4'-0"min ,12'-0"usual , maximum is variable

striping

When Wood Barricades are used and when orange and white stripes

are required on the backside, a 2 x 8" rail may be used in lieu of the

PANEL FOR

TYPE III BARRICADE

5"x8" machine bolts with

STAND FOR TYPE III BARRICADE

3,½"x6"machine bolts, 12'-0"minimum opening (or larger) 4"x4" ... GATE FOR POST FOR

each with 2 washers = 2"x8" machine bolt with 2 washers TYPE III BARRICADE TYPE III BARRICADE

Highways. **DELINEATORS**

> Delineators are normally used to indicate roadway alignment where mproved nighttime visibility is needed but other roadway features are sufficient for daytime alignment. They should generally be used on high fills and horizontal and vertical curves where only nighttime delineation is needed. Delineators, when required for temporary use to control traffic through construction areas, will be considered subsidiary to the item BARRICADES, SIGNS AND TRAFFIC HANDLING Delineators shall meet the material requirements of the project specifications. When used, delineators on the right side of the road. way facing traffic shall be white. The color of delineators used along the left edge of divided streets and highways and one way road ways shall be yellow

GENERAL NOTES

The reflectorized white and reflectorized orange stripes for barri-

cades, drums and vertical panels shall be constructed of retroreflec-

tive sheeting in conformance with project specifications and shall

be maintained to meet the appearance, color, and reflectivity re-

Warning lights are portable lens directed, enclosed lights. The color of the

light emitted shall be yellow. The lights should be mounted at a minimum

Type A-Low Intensity Flashing Warning Lights are commonly mounted on bar-

ricades, other channelization devices or advance warning signs and are intend-

ed to warn the driver that he is approaching a hazardous area. Their use shall

be as specified elsewhere in the plans, on Sheets BC(1) and BC(2), or as

Type B High Intensity Flashing Warning Lights are normally used at/or op-

proaching extremely hazardous site conditions within the construction area. They may be mounted on barricades, signs or other supports. As

these lights are effective in daylight as well as dark, they are designed to

operate 24 hours per day. Their use should be specified elsewhere in the

plans or as directed by the Engineer. Flashing warning lights shall not be

Type C Steady Burn Lights are intended to be used in a series for delineation t

supplement other traffic control devices used to delineate the edge of the

traveled way on detour curves, lane changes, lane closures, shoulder drop-off

and other similar conditions or hazards. The series of Steady Burn Lights

should have a Type B High Intensity Flashing Warning Light at the beginnin

and end of the series to mark the hazard. Where Steady Burn Lights are to be

Contractors shall furnish a copy of a certification from the manufacturer of the

lights that the warning lights meet the requirements of the ITE Standard Fo

Flashing and Steady Burn Warning Lights as contained in the latest edition of

the "Texas Manual on Uniform Traffic Control Devices for Streets and

used for delineation, the contractor may at his option, utilize delineators

REFLECTORIZATION

WARNING LIGHTS

directed by the Engineer.

used in a series

quirements of those specifications.

height of 36 inches to the bottom of the lens.

SPACING OF DELINEATORS

Spacing of Delineators on curves should be according to the Table below Spacing of delineators on tangent sections should normally be between 10 and 200 feet with the closer spacing for lower speeds and greater spacing $\mathfrak f$ righer speeds

DRUMS

See Barricade Layouts on Sheet BC (2)

TYPE III BARRICADE

For Type III Barricades, the three (3) rails shall be reflective orange. Use

and reflective white stopes on one side if it is facing traffic in one

direction only, and on both sides if it serves traffic in two directions.

CONES Traffic cones and tubular markers shall be a minimum of 18 inches in height with a broadened. base and may be made of various materials to chalf povement unless other withstand impact without damage to themselves. wise directed by the Engineer or to vehicles. Larger sizes should be used onfreeways and other roadways where speeds are relatively high or wherever more conspicuous. Drums, set on end, and used for traffic warning or channelization quidance is needed. Orange shall be the predomimant color on Cones and tubular markers. They should be kept clean and bright for maximum. target value. For nighttime use they shall be reflectorized or equipped with lighting devices for max immor visibility. Reflectorized material shall have a

shall be approximately 36% in height and minimum of 18% in diameter. The contractor, at his option, may use drims made from steel barrels or black polyethylene plastic drum liners weighing approximately eight pounds each. The markings on drums shall be horazontal, circumferential, reflectorized orange and reflectorized white stripes, 4 to 8 inches wide. The first reflectorized stripe should start within two (2) inches of the top of the druno. There shall be at least two orange and two white stripes on each drum. If there are non-re-Her torized spaces, between the horizontal orange and white stopes. they shall be no more than 2 inches wide. Metal drums shall be painted black or orange before reflectorized stopes are added. All. droms on a project will be the same color. When droms are placed in the roadway, appropriate warning agins should be used. Doning hours of darkness, a flashing warning light should be placed on droms used singly as a warning device. Steady burn electric lights or delineators should be placed on drunes used in sense, for traffic channelization. Drums should not be weighted with sand, water or other material to the extent that it would make the drums dangerous.

to motorists CW1.8 CHEVRON signs, CW1.6A ARROW signs or VP.1 Vertical Panels mounted above droms may be used as supplements to drom delineation

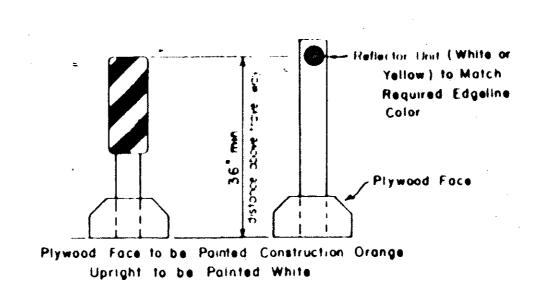
Stripes to be reflective ? orange and reflective while

VERTICAL PANELS (VP)

Vertical Panels are normally used as channelizing devices to indicate tangent or nearly tangent roadway alignment where good target; value of a device is needed in daytime as well as the nighttime. Inaddition, vertical panets should be used at the edge of shoulder. drop offs and other areas such as lane transitions where positive day and night delineation may be required. Vertical panels should be mounted back to back it used at the edge of cuts adjacent to two way two lane roadways. Stripes should always slope downward. toward the traveled way.

CHANNELIZING DEVICES

The Type or Types of Channelizing Devices used are to be as specified by the Engineer



TYPICAL PORTABLE VERTICAL PANEL OR DELINEATOR

Other similar supports may be used when approved or directed by the Engineer.



BARRICADE DETAILS DELINEATORS & VERTICAL PANELS DRUMS & CONES REFLECTORIZATION

BC(3)-82 WARNING LIGHTS FEDERAL AID PROJECT IGINAL DRAWING DATE 5 81) CONTROL SECTION JOB HIGHW

SHT. 15 OF 15