



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P.O. BOX 3265, HARRISBURG, PA 17105-3265

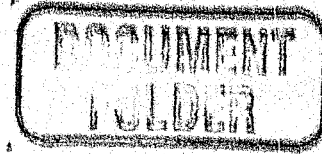
KUR

November 12, 1992

IN REPLY PLEASE
REFER TO OUR FILE

A-00110136

WILLIAM J GARLIN SOLICITOR
LOWER MAKEFIELD TOWNSHIP
680 MIDDLETOWN BOULEVARD
PO BOX 308
LANGHORNE PA 19047



Application of the Township of Lower Makefield for approval of the alteration of the crossing (AAR No.587 635 M) where Heacock Road (S.R. 2029) crosses the tracks of Consolidated Rail Corporation, in Lower Makefield Township, Bucks County.

To Whom It May Concern:

This is to advise you that an Order has been adopted by the Commission in Public Meeting on November 5, 1992 in the above entitled proceeding.

A copy of this Order has been enclosed for your records.

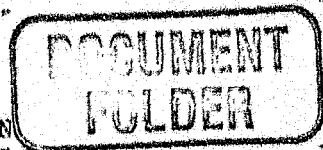
Very truly yours,

John G. Alford, Secretary

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DEC 02 1992

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Encls.
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PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, PA 17105-3265



Public Meeting held November 5, 1992

Commissioners Present:

David W. Rolka, Chairman
Joseph Rhodes, Jr., Vice-Chairman
Wendell F. Holland, Commissioner

Application of the Township of Lower Makefield for approval of the alteration of the crossing (AAR No. 587 635 M) where Heacock Road (S.R. 2029) crosses the tracks of Consolidated Rail Corporation, in Lower Makefield Township, Bucks County.

A-00110138

DOCKETED
DEC 02 1992

ORDER

BY THE COMMISSION:

This matter is before us upon application filed on March 24, 1992, by Lower Makefield Township seeking Commission approval to alter the crossing where State Route 2029 (Heacock Road) crosses, at grade, two tracks of Consolidated Rail Corporation in Lower Makefield Township, Bucks County.

In its application, the Township states that the existing northbound approach of State Route 2029 is 20 feet wide. The existing roadway is on a tangent alignment. The northbound approach to the crossing is a +3.53% grade and the southbound approach is a 1.54% grade. The crossing consists of two tracks owned and operated over by Consolidated Rail Corporation and also operated over by Southeastern Pennsylvania Transportation Authority. Advance railroad crossing warning signs are located approximately 100 feet from the crossing on each approach. The crossing is presently equipped with flashing light railroad crossing warning signals and gates.

The Township proposes to widen Heacock Road to 58-foot-wide. New storm drainage facilities will be installed along the proposed roadway and will outlet to Brock Creek north and east of the crossing. In addition to the roadway widening, a bituminous bike path is proposed to be extended across the tracks on the west side of Heacock Road. The proposed 58-foot-wide roadway on the north approach will match the existing 58-foot-wide southbound approach. Heacock road has a present average daily traffic volume of 6,100 vehicles. Traffic projections for the year 2010 will increase to 11,000 vehicles a day. The current speed limit along Heacock Road is 40 miles an hour and will remain at 40 miles an hour after the crossing improvement. Train traffic at the crossing obtained from Southeastern Pennsylvania Transportation Authority and Consolidated Rail Corporation consists of 294 commuter train crossings each week at a maximum speed of 60 miles an hour and 35 freight movements each week at a maximum speed of 50 miles an hour.

A field conference arranged and conducted by a Commission staff engineer and held at the site of the crossing on April 29, 1992, was attended by representatives of Consolidated Rail Corporation, Pennsylvania Department of Transportation, Philadelphia Electric Company, The Bell Telephone Company of Pennsylvania, Lower Makefield Township Police Department, Lower Makefield Township, Middletown Township and Pennsylvania American Water Company.

At the conference, Lower Makefield Township stated that it would construct the widened approaches to the crossing. Consolidated Rail Corporation is to install a new high-type rubber crossing surface and new cantilevered flashing light railroad crossing warning signals and gates. During construction, Pennsylvania Department of Transportation will close the roadway and provide a suitable detour for vehicular traffic. Pennsylvania Department of Transportation agrees to reimburse Consolidated Rail Corporation for its expenses in installing the crossing surface and signals from funding which consists of 90% Federal and 10% State. All widening at the crossing is to be to the west side of Heacock Road and the entire project will be completed by December, 1993. All non-carrier utilities present at the conference, being Philadelphia Electric Company (gas and electric), The Bell Telephone Company of Pennsylvania, and Pennsylvania American Water Company, indicated that their facilities should not be affected by the proposed improvement.

None of the parties indicated any objection to the proposed improvement and a hearing appears unnecessary.

The Commission has determined it will assume jurisdiction over that portion of the improvement along Heacock Road within the right-of-way lines of Consolidated Rail Corporation.

The record having been certified to this Commission, we issue this order approving the application pursuant to Section 335(a) of the Public Utility Code (66 Pa. C.S. §335(a)) and find that the alteration of the crossing is necessary and proper for the service, accommodation, convenience, or safety of the public; THEREFORE,

IT IS ORDERED:

1. That the application of Lower Makefield Township be and is hereby approved.

2. That the crossing where two tracks owned by Consolidated Rail Corporation and operated over by Consolidated Rail Corporation and Southeastern Pennsylvania Transportation Authority are crossed, at grade, by State Route 2029 (Heacock Road) in Lower Makefield Township, Bucks County, be altered generally in accordance with the right-of-way plan submitted with the application; which said plan is made part hereof and is hereby approved.

3. That Township of Lower Makefield prior to the start of construction and within 90 days of the date of service hereof, prepare and submit to all parties of record for their review and concurrence and to this Commission for approval, its final construction plan showing details of the proposed improvement.

4. That Consolidated Rail Corporation, within 90 days of the date of service hereof, prepare and submit to this Commission for approval its situation plan, country plan and cost estimate for the proposed improvement.

5. That in accord with the provisions of Section 2702 of the Public Utility Code (66 Pa. C.S. §2702) the following described properties be and are hereby taken and appropriated for the construction of the improvement in accordance with the approved right-of-way plan, and that Numbered Paragraph 5 of this order, together with a copy of the approved right-of-way plan, shall be recorded by the Recorder of Deeds of Bucks County and shall be indexed under the name or names of the record owner of said property, grantor(s), and to the Commonwealth of Pennsylvania, grantee, at the sole cost and expense of the Township of Lower Makefield, applicant herein.

Consolidated Rail Corporation, Record Owner
15 N. 32nd Street
Philadelphia, PA 19104

ALL THOSE CERTAIN tracts of land situate in the Township of Lower Makefield, County of Bucks, bounded and described as follows, to wit:

Parcel No. 1

Beginning at a point for a corner, said point being the intersection of the easterly legal right-of-way line of Heacock Road, S.R. 2029, 16.5' from the existing centerline, and the northwesterly line of lands of Consolidated Rail Corporation, said point also having Heacock Road construction centerline station 107+59.90 and offset right distance of 25.04'; thence, along the northwesterly line of lands of Consolidated Rail Corporation, in a northeasterly direction, to a point for a corner having construction centerline station 107+75.73 and offset right distance of 50.00'; thence, through lands of Consolidated Rail Corporation, in a southeasterly direction, to a point for a corner having construction baseline station 106+54.27 and offset right distance of 50.00'; thence, along the southeasterly line of lands of Consolidated Rail Corporation, in a southwesterly direction, to a point for a corner having construction centerline station 106+33.56 and offset right distance of 12.97'; thence, along the easterly legal right-of-way line of Heacock Road, S.R. 2029, in a northwesterly direction, to a point for a corner, having construction centerline station 107+59.90 and offset right distance of 25.04' being the point and place of beginning. Containing 0.088 acres.

Parcel No. 2

Beginning at a point for a corner, said point being the intersection of the westerly legal right-of-way line of Heacock Road, S.R. 2029, 16.5' from the existing centerline, and the northwesterly line of lands of Consolidated Rail Corporation, said point also having construction centerline station 107+37.27 and offset left distance of 10.31'; thence, along the westerly legal right-of-way line of Heacock Road, in a southeasterly direction, to a point having construction centerline station 106+13.56 and offset left distance of 21.03'; thence, along the southeasterly line of lands of Consolidated Rail Corporation, in a southwesterly direction, to a point for a corner having centerline station 106+03.30 and offset left distance of 50.00'; thence, through lands of Consolidated Rail Corporation, in a northwesterly direction, to a point for a corner having construction centerline station 107+14.06 and offset left distance of 50.00'; thence, along the northwesterly

line of lands of Consolidated Rail Corporation, in a northeasterly direction, to a point for a corner having construction centerline station 107+37.27 and offset left distance of 10.31' being the point and place of beginning. Containing 0.092 acres.

The above described tracts of land are a portion of real estate whose ownership and agreement rights were transferred to Consolidated Rail Corporation on October 17, 1978 and recorded in the Recorder of Deeds Office, in Doylestown in Deed Book 2307, page 645 through 666, and Deed Book 2308, page 1176 through 1200.

6. That Lower Makefield Township, upon approval of its final construction plan, at its sole cost and expense, furnish all material and do all work necessary to construct the highway approaches to the crossing, and to install advance railroad crossing warning signs at proper locations on each approach to the crossing in accordance with Part VIII of the Manual of Uniform Traffic Control Devices.

7. That Consolidated Rail Corporation, upon approval of its situation plan, circuitry plan and cost estimate, at its initial cost and expense, furnish all material and do all work necessary to adjust its tracks to accommodate the improvement; to install a new high-type rubber surface for the full width of the street and both tracks; to install cantilevered flashing light railroad crossing warning signals and gates in accordance with Part VIII of the Manual of Uniform Traffic Control Devices; and to provide watchmen, flagmen, inspection and engineering services deemed necessary by the corporation to protect its operations and facilities during the time the improvement is being constructed.

8. That Pennsylvania Department of Transportation provide for the maintenance and protection of vehicular traffic during the time the crossing improvement is being constructed.

9. That any relocation of, changes in or removal of any adjacent structures, equipment or other facilities of any public utility, other than Consolidated Rail Corporation and Southeastern Pennsylvania Transportation Authority, located within the limits of the highway within the limits of this Commission's jurisdiction, which may be required as incidental to the construction of the improvement, be made by said public utility, at its sole cost and expense, and in such manner as will not interfere with the construction of the improvement; and such relocated or altered facilities thereafter be maintained by said public utility.

10. That any relocation of, changes in or removal of any adjacent structures, equipment or other facilities of any public utility, other than Consolidated Rail Corporation and Southeastern Pennsylvania Transportation Authority, located beyond the limits of the highway within the limits of this Commission's jurisdiction, which may be required as incidental to the construction of the improvement, be made by said public utility in such manner as will not interfere with the construction of the improvement; and such relocated or altered facilities thereafter be maintained by said public utility.

11. That Lower Makefield Township, at its sole cost and expense, furnish all material and do all work necessary to complete the remainder of the improvement, including any attendant storm drainage facilities or any other ancillary features of the project, in accordance with the approved plan.

12. That Lower Makefield Township cooperate with Consolidated Rail Corporation and Southeastern Pennsylvania Transportation Authority, so that during the construction of the improvement, the operation and facilities of the railroads will not be endangered or unnecessarily impeded.

13. That during the time the improvement is being constructed adjacent to the tracks, Consolidated Rail Corporation and Southeastern Pennsylvania Transportation Authority cooperate with Township of Lower Makefield and conduct their operation in the vicinity of the crossing in a safe manner and under control.

14. That Consolidated Rail Corporation and Southeastern Pennsylvania Transportation Authority cooperate with each other so that the scheduling requirements of each may be accommodated insofar as possible.

15. That all work necessary to complete the alteration of the crossing be done in a manner satisfactory to this Commission on or before December 31, 1993 and that on or before said date, Lower Makefield Township and Consolidated Rail Corporation each report to this Commission the date of actual completion of its respective portion of the work.

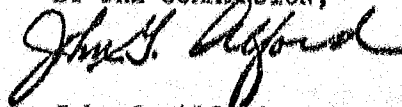
16. That Lower Makefield Township pay all compensation for damages due to the owners for property taken, injured or destroyed by reason of the alteration of the crossing in accordance with this order.

17. That Pennsylvania Department of Transportation pay Consolidated Rail Corporation a sum or sums of money equal to the actual cost of materials furnished, work performed and services rendered by the corporation in compliance with numbered Paragraphs 4 and 7 of this order.

18. That upon completion of the alteration of the crossing and its opening to public use, Consolidated Rail Corporation furnish all material and do all work necessary thereafter to maintain its railroad facilities, including the high-type rubber crossing surface and cantilevered railroad crossing warning signals and gates installed in accordance with this order.

19. That upon completion of the alteration of the crossing and its opening to public use, Pennsylvania Department of Transportation furnish all material and do all work necessary thereafter to maintain its highway approaches to the altered crossing.

BY THE COMMISSION,

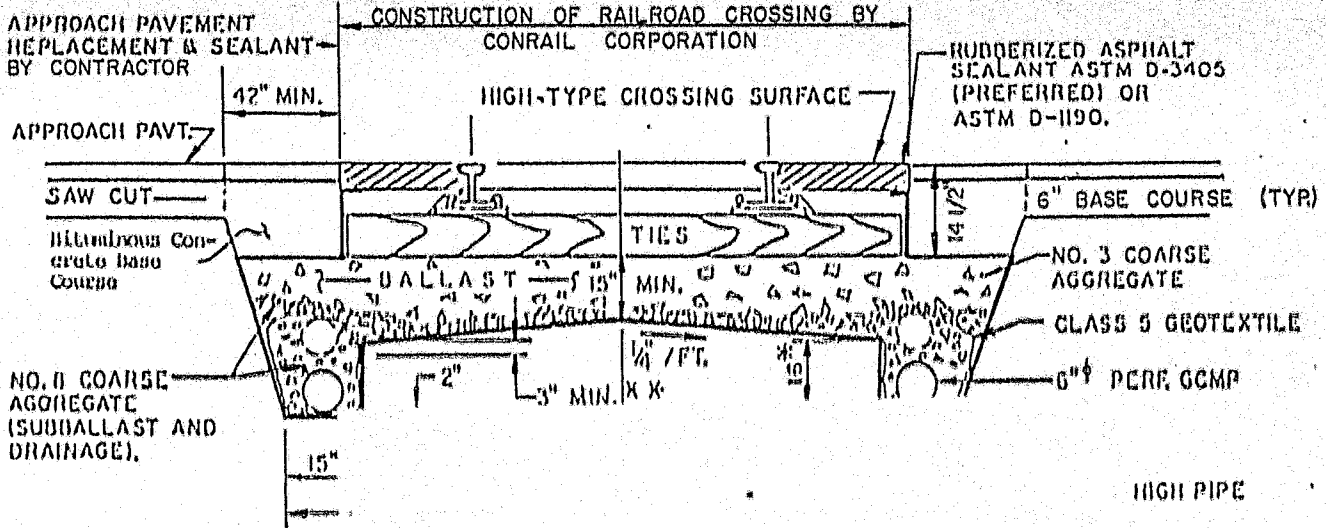


John G. Alford
Secretary

(SEAL)

ORDER ADOPTED: November 5, 1992

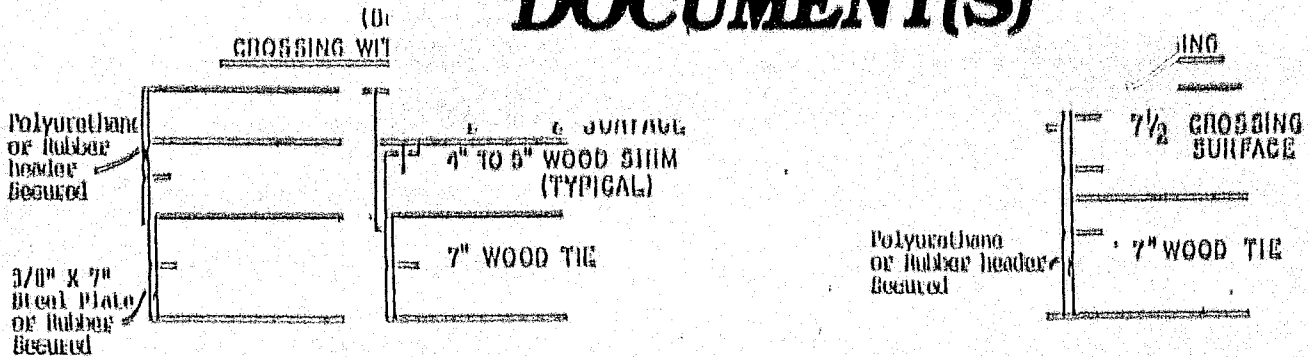
ORDER ENTERED: NOV 12 1992



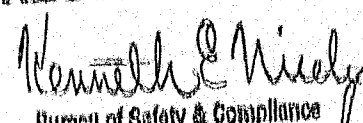
HIGH PIPE


LOW PIPE

OVERSIZE DOCUMENT(S)



CERTIFIED CORRECT PLANS


 Kenneth E. Nisely
 Bureau of Safety & Compliance


 Approved by
 PENNA. PUBLIC UTILITY COMMISSION

SCALE IN FEET

25 50 75
 Secretary NOV 5 1992

SCALE	1"=25'
OWNER	HEW
PROJECT	JPG
MAP NO.	
D. BKS.	
SHEET NO.	1 of 2

PA. P.U.C. APPLICATION PLAN
OXFORD VALLEY ROAD
& HEACOCK ROAD
 Lower Makefield Township, Bucks County, Pa.

PICKERING, CORTS & SUMMERSON, INC CONSULTING ENGINEERS & SURVEYORS NEWTOWN, PENNSYLVANIA	JOB NO.	180248
	DATE	9-6-91
	DRAWING NO.	0-593 L

CONRAIL

RECEIVED

MAY 18 1993

Kmen
KIR

May 11, 1993

SECRETARY'S BUREAU
Information Control Division

BUREAU OF
S&C

MAY 12 1993

RAIL SAFETY
DIVISION

Mr. David C. Hart, P.E.
Manager - Rail Safety Division
Pennsylvania Public Utility Commission
P. O. Box 3265
Harrisburg, PA 17105-3265

SUBJECT: Lower Makefield Township, Bucks County, PA
Heacock Road (S.R. 2029) Grade Crossing
MP 28.10, Trenton Line, LC 10-0326, Philadelphia
Division, AAR# 589-735M (File: 320 - EJM)

- WO# 46988 - Install a rubber crossing surface.
- WO# 46989 - Install cantilevered flashing light signals and gates with pedestrian gates for bike path.

Dear Mr. Hart:

Please refer to your File A-00110138.

In accordance with Section 4 of the above referenced Public Utility Commission Order, dated November 5, 1992, attached for your approval is Conrail's Force Account Estimate and plan dated May 5, 1993, in the amount of \$224,370 for the installation of a rubber crossing surface.

Also attached is Conrail's Force Account Estimate and plan dated May 5, 1993, in the amount of \$228,245 for the installation of cantilevered flashing light signals and gates with pedestrian gates for the bike path at the subject grade crossing location.

Upon completion of detailed circuit diagrams, copies will be forwarded to your office for approval.

Very truly yours,

E. J. Mayover

for
J. D. Costel
Chief Engineer -
Design and Construction

(215) 209-3945

Attachments

DOCUMENT
FOLDER

Mr. David C. Hart, P.E.
May 11, 1993
Page 2

cc: Mr. William D. Pickering, P.E.
Chief, Right of Way & Utility Division
Pennsylvania Department of Transportation
509 T & S Building
Harrisburg, PA 17120

Mr. James B. Ottlinger, P.E.
District Utility Manager, District 6-0
Pennsylvania Department of Transportation
200 Radner - Chester Road
St. Davids, PA 19007

Copy of estimates and plans attached.

Mr. James J. Dillen
Township Manager
Township of Lower Makefield
1100 Edgewood Road
Yardley, PA 19067

Copy of estimates and plans attached. Your contact person during the construction of this project will be:

Mr. J. L. McGlynn, Engineer - Construction
2001 Market Street
P. O. Box 41412
Philadelphia, PA 19101-1412
Telephone: (215) 209-3620.

Please contact Mr. McGlynn's office regarding attendance at your pre-construction conference and coordination of Conrail's force account work.

CONSOLIDATED RAIL CORPORATION

Lower Makefield Township, Bucks County, Pennsylvania

Heacock Road (S.R. 2029) Grade Crossing

FORCE ACCOUNT ESTIMATE

Project Estimate of cost of work to be performed by Conrail
 Description: forces in connection with the proposed installation
 of a rubber crossing surface.

M.P. :	28.10	Line :	Trenton Line
L.C. :	10-0326	Divn :	Philadelphia
AAR #:	589 735M	Proj #:	FTS 88-35
WO #:	46988	ZTB #:	221 & 222

A) Preliminary Engineering	\$	1,000	
Additives = 130.00% (FHPM)		1,300	
Expenses Incident		200	\$ 2,500
<hr/>			
B) Construction Engineering/Inspection	\$	1,500	
Additives = 130.00%		1,950	
Expenses Incident		350	\$ 3,800
<hr/>			
C) Track Work: (details attached)	\$	201,798	
Install rubber crossing surface		14,202	\$ 216,000
Contingencies			
<hr/>			
D) Accounting and Billing	\$	900	
Additives - 130.00%		1,170	\$ 2,070
<hr/>			
TOTAL			\$ 224,370
			<hr/>

NOTE: Estimate Good For 60 Days.

OFFICE OF THE CHIEF ENGINEER
 DESIGN AND CONSTRUCTION
 PHILADELPHIA, PENNSYLVANIA 19101-1412

MAY 5, 1993 - (EJM)

DOCKETED

MAY 19 1993

**BUREAU OF
S&C**

**DOCUMENT
FOLDER**

MAY 12 1993
**RAIL SAFETY
DIVISION**

CONSOLIDATED RAIL CORPORATION

OFFICE OF CHIEF ENGINEER
Philadelphia, Pa.

PHILADELPHIA DIVISION

Page: 1 of 4.

LOCATION LOWER MARKETFIELD TWP., PA.
RECONSTRUCT HEACOCK (OXFORD VALLEY) ROAD CROSSING
with 2 MAIN tracks
BRANCH: TRENTON LINE
Work Order: 46988

28.1 RDBR: 10-0326
FILE NO. 420-KRA

PARAMETERS

EXISTING CONDITIONS	Quantity	Units
Traveled Roadway Width:	20	ft
Crossing angle in degrees:	60	deg
Tracks:	2	ea
Rail below road surface	2	in
Sidewalks:	0	ea
Weight of rail in crossing: MAIN	140	lb
Weight of rail in crossing: SIDING	N/A	lb
Bolted rail=1 CWR=2 (in main):	1	
Roadway surf.: Asphalt=1 Conc. =2	1	

PROPOSED CROSSING - RUBBER	Quantity	Units
Replace track per crossing:	195	ft
Roadway width parallel with track:	90	ft
Crossing angle:	60	deg
Tracks:	2	ea
Surface required per track:	96	ft
Insulated Joints-Conventional:	0	pr
Insulated Joint-Factory Bonded:	8	ea
Rail to be raised:	2	ln
Drainage pipes required:	3	ea
Distance headquarters from project:	35	mi
Additional surface required beyond roadway width:	6	ft

Notes:

1. All Contractors will comply with the SAFETY RULES of the railroad while on CONSOLIDATED RAIL CORPORATION Property.
2. This estimate is for TRACKWORK only and is valid for 60 days.
3. Field Inspection and C&S items to be added.
4. Asphalt materials, approaches, and drainage are not included.
5. F.H.P.M. Additive rates applied.

rubber.SP

LOCATION: LOWER MAKEFIELD TWP., PA.
 RECONSTRUCT HEACOCK (OXFORD VALLEY) ROAD CROSSING
 Work Order: 46988 FILE NO. 420-KRA

TRACKWORK

MATERIAL	UNITS	UNIT OF	COST PER	TOTAL
		MEAS	UNIT	COST
Anchor	2100	ea	0.61	1281
Ballast	501.32	nt	13.32	6678
Bar, Joint 132RE	16	pr	43.55	697
Bar, Joint, Compromise	8	pr	220.00	1760
Band-Connecting 6in dia-Coated	11	ea.	3.38	37
Crosstie 7in.x9in.x8.5ft.	254	ca	22.21	5641
C&S Cable, pipe, connectors & misc.	100	bf	14.15	1415
Field Weld Kit	24	ea	43.00	1032
Geotextile	520	sy	0.15	78
Joint, Ins. Factory Bonded 19.5ft	8	ca	175.00	1400
Pad, GOODYEAR Rubber, Field and Gauge	192	lf	247.00	47424
Pipe, Corr. Metal, Perf. Coated-6in.x20'	200	lf	2.86	572
Plate, Tie 6in. Base Rail DS	508	ea	4.63	2352
Plate, End, Protective Steel	2	st	250.00	500
Rail, Blind End 132#RE NEW 20	780	ft	9.52	7426
Spike, Track 5/8x6in	2032	ea	0.26	528
Spike, Drive-Cone Neck 11/16x12in	1728	ea	0.83	1434
Stone, crushed	30	tn	9.11	273
Sub-Total Material				67443
Material Handling	5.0%			3372
State Sales Tax	6%			4047
Total Material				74862
rubber.SP				

LOCATION LOWER MAKEFIELD TWP., PA.
 RECONSTRUCT BEACOCK (OXFORD VALLEY) ROAD CROSSING
 Work Order: 46988 FILE NO. 420-KRA

TRACKWORK

LABOR	UNITS	UNIT OF MEAS	COST PER UNIT	TOTAL COST
Ditching	200	lf	5.36	1072
Drill and cut rail	20	ea	88.40	1768
Excavation, Unclassified	85	cy	7.80	663
Inst. Bar, Joint - Compromise	8	pr	62.40	499
Inst. Bar, Joint	16	pr	62.40	998
Inst. CSS Conduit & wires	100	tf	42.8	4280
Inst. Crossing incl end plates	192	tf	53.56	10284
Inst. Crosstie 7x9x8'-6in	20	ea	14.30	286
Inst. Field Weld	24	ea	98.80	2371
Inst. Geotextile	520	sy	0.87	452
Inst. U-Drain complete	200	lf	6.28	1256
Inst. Stone, crushed	30	tn	3.87	116
Inst. Track - 132# Conv.	390	tf	13.05	5090
Raise, line & surface track	120	tf	7.82	938
Remove Crossing	180	tf	26.00	4680
Remove Track	390	tf	3.64	1420
Unload & spread ballast	501	nt	5.36	2687
Sub-total Labor				38860
Overtime-Travel Time adjustment	15%			5829
Labor Additive	130.00%			58096
Leased Vehicles		ls		9620
Dispose of scrap ties	254	ea	3.28	833
Total Labor				113238
Flagging	2	da	276.66	553
Flagging Additive	130.00%			719
Total T&E				1272
SUB TOTAL - MATERIAL, LABOR & T&E				114510
rubber.SP				

LOCATION LOWER MAKEFIELD TWP., PA.
 RECONSTRUCT HEACOCK (OXFORD VALLEY) ROAD CROSSING
 Work Order: 46988 FILE NO. 420-KRA

SALVAGE	UNITS	UNIT OF MEAS	COST PER UNIT	TOTAL COST
Removal Track (Scrap Rail)	14.89	gt	120.00	1787
Removal Track (Scrap OTM)	6.4	gt	144.00	922
Sub-Total Salvage				2709
Less Handling	5%			-135
Total Salvage				2574

CONTRACT WORK	UNITS	UNIT OF MEAS	COST PER UNIT	TOTAL COST
Equipment Rental		ls		15000
Sub-Total Contract Work				15000
TOTAL CONTRACT WORK				15000

SUMMARY	TOTAL COST
TRACKWORK = MATERIAL	74862
TRACKWORK = LABOR	113228
T&E	1272
CONTRACT WORK	15000
SUB-TOTAL	204372
LESS SALVAGE	-2574
TOTAL PROJECT	201798
rubber.SP	

CONSOLIDATED RAIL CORPORATION

Lower Makefield Township, Bucks County, Pennsylvania

Heacock Road (S.R. 2029) Grade Crossing

FORCE ACCOUNT ESTIMATE

Project Estimate of cost of work to be performed by Conrail
 Description: forces in connection with the proposed installation
 of cantilevered flashing light signals and gates
 and pedestrian gates for bike path.

M.P. :	28.10	Line :	Trenton Line
L.C. :	10-0326	Divn :	Philadelphia
AAR #:	589 735M	Proj #:	FF 88-41
WO #:	46989	ZTS #:	221 & 222

A) Preliminary Engineering	\$	1,000	
Additives - 130.00% (FHPM)		1,300	
Expenses Incident		200	\$ 2,500
<hr/>			
B) Construction Engineering/Inspection	\$	1,500	
Additives - 130.00%		1,950	
Expenses Incident		350	\$ 3,800
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C) Signal Work: (details attached)	\$		
Install cantilevered FLS and gates		157,150	
Install 2 new transmitter locations		33,443	
Replace old transmitters/receivers		7,929	
Contingencies		19,778	\$ 218,300
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D) Miscellaneous Work:	\$		
Install cribbing and 150 tons ballast		1,500	
Contingencies		75	\$ 1,575
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E) Accounting and Billing	\$	900	
Additives - 130.00%		1,170	\$ 2,070
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TOTAL \$ 220,245
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NOTE: Estimate Good For 60 Days.

OFFICE OF THE CHIEF ENGINEER
 DESIGN AND CONSTRUCTION
 PHILADELPHIA, PENNSYLVANIA 19101-1412

MAY 5, 1993 = (EJM)

DOCKETED

MAY 19 1993

**DOCUMENT
 FOLDER**

PROJECT: LOWER MAKEFIELD TWP., PA STATE: PA
 LOCATION: SR 2029 (HEACOCK RD.)
 VALUATION: V6118P RDR: 10-0326 DIVISION NAME: PHILADELPHIA
 MILE POST LIMIT: 27.70 TO 28.00 LINE NAME: TRENTON LINE
 VERSION: 1 AAR#: PIN#: AFE/WQ: 46989
 TITLE: XMT, LOC. 2 TRK. C.S. 1461+15
 COMPONENT: MXOQXM2R MILEPOST: 27.700 AGENCY: F H P M

MATERIAL:

RAW MATERIAL			4,425.05
MATERIAL HANDLING	5.0	4425.05	221.25
SALES TAX	0.0	4425.05	0.00

LABOR:

0	ENGINEERING	120.0	0.00 (ENGR)	0.00
24	INSTALL APPARATUS	120.0	2880.00	
0	INSTALL CANTILEVER FOUNDATION	120.0	0.00	
6	WIRE GAGE - HOUSE	120.0	720.00	
0	CUTOVER	120.0	0.00	
0	CONSTRUCTION STAGING	120.0	0.00	
0	RAISE AND/OR RELOCATE POLE LINE	120.0	0.00	
0	RELOCATE APPARATUS	120.0	0.00	
2	REMOVE RETIRED APPARATUS	120.0	240.00 (LABOR)	0,040.00

LABOR ADDITIVES:

ENGINEERING	0	120.00	0.00
LABOR	3840	120.00	4,600.00

SUBSISTENCE:

LABOR	26	55.00	1,430.00
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CONTRACT DESIGN AND ENGINEERING

P. E. INSPECTION			0.00
			0.00

TOTAL 14,524.30

EQUIPMENT RENTAL

EQUIPMENT RENTAL	53.33	26.00	1,386.58
CONTRACT WORK - ELECTRIC SERVICE			0.00
CONTINGENCIES	5.00	15910.88	795.54

GROSS 16,706.42

SALVAGE

NET 16,706.42

OFFICE OF CHIEF ENGINEER C & S
 PHILADELPHIA, PA - W.R. DAVIS -
 DATE: 06/05/92
 (GOOD FOR 60 DAYS)

PROJECT NAME: LOWER MAKEFIELD TWP., PA
 VALUATION SECTION: V8118P
 COMPONENT NAME: HXOVXM2T2

VERSION: 1

MILEPOST: 27.70

REF NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
02-025920	ARRESTER HEAVY DUTY FOR TRACK	4	EA	17.90	71.60
02-037057	BASE LIGHTNING ARRESTOR THREE	4	EA	6.93	27.72
02-102642	CABLE 2-SINGLE COND-6AWG SOLID	250	FT	0.51	127.50
02-102709	CABLE 3-SINGLE COND-6AWG SOLID	100	FT	1.00	100.00
02-108668	CASE HIGH SINGLE COR-TEN STEEL	1	EA	927.85	927.85
02-114070	CELL ABSOLYTE-112 AH	6	EA	68.39	380.34
02-150603	CONNECTOR TRACK CIRCUIT PLUG T	4	EA	0.90	3.60
02-286662	LINK INSULATED TEST FOR 1 IN M	6	EA	0.53	3.18
02-375614	PROTECTOR SURGE WITH EQUALIZER	1	EA	67.19	67.19
02-375689	PROTECTOR SURGE W/700-1 EQUALI	1	EA	110.90	110.90
02-375794	PROTECTOR SP20-2A DET 35 PLAN	1	EA	50.50	50.50
02-388905	RECTIFIER 12V 60 HZ	1	EA	245.96	245.96
02-504452	SLEEVE CABLE CONN THERMOFIT BL	2	EA	0.57	1.18
02-585055	TRANSFORMER LINE DRY 50/100 HZ	1	EA	106.46	106.46
02-591129	TRANSMITTER AFTAC 2.8 KHZ W/ST	1	EA	563.85	563.85
02-591327	TRANSMITTER 1.1 K.C. BASIC CHA	1	EA	614.89	614.89
02-620254	WIRE 1 COND NO 16 AWG FLEX 19	150	FT	0.11	16.50
02-620502	WIRE 1 COND NO 10 AWG FLEX 37	250	FT	0.29	87.50
02-675104	ARRESTER SURGE SURDITRON 120/2	2	EA	38.70	77.40
02-729908	CLIP RETAINER	4	EA	1.27	5.08
02-748548	CONTAINER CIRCUIT PLAN 24 IN L	1	EA	5.00	5.00
02-762191	FAN PANATOR BRUSHLESS NO 85000	1	EA	16.68	16.68
02-769735	GRID PRIME GROUND PLATE ONLY P	1	EA	7.50	7.50
02-784417	HANHOLE GROUND ROD	2	EA	27.01	54.02
02-829268	ROD GROUND 5/8 IN X 8 FT COPPE	1	EA	6.96	6.96
02-829347	ROD CHEMICAL GROUND 8 FT STRAI	1	EA	288.00	288.00
02-842100	SLEEVE COMPRESSION SPLICING 3/	4	EA	0.74	2.96
02-864120	SWITCH THERMAL FAN TYPE CLOSE	1	EA	37.26	37.26
02-865812	TAD 3/8 IN X 1.75 IN	25	EA	0.60	15.00
80-444424	PLYWOOD FIR 3/4X48X96IN 7-PLY	1	EA	24.22	24.22
48-032046	PADLOCK KEYED ALIKE LESS KEYS	2	EA	11.41	22.82
46-491957	HOSE GOLF WATER 2IN ID 2-13/32	8	FT	1.87	14.96
47-167244	COMPOUND PLASTIC SEALING JOHNS	5	LB	1.48	7.40
49-034404	BOX OUTLET 4IN OCTAGON 1-1/2IN	1	EA	1.17	1.17
49-206208	CHANNEL PLASTIC WIRING DUCT 2I	20	FT	2.08	41.60
49-206216	CHANNEL PLASTIC WIRING DUCT 3I	17	FT	2.65	45.05
49-275500	COVER PLASTIC WIRING DUCT 2IN	20	FT	0.72	14.40
49-275518	COVER PLASTIC WIRING DUCT 3IN	17	FT	1.07	18.19
49-638461	SOCKET LAMP PULL CHAIN TYPE PO	1	EA	4.82	4.82
49-689019	TAPE FRICTION 3/4 IN COMMERCIA	1	RL	1.42	1.42
49-694506	TAPE PLASTIC ELECTRICAL 3/4 IN	1	RL	1.65	1.65
49-729955	TIE CABLE TY-RAP 7.81IN LONG 1	12	EA	0.04	0.48
49-779709	WIRE GROUND AWG-6 SOLID BARE C	60	FT	0.20	12.00
	MISCELLANEOUS MATERIAL	1	LO		128.88

TOTAL MATERIAL 4,425.05

PROJECT: LOWER MAKEFIELD TWP., PA STATE: PA
 LOCATION: SR 2029 (HEACOCK RD.)
 VALUATION: V8118P RDBR: 10-0326 DIVISION NAME: PHILADELPHIA
 MILE POST LIMIT: 27.70 TO 28.80 LINE NAME: TRENTON LINE
 VERSION: 1 AAR#1 PIN#: AFE/WO: 46989
 TITLE: XMIT/REC LOC-2 TRK.C.S.1482+00
 COMPONENT: MXOVXM2T2 MILEPOST: 28,000 AGENCY: F H P M

MATERIAL:

RAW MATERIAL			2,885.55
MATERIAL HANDLING:	5.0	2885.55	144.27
SALES TAX:	0.0	2885.55	0.00

LABOR:

0	ENGINEERING:	163.0	0.00 (ENGR)	0.00
2	INSTALL APPARATUS	120.0	240.00	
0	INSTALL CANTILEVER FOUNDATIONS	120.0	0.00	
0	WIRE CASE - HOUSE	120.0	0.00	
0	CUTOVER	120.0	0.00	
0	CONSTRUCTION STAGING	120.0	0.00	
0	RAISE AND/OR RELOCATE POLE LINE	120.0	0.00	
0	RELOCATE APPARATUS	120.0	0.00	
0	REMOVE RETIRED APPARATUS	120.0	0.00 (LABOR)	240.00

LABOR ADDITIVES:

ENGINEERING	0	120.00	0.00
LABOR	240	120.00	288.00

SUBSISTENCE:

LABOR	2	55.00	110.00
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CONTRACT DESIGN AND ENGINEERING 0.00
 P. E. INSPECTION 0.00

TOTAL 3,667.82

EQUIPMENT RENTAL	53.33	2.00	106.66
CONTRACT WORK - ELECTRIC SERVICE			0.00
CONTINGENCIES	5.00	3774.48	188.72

GROSS 3,963.20

SALVAGE

0.00

NET 3,963.20

OFFICE OF CHIEF ENGINEER C & S
 PHILADELPHIA, PA - W.R. DAVIS
 DATE: 06/05/92
 (GOOD FOR 60 DAYS)

PROJECT NAME: LOWER MAKEFIELD TWP., PA
 VALUATION SECTION: VOL10P
 COMPONENT NAME: HXAVXMM2E

VERSION: 1

HELEPDT: 20.00

REF NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
02-001004	RECEIVER 1.1 K.C. BASIC CHANNE	1	EA	007.00	007.00
02-001117	RECEIVER AFTAC 2.0 KHZ W/STD G	1	EA	770.99	770.99
02-091000	TRANSMITTER 1.9 K.C. BASIC CHA	1	EA	010.44	010.44
02-091060	TRANSMITTER 2.0 K.C. BASIC CHA	1	EA	009.79	009.79
	MISCELLANEOUS MATERIAL	1	LD		04.04
TOTAL MATERIAL					2,009.99

PROJECT: LOWER MAKEFIELD TWP., PA STATE: PA
 LOCATION: SR 2029 (HEACOCK RD.)
 VALUATION: V8118P ROBR: 10-0326 DIVISION NAME: PHILADELPHIA
 MILE POST LIMIT: 27.70 TO 28.80 LINE NAME: TRENTON LINE
 VERSION: 1 AAR#: PIN#: AFE/WQ: 46989
 TITLE: 2-TRK OV FLS/DATESC.S.1492+15
 COMPONENT: MXOVG2 MILEPOST: 28.200 AGENCY: F H P M

MATERIAL:

RAW MATERIAL			55,571.10
MATERIAL HANDLING:	5.0	55571.10	2,778.55
SALES TAX:	0.0	55571.10	0.00

LABOR:

18	ENGINEERING:	169.0	2445.00 (ENGR)	2,445.00
162	INSTALL APPARATUS	120.0	19440.00	
24	INSTALL CANTILEVER FOUNDATIONS	120.0	2800.00	
82	WIRE GAGE - HOUSE	120.0	8840.00	
0	CUTOVER	120.0	0.00	
0	CONSTRUCTION STAGING	120.0	0.00	
0	RATBE AND/OR RELOCATE POLE LINE	120.0	0.00	
0	RELOCATE APPARATUS	120.0	0.00	
14	REMOVE RETIRED APPARATUS	120.0	1680.00 (LABOR)	27,840.00

LABOR ADDITIVES:

ENGINEERING	2445	120.00	2,994.00
LABOR	27840	120.00	33,408.00

SUBSISTENCE:

LABOR	200	55.00	11,000.00
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CONTRACT DESIGN AND ENGINEERING 3,500.00
 P. E. INSPECTION 0.00

TOTAL 139,476.65

EQUIPMENT RENTAL	53.33	200.00	10,666.00
CONTRACT WORK - ELECTRIC SERVICE			0.00
CONTINGENCIES	5.00	150142.65	7,507.13

GROSS 157,649.78

SALVAGE 500.00

NET 157,149.78

OFFICE OF CHIEF ENGINEER C & S
 PHILADELPHIA, PA - W.R. DAVIS -
 DATE: 06/05/92
 (GOOD FOR 60 DAYS)

PROJECT NAME : LOWER MAKEFIELD TWP., PA

VERSION: 1

VALUATION SECTION: V8118P

COMPONENT NAME . . : HX0V02

MILEPOST: 28.20

REF NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
02-010807	ADAPTER CASTING	3	EA	42.96	128.88
02-012159	HIGHWAY CROSSING ANALYZER(MCA)	1	EA	2,039.24	2,039.24
02-012613	ARM X-ING GATE 32 FT FIBERGLAS	2	EA	270.44	540.88
02-014650	ARM X-ING GATE 12 FT FIBERGLAS	1	EA	141.87	141.87
02-023565	ARRESTER LIGHTNING LESS BASE C	16	EA	8.60	137.60
02-025920	ARRESTER HEAVY DUTY FOR TRACK	8	EA	17.90	143.20
02-036182	BASE CROSSING F/5IN DIAM MAST	3	EA	253.24	759.72
02-037057	BASE LIGHTNING ARRESTOR THREE	16	EA	6.93	110.88
02-044517	BELL HIGHWAY CROSSING 6-16 V D	1	EA	209.04	209.04
02-047759	BLOCK FUSE 840 OR EQUAL	1	EA	4.77	4.77
02-048757	BLOCK MULTIPLE UNIT TERMINAL A	20	EA	11.62	232.40
02-050167	BLOCK TERMINAL PORC ASSY 5-1/8	1	EA	7.81	7.81
02-050753	BLOCK TERMINAL WITHOUT NUTS &	2	EA	6.05	12.10
02-062634	BOLT SHEAR FOR FIBERGLASS GATE	6	EA	0.33	1.98
02-064159	BOLT U-TYPE COMP 8-1/4IN L/TRA	2	ST	30.32	60.64
02-069829	BOX FLASHER TEST COMPLETE	1	EA	115.19	115.19
02-077004	BRACKET SIDEWALK ARM AUTOMATIC	1	EA	99.96	99.96
02-077251	BRACKET FOR SUPPORTING SHELF 8	5	EA	12.77	63.85
02-090458	CABLE 4C-9AWG SOLID ANNLD COPP	400	FT	0.59	236.00
02-090474	CABLE 17C(2C-6AWG-8C-9AWG & 7C	500	FT	1.79	895.00
02-102642	CABLE 2-SINGLE COND-6AWG SOLID	600	FT	0.51	306.00
02-102709	CABLE 3-SINGLE COND-6AWG SOLID	300	FT	1.05	315.00
02-104499	CANTILEVER HIGHWAY CROSSING 22	2	EA	5,540.00	11,080.00
02-114096	BELL ANOOLYTE-196 AH	4	EA	14.00	56.00
02-114112	BELL ANOOLYTE-234 AH	7	EA	79.11	553.77
02-117578	CHARGER BATTERY 1-5V/1-6 AMP	1	EA	215.00	215.00
02-117586	CHARGER BATTERY 1-20V/1-20 AMP	2	EA	440.10	880.20
02-124855	CODER ELECTRONIC X-PAK 40-45 P	1	EA	121.87	121.87
02-150009	CONNECTOR TERMINAL BLOCK NICKE	80	EA	1.47	117.60
02-150603	CONNECTOR TRACK CIRCUIT PLUG T	8	EA	0.90	7.20
02-163929	COUNTERWEIGHT 29 LBS F/USE WIT	2	EA	90.42	180.84
02-163945	COUNTERWEIGHT 72 LBS F/USE WIT	1	EA	198.27	198.27
02-197950	EQUALIZER HEAVY DUTY L/BASE	5	EA	11.31	56.55
02-205902	FOUNDATION 5-10 LOW PROFILE PR	2	EA	1,947.00	3,894.00
02-208005	FOUNDATION PRECAST CONCRETE PE	3	EA	219.77	659.31
02-247664	HOUSE RELAY 8 X 8 PER DWG CS-2	1	EA	4,316.00	4,316.00
02-270278	LED BUFFER USED WITH FIBERGLAS	2	EA	59.93	119.86
02-286662	LINK INSULATED TEST FOR 1 IN M	54	EA	0.53	28.62
02-295838	MAST STONAL 4 FT X 5 IN ALUMIN	1	EA	78.79	78.79
02-297412	MECHANISM ARM GATE ROADWAY	3	EA	2,217.80	6,653.40
02-314121	NUT INSULATED	36	EA	2.98	107.28
02-334306	PINNACLE ALUMINUM FOR 4 OR 5 I	3	EA	8.92	26.76
02-375622	PROTECTOR SURGE WITH EQUALIZER	1	EA	63.56	63.56
02-375689	PROTECTOR SURGE W/700-1 EQUALI	4	EA	118.93	475.72
02-375754	PROTECTOR SP20-2A DET 35 PLAN	1	EA	50.50	50.50
02-381026	RECEIVER 0.9 K.C. BASIC CHANNE	1	EA	829.52	829.52
02-381067	RECEIVER 1.9 K.C. BASIC CHANNE	1	EA	849.69	849.69
02-381075	RECEIVER 2.9 K.C. BASIC CHANNE	1	EA	802.64	802.64

PROJECT NAME: LOWER MAKEFIELD TWP., PA
 VALUATION SECTION: V0118P
 COMPONENT NAME: HX0408

VERSION: 1

RELEASE: 20.20

REF NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
02-001083	RECEIVER 3.1 K.C. HZ BASIC CHA	1	EA	802.20	802.20
02-090142	RECTIFIER ONLY S-1/4 SELENIUM	1	EA	26.51	26.51
02-411526	RELAY PLUG IN TYPE-FLASHER-COM	1	EA	270.00	270.00
02-411542	RELAY PLUG IN TYPE-POWER-OFF-C	1	EA	319.00	319.00
02-411567	RELAY PLUG IN TYPE-SLOW RELEAS	4	EA	276.00	1,104.00
02-411583	RELAY PLUG IN TYPE-NEUTRAL-ORD	10	EA	242.00	2,420.00
02-411609	RELAY PLUG IN TYPE-SLOW RELEAS	1	EA	341.00	341.00
02-411682	RELAY PLUG IN TYPE-GATE NORMAL	1	EA	287.00	287.00
02-423588	RESISTOR 10 OHM LONG FIXED	1	EA	26.12	26.12
02-423711	RESISTOR 500 OHM LONG OVAL FIX	1	EA	41.44	41.44
02-425807	RESISTOR ADJUSTABLE 2 OHM	14	EA	14.71	205.94
02-482006	SHIELD RESISTOR ANGLE TYPE 31/	14	EA	2.18	30.52
02-490546	SIGN RAILROAD CROSSING 90 DEG	2	EA	53.23	106.46
02-498028	SIGNAL HIGHWAY CROSSING WITH J	2	EA	472.82	945.64
02-504452	SLEEVE CABLE CONN THERMOFIT BL	8	EA	0.59	4.72
02-555856	STRAND INSULATED U.S. STEEL TY	40	FT	0.33	13.20
02-557252	STRIP TERMINAL BLOCK BUS ANNEA	3	EA	8.49	25.47
02-567103	SUPPORT HIGH WIND GATE ARM-MOD	2	EA	42.05	84.10
02-573010	SWITCH DISCONNECT LESS FUSES	1	EA	57.89	57.89
02-582367	TRANSCIEVER AFTAC 7.7 KMZ W/ST	2	EA	1,122.13	2,244.26
02-590584	TRANSFORMER LIGHTING 60 CYCLE	1	EA	179.19	179.19
02-620254	WIRE 1 COND NO 16 AWG FLEX 19	400	FT	0.11	44.00
02-620502	WIRE 1 COND NO 10 AWG FLEX 37	1000	FT	0.23	230.00
02-675104	ARRESTER SURGE SURBITRON 120/2	2	EA	38.73	77.46
02-678603	BAR RELAY ASSEMBLY PER CONRAIL	3	EA	8.62	25.86
02-678629	BAR WIRE TIE PER CONRAIL PLAN	8	EA	6.64	53.12
02-729208	CLIP RETAINER	8	EA	1.27	10.16
02-742243	CONNECTION ONE-SHOT MOLD FOR S	4	EA	3.49	13.96
02-743548	CONTAINER CIRCUIT PLAN 24 IN L	1	EA	5.00	5.00
02-762209	FAN VENT ASSEMBLY	1	EA	205.26	205.26
02-769725	GRID PRIME GROUND PLATE ONLY F	4	EA	7.50	30.00
02-784419	MANHOLE GROUND ROD	4	EA	27.01	108.04
02-807071	RACK RELAY PER CONRAIL PLAN 08	1	EA	74.09	74.09
02-829268	ROD GROUND 3/8 IN X 8 FT COPPE	2	EA	6.96	13.92
02-829347	ROD CHEMICAL GROUND 8 FT STRAI	2	EA	388.00	776.00
02-842100	SLEEVE COMPRESSION SPLICING 3/	8	EA	5.92	47.36
02-865800	TAB PANEL MARKER	120	FT	4.02	482.40
02-865813	TAB 3/8 IN X 1.75 IN	288	EA	0.60	172.80
02-865820	TAB 3/8 IN X 1.50 IN	140	EA	0.44	61.60
02-972668	SCREW LAG 3/8 X 2-1/2 IN FETTE	20	EA	0.19	3.80
07-000004	HAST CROSSING 22 FT X 5 IN	2	EA	325.00	650.00
09-000126	COMMERCIAL TELEPHONE HOOK-UP	1	EA	100.00	100.00
09-000149	ARM, GATE, 10 FT.	1	EA	110.00	110.00
09-000189	SUPPORT GATE ARM LH WC3543-102	2	EA	278.00	556.00
30-444424	PLYWOOD FIR 3/4X48X96 IN 7-PLY	2	EA	24.22	48.44
43-062502	BOLT STOVE ROUND HEAD SLOTTED	16	EA	0.09	1.44
43-066511	BOLT STOVE ROUND HEAD SLOTTED	3	EA	0.04	0.12
43-027772	NUT SQUARE 1/4 IN-20-UNC STOVE	48	EA	0.01	0.48

PROJECT NAME: LOWER MAKEFIELD TWP., PA
 VALUATION SECTION: V0110P
 COMPONENT NAME: HX0002

VERSION: 1

MILEPOST: 20.20

REF NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
49-002046	PADLOCK KEYS ALIKE LESS KEYS	6	EA	11.41	68.46
49-000000	SCREW MACH 1/4-20-UNC X 1-1/2	99	EA	0.09	0.99
49-722001	SCREW WOOD ROUND HEAD SLOTTED	80	EA	0.01	0.80
49-722004	SCREW WOOD ROUND HEAD SLOTTED	2	EA	0.01	0.02
49-401907	HOSE GOLD WATER 2IN ID 2-10/32	16	FT	1.87	29.92
49-646023	MATTING RUBBER RIGID 1/2 THK	24	FT	2.30	55.20
49-000700	DENTONITE WESTERN	100	LB	0.09	9.00
49-167244	COMPOUND PLASTIC SEALING JOINTS	15	LB	1.40	21.00
49-004901	BOX RAINIGHT 100 AMP 120/240V	1	EA	49.29	49.29
49-140404	BUSHING CONDUIT 1-1/4IN INGLA	2	EA	0.24	0.48
49-109792	CABLE BUILDING AWG-2 1-COND	60	FT	0.50	30.00
49-201020	CAP SERVICE ENTRANCE 1-1/4IN W	1	EA	9.12	9.12
49-206200	CHANNEL PLASTIC WIRING DUCT 2I	42	FT	2.00	84.00
49-206216	CHANNEL PLASTIC WIRING DUCT 3I	10	FT	2.65	26.50
49-206224	CHANNEL PLASTIC WIRING DUCT 4I	24	FT	3.06	73.44
49-211012	CLAMP GROUND FOR 5/8 IN RODS N	1	EA	9.19	9.19
49-227940	CONDUIT RIGID 1-1/4 IN ALUMINU	20	FT	1.52	30.40
49-229101	CONDUIT RIGID 4 IN STEEL W/COU	80	FT	4.93	394.40
49-200045	CONNECTOR BOX 1/2IN ROMEX F/14	2	EA	0.49	0.98
49-207213	CONTACT FLAG RELAY FOR 10-14 A	40	EA	0.94	37.60
49-275500	COVER PLASTIC WIRING DUCT 2IN	42	FT	0.72	30.24
49-275518	COVER PLASTIC WIRING DUCT 3IN	18	FT	1.07	19.26
49-275526	COVER PLASTIC WIRING DUCT 4IN	24	FT	1.20	28.80
49-316258	FUSE CARTRIDGE TYPE 3.2A 250V	2	EA	2.17	4.34
49-372780	HUB CONDUIT 1-1/4IN RAINITITE	1	EA	6.19	6.19
49-405580	LAMP 75W 120V MED BASE IF ROUG	4	EA	0.67	2.68
49-406745	LAMP 20W 10V S-11 BULB SC BAY	32	EA	2.05	65.60
49-484403	NUT LOCK CONDUIT 1-1/4IN GALV	4	EA	0.18	0.72
49-600446	ROD GROUND COPPER WELD 5/8IN X	1	EA	14.34	14.34
49-652140	STRAP PIPE STEEL TWO HOLE GALV	6	EA	0.13	0.78
49-689019	TAPE FRICTION 3/4 IN COMMERCIA	1	RL	1.42	1.42
49-694506	TAPE PLASTIC ELECTRICAL 3/4 IN	1	RL	1.65	1.65
49-704907	TERMINAL RING TONGUE AWG 12-10	100	EA	0.09	9.00
49-711456	TERMINAL RECEPTACLE FASTON 250	5	EA	0.09	0.45
49-712852	TERMINAL FLAG TONGUE AWG 12-10	184	EA	0.15	27.60
49-713157	TERMINAL FLAG TONGUE AWG 20-16	62	EA	0.13	8.06
49-729955	TIE CABLE TY-RAP 7.81IN LONG 1	18	EA	0.04	0.72
49-779709	WIRE GROUND AWG-6 SOLID BARE C	100	FT	0.20	20.00
	MISCELLANEOUS MATERIAL	1	LO		1,619.57

TOTAL MATERIAL

85,571.10

PROJECT: LOWER MAKEFIELD TWP., PA STATE: PA
 LOCATION: SR 2029 (MEACOCK RD.)
 VALUATION: V8118P RDBR: 10-0326 DIVISION NAME: PHILADELPHIA
 MILE POST LIMIT: 27.70 TO 28.80 LINE NAME: TRENTON LINE
 VERSION: 1 AAR#: PIN#: AFE/WO: 46989
 TITLE: XMIT/RECONHWY-2 TRK C.S.1515+90
 COMPONENT: MXQVXM2T2 MILEPOST: 28.700 AGENCY: F H P M

MATERIAL:

RAW MATERIAL			2,888.03
MATERIAL HANDLING:	5.0	2888.03	144.40
SALES TAX:	0.0	2888.03	0.00

LABOR:

0	ENGINEERING:	168.0	0.00 (ENGR)	0.00
2	INSTALL APPARATUS	120.0	240.00	
0	INSTALL GANTILEVER FOUNDATIONS	120.0	0.00	
0	WIRE GAGE - HOUSE	120.0	0.00	
0	CUTOVER	120.0	0.00	
0	CONSTRUCTION STAGING	120.0	0.00	
0	RAISE AND/OR RELOCATE POLE LINE	120.0	0.00	
0	RELOCATE APPARATUS	120.0	0.00	
0	REMOVE RETIRED APPARATUS	120.0	0.00 (LABOR)	240.00

LABOR ADDITIVES:

ENGINEERING	0	120.00	0.00
LABOR	240	120.00	280.00

SUBSISTENCE:

LABOR	2	55.00	110.00
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CONTRACT DESIGN AND ENGINEERING

P. E. INSPECTION			0.00
			0.00
		TOTAL	3,670.43

EQUIPMENT RENTAL

EQUIPMENT RENTAL	53.33	2.00	106.66
CONTRACT WORK - ELECTRIC SERVICE			0.00
CONTINGENCIES	5.00	3777.09	188.95

GROSS 3,965.94

SALVAGE

0.00

NET 3,965.94

OFFICE OF CHIEF ENGINEER C & S
 PHILADELPHIA, PA - W.R. DAVIS
 DATE: 06/05/92
 (GOOD FOR 60 DAYS)

PROJECT NAME: LOWER MAKEFIELD TWP., PA

VERSION: 1

VALUATION SECTION: V0110P

COMPONENT NAME: HX0VXM2T2

MILEPOST: 20.70

REF NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
02-381059	RECEIVER 1.6 K.C. BASIC CHANNE	1	EA	839.47	839.47
02-381117	RECEIVER AFTAC 2.8 KHZ W/STD S	1	EA	770.95	770.95
02-591319	TRANSMITTER 0.9 K.C. BASIC CHA	1	EA	604.17	604.17
02-591376	TRANSMITTER 3.1 KC HZ BASIC CH	1	EA	589.33	589.33
	MISCELLANEOUS MATERIAL	1	LO		84.11
TOTAL MATERIAL					2,888.03

PROJECT: LOWER MAKEFIELD TWP., PA
 LOCATION: CR 2029 (HEAGOCK RD.)
 VALUATION: V0110P RDBR: 10-0026 DIVISION NAME: PHILADELPHIA
 MILE POST LIMIT: 27.70 TO 28.00 LINE NAME: TRENTON LINE
 VERSION: 1 AAR#: 509706U PIN#: AFB/WO: 46909
 TITLE: XMIT. LDC. 2 TRK. C. S. 1020+15
 COMPONENT: HXQVXMET2 MILEPOST: 28.000 AGENCY: F H P M

MATERIAL:

RAW MATERIAL			4,452.13
MATERIAL HANDLING	5.0	4452.13	222.60
SALES TAX	0.0	4452.13	0.00

LABOR:

0	ENGINEERING	143.0	0.00 (ENGR)	0.00
24	INSTALL APPARATUS	120.0	2880.00	
0	INSTALL CANTILEVER FOUNDATIONS	120.0	0.00	
6	WIRE CASE - HOUSE	120.0	720.00	
0	CUTOVER	120.0	0.00	
0	CONSTRUCTION STAGING	120.0	0.00	
0	RAISE AND/OR RELOCATE POLE LINE	120.0	0.00	
0	RELOCATE APPARATUS	120.0	0.00	
2	REMOVE RETIRED APPARATUS	120.0	240.00 (LABOR)	3,840.00

LABOR ADDITIVES:

ENGINEERING	0	120.00	0.00
LABOR	3840	120.00	4,608.00

SUBSISTENCE:

LABOR	26	55.00	1,430.00
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CONTRACT DESIGN AND ENGINEERING

P. E. INSPECTION			0.00
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TOTAL	14,552.73
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EQUIPMENT RENTAL	53.33	26.00	1,386.58
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CONTRACT WORK - ELECTRIC SERVICE			0.00
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CONTINGENCIES	5.00	15939.31	756.56
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GROSS	16,736.27
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SALVAGE			0.00
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NET	16,736.27
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OFFICE OF CHIEF ENGINEER C & S
 PHILADELPHIA, PA - W.R. DAVIS
 DATE: 06/05/72
 (GOOD FOR 60 DAYS)

PROJECT NAME: LOWER MAKEFIELD TWP., PA
 VALUATION SECTION: V0110P
 COMPONENT NAME: HXQVXM2T2

VERSION: 1

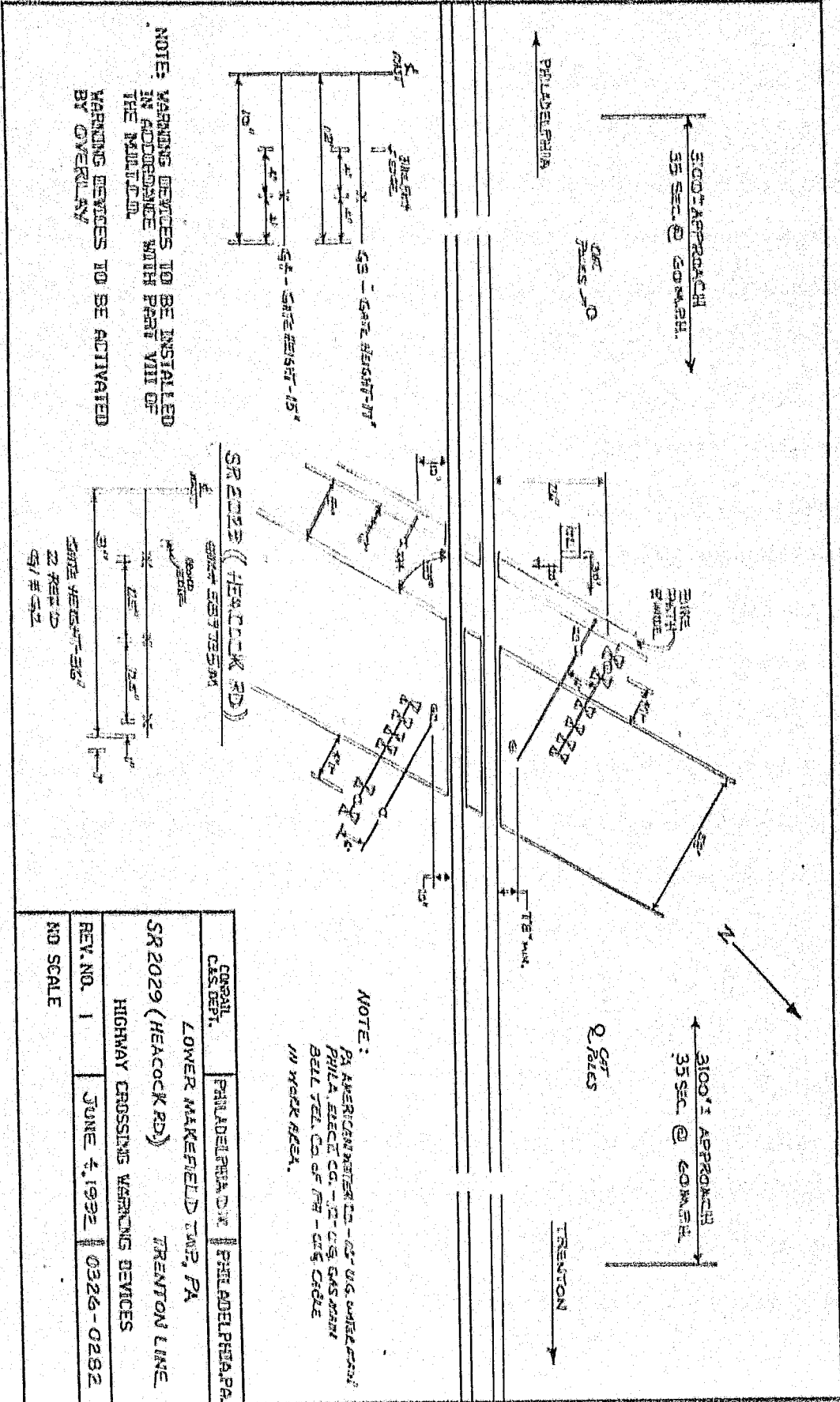
MILEPOST: 20.00

REF NUMBER	DESCRIPTION	QTY	UNIT	PRICE EACH	PRICE TOTAL
02-025720	ARRESTER HEAVY DUTY FOR TRACK	4	EA	17.90	71.60
02-037057	CASE LIGHTNING ARRESTOR THREE	4	EA	6.99	27.72
02-102642	CABLE 2-SINGLE COND-6AWG SOLID	250	FT	0.51	127.50
02-102709	CABLE 3-SINGLE COND-6AWG SOLID	100	FT	1.08	108.00
02-100660	CASE HIGH SINGLE COR-TEN STEEL	1	EA	927.05	927.05
02-114070	CELL ABSOLYTE-112 AH	6	EA	69.97	300.24
02-150609	CONNECTOR TRACK CIRCUIT PLUG T	4	EA	0.90	3.60
02-206662	LINK INSULATED TEST FOR 1 IN M	6	EA	0.53	3.18
02-375614	PROTECTOR SURGE WITH EQUALIZER	1	EA	67.19	67.19
02-375689	PROTECTOR SURGE W/700-1 EQUALI	1	EA	118.93	118.93
02-375754	PROTECTOR 0P20-2A DET 30 PLAN	1	EA	50.50	50.50
02-382905	RECTIFIER 12V 60 HZ	1	EA	245.96	245.96
02-504452	SLEEVE CABLE CONN THERMOFIT BL	2	EA	0.57	1.10
02-509055	TRANSFORMER LINE DRY 50/100 HZ	1	EA	106.46	106.46
02-591129	TRANSMITTER AFTAC 2.0 KHZ W/ST	1	EA	569.35	569.35
02-591942	TRANSMITTER 1.6 K.C. BASIC CHA	1	EA	641.18	641.18
02-620254	WIRE 1 COND NO 16 AWG FLEX 19	150	FT	0.11	16.50
02-620502	WIRE 1 COND NO 10 AWG FLEX 37	250	FT	0.23	57.50
02-675104	ARRESTER SURGE SURGITRON 120/2	2	EA	38.73	77.46
02-729208	CLIP RETAINER	4	EA	1.27	5.08
02-743548	CONTAINER CIRCUIT PLAN 24 IN L	1	EA	5.80	5.80
02-762191	FAN MOTOR BRUSHLESS NO 8500D	1	EA	16.68	16.68
02-769725	GRID PRIME GROUND PLATE ONLY P	1	EA	7.50	7.50
02-784419	MANHOLE GROUND ROD	2	EA	27.01	54.02
02-829263	ROD GROUND 5/8 IN X 8 FT COPPE	1	EA	6.96	6.96
02-829347	ROD CHEMICAL GROUND 8 FT STRAI	1	EA	288.00	288.00
02-842100	SLEEVE COMPRESSION SPLICING 3/	4	EA	0.74	2.96
02-864120	SWITCH THERMAL FAN TYPE CLOSE	1	EA	37.26	37.26
02-865812	TAG 3/8 IN X 1.75 IN	25	EA	0.60	15.00
30-444424	PLYWOOD FIR 3/4X48X96IN 7-PLY	1	EA	24.22	24.22
43-332046	PADLOCK KEYED ALIKE LESS KEYS	2	EA	11.41	22.82
46-491957	HOSE COLD WATER 2IN ID 2-13/32	8	FT	1.87	14.96
47-167244	COMPOUND PLASTIC SEALING JOHNS	5	LB	1.40	7.40
49-034406	BOX OUTLET 4IN OCTAGON 1-1/2IN	1	EA	1.19	1.19
49-206208	CHANNEL PLASTIC WIRING DUCT 21	20	FT	2.08	41.60
49-206216	CHANNEL PLASTIC WIRING DUCT 31	17	FT	2.65	45.05
49-275500	COVER PLASTIC WIRING DUCT 2IN	20	FT	0.72	14.40
49-275510	COVER PLASTIC WIRING DUCT 3IN	17	FT	1.07	18.19
49-630461	SOCKET LAMP PULL CHAIN TYPE PO	1	EA	4.82	4.82
49-689019	TAPE FRICTION 3/4 IN COMMERCIA	1	RL	1.42	1.42
49-694506	TAPE PLASTIC ELECTRICAL 3/4 IN	1	RL	1.65	1.65
49-729955	TIE CABLE TY-RAP 7.81IN LONG 1	12	EA	0.04	0.48
49-779709	WIRE GROUND AWG-6 SOLID BARE C	60	FT	0.20	12.00
	MISCELLANEOUS MATERIAL	1	LO		129.67

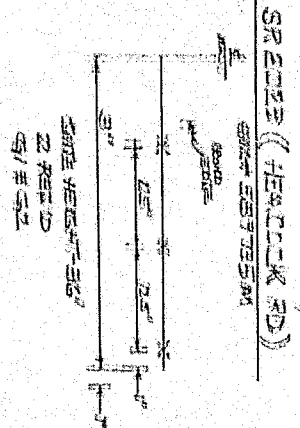
TOTAL MATERIAL

4,452.13

O&S CAD



NOTE: WARNING DEVICES TO BE INSTALLED IN ACCORDANCE WITH PART VIII OF THE MANUAL
WARNING DEVICES TO BE ACTIVATED BY OVERLAY



NOTE:
PA AMERICAN WATER CO - CO. UG. WATER MAIN
PHILA SECT CO. - 12-UG. GAS MAIN
BELL TEL. CO OF PA - UG. CABLE
IN WORK AREA.

CONTRACT CONTRACT NO.	PHILADELPHIA DIV	PHILADELPHIA, PA.
PROJECT	LOWER MAKEFIELD TWP, PA	
PROJECT NO.	SR 2029 (HEACOCK RD)	TRENTON LINE
PROJECT TITLE	HIGHWAY CROSSING WARNING DEVICES	
REV. NO.	1	JUNE 4, 1992 0326-0282
SCALE	NO SCALE	