

PennDOT District 8-0
 Eby Chiques - Construction Schedule
 37064CONS

Activity ID	Activity Desc.	Duration	Total Float	Early Start	Late Start	Early Finish	Late Finish	2012												2013												2014											
								Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb			
5.2	Construct Walls A-B	20d	320d	16Jan2013	28Apr2014	13Feb2013	23May2014	5.2												[Gantt bar for 5.2]												[Gantt bar for 5.2]											
5.3	Construct New Abutment #2	22d	265d	27Dec2012	21Jan2014	29Jan2013	20Feb2014	5.3												[Gantt bar for 5.3]												[Gantt bar for 5.3]											
5.3.1	Excavate for footing	3d	265d	27Dec2012	21Jan2014	31Dec2012	23Jan2014	5.3.1												[Gantt bar for 5.3.1]												[Gantt bar for 5.3.1]											
5.3.2	Cast Footing	6d	265d	02Jan2013	24Jan2014	09Jan2013	31Jan2014	5.3.2												[Gantt bar for 5.3.2]												[Gantt bar for 5.3.2]											
5.3.3	Cast & Cure Stemwall	9d	265d	10Jan2013	03Feb2014	23Jan2013	13Feb2014	5.3.3												[Gantt bar for 5.3.3]												[Gantt bar for 5.3.3]											
5.3.4	Grade & Backfill	2d	265d	24Jan2013	14Feb2014	25Jan2013	18Feb2014	5.3.4												[Gantt bar for 5.3.4]												[Gantt bar for 5.3.4]											
5.3.5	Remove Abutment 2 TESAPS	2d	265d	28Jan2013	19Feb2014	29Jan2013	20Feb2014	5.3.5												[Gantt bar for 5.3.5]												[Gantt bar for 5.3.5]											
5.4	Construct Walls C-D	20d	315d	24Jan2013	28Apr2014	21Feb2013	23May2014	5.4												[Gantt bar for 5.4]												[Gantt bar for 5.4]											
5.5	Superstructure Construction	106d	0	24Dec2013	21Feb2014	27May2014	27May2014	5.5												[Gantt bar for 5.5]												[Gantt bar for 5.5]											
5.5.1	Set Beams	2d	19.50d	24Dec2013	21Feb2014	30Dec2013	26Feb2014	5.5.1												[Gantt bar for 5.5.1]												[Gantt bar for 5.5.1]											
5.5.2	Install Temp. Protection Shield & Deck SIP Forms	4d	19.50d	31Dec2013	27Feb2014	10Jan2014	10Mar2014	5.5.2												[Gantt bar for 5.5.2]												[Gantt bar for 5.5.2]											
5.5.3	Form Deck & Overhangs	10d	39.50d	10Jan2014	11Mar2014	27Jan2014	24Mar2014	5.5.3												[Gantt bar for 5.5.3]												[Gantt bar for 5.5.3]											
5.5.4	Set Deck Steel	5d	39.50d	27Jan2014	25Mar2014	03Feb2014	31Mar2014	5.5.4												[Gantt bar for 5.5.4]												[Gantt bar for 5.5.4]											
5.5.5	Place & Cure Deck	10d	0	01Apr2014	01Apr2014	14Apr2014	14Apr2014	5.5.5												[Gantt bar for 5.5.5]												[Gantt bar for 5.5.5]											
5.5.6	Form & Cast Parapets	10d	0	15Apr2014	15Apr2014	28Apr2014	28Apr2014	5.5.6												[Gantt bar for 5.5.6]												[Gantt bar for 5.5.6]											
5.5.7	Cure Parapets	20d	0	29Apr2014	29Apr2014	27May2014	27May2014	5.5.7												[Gantt bar for 5.5.7]												[Gantt bar for 5.5.7]											
6	Final Roadway Work	344d	0	22Feb2013	27May2014	07Jul2014	08Aug2014	6												[Gantt bar for 6]												[Gantt bar for 6]											
6.1	Seed & Mulch Disturbed Areas	1d	315d	22Feb2013	27May2014	22Feb2013	27May2014	6.1												[Gantt bar for 6.1]												[Gantt bar for 6.1]											
6.2	Roadway Grading/Embankment	4d	0	28May2014	28May2014	02Jun2014	02Jun2014	6.2												[Gantt bar for 6.2]												[Gantt bar for 6.2]											
6.3	Full-depth Roadway Reconstruction	15d	0	03Jun2014	03Jun2014	23Jun2014	23Jun2014	6.3												[Gantt bar for 6.3]												[Gantt bar for 6.3]											
6.4	Install Signing and Pavement markings	2d	0	24Jun2014	24Jun2014	25Jun2014	25Jun2014	6.4												[Gantt bar for 6.4]												[Gantt bar for 6.4]											
6.5	Install Guiderail	2d	0	26Jun2014	26Jun2014	27Jun2014	27Jun2014	6.5												[Gantt bar for 6.5]												[Gantt bar for 6.5]											
6.6	Final Landscaping	5d	23.50d	30Jun2014	01Aug2014	07Jul2014	08Aug2014	6.6												[Gantt bar for 6.6]												[Gantt bar for 6.6]											
7	Close At-Grade Crossing	28.50d	0	30Jun2014	30Jun2014	08Aug2014	08Aug2014	7												[Gantt bar for 7]												[Gantt bar for 7]											
7.1	Shift Traffic to New Bridge	1d	0	30Jun2014	30Jun2014	30Jun2014	30Jun2014	7.1												[Gantt bar for 7.1]												[Gantt bar for 7.1]											
7.2	Remove At-grade Crossing	4d	0	01Jul2014	01Jul2014	11Jul2014	11Jul2014	7.2												[Gantt bar for 7.2]												[Gantt bar for 7.2]											
7.3	Grade Cul-de-sacs	5d	0	11Jul2014	11Jul2014	18Jul2014	18Jul2014	7.3												[Gantt bar for 7.3]												[Gantt bar for 7.3]											
7.4	Full-depth Roadway for Cul-de-sacs	5d	0	18Jul2014	18Jul2014	25Jul2014	25Jul2014	7.4												[Gantt bar for 7.4]												[Gantt bar for 7.4]											
7.5	Widen Eby Chiques Rd	5d	0	25Jul2014	25Jul2014	01Aug2014	01Aug2014	7.5												[Gantt bar for 7.5]												[Gantt bar for 7.5]											
7.6	Final Landscaping & SPM	5d	0	01Aug2014	01Aug2014	08Aug2014	08Aug2014	7.6												[Gantt bar for 7.6]												[Gantt bar for 7.6]											
8	End Construction	0	0	08Aug2014	08Aug2014	08Aug2014	08Aug2014	8												[Gantt bar for 8]												[Gantt bar for 8]											

General Decision Number: PA120014 08/03/2012 PA14

Superseded General Decision Number: PA20100014

State: Pennsylvania

Construction Types: Heavy and Highway

Counties: Adams, Berks, Bradford, Carbon, Columbia, Cumberland, Dauphin, Juniata, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Lycoming, Monroe, Montour, Northampton, Northumberland, Perry, Pike, Schuylkill, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne, Wyoming and York Counties in Pennsylvania.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS (Excluding Sewer Grouting Projects and Excluding Sewage and Water Treatment Plant Projects)

Modification Number	Publication Date
0	01/06/2012
1	02/10/2012
2	02/24/2012
3	03/02/2012
4	04/13/2012
5	06/01/2012
6	06/15/2012
7	06/22/2012
8	07/13/2012
9	07/20/2012
10	08/03/2012

BOIL0013-003 01/01/2011

	Rates	Fringes
BOILERMAKER.....	\$ 37.35	30.02

 CARP0076-011 05/01/2008

COLUMBIA, MONTOUR, NORTHUMBERLAND, SCHUYLKILL, SNYDER, UNION, the lower part of Luzerne county, Carbon County, Banks, Lusanna, Lehigh, Packer, Kidder townships, and part of Penn Forest

	Rates	Fringes
MILLWRIGHT.....	\$ 26.56	13.02

 CARP0191-002 05/01/2008

YORK COUNTY

	Rates	Fringes
MILLWRIGHT.....	\$ 26.56	13.02

CARP0287-009 05/01/2008

ADAMS, CUMBERLAND, DAUPHIN, JUNIATA, LANCASTER, LEBANON, PERRY,
NEW CUMBERLAND ARMY DEPOT AND HARRISBURG YORK STATE AIRPORT IN
YORK COUNTY

	Rates	Fringes
MILLWRIGHT.....	\$ 26.56	13.02

CARP0454-008 07/01/2011

Lehigh and Northampton Counties

	Rates	Fringes
PILEDRIVERMAN.....	\$ 38.15	28.27

CARP0492-002 06/01/2010

BERKS COUNTY

	Rates	Fringes
MILLWRIGHT.....	\$ 26.71	11.02

CARP0600-005 05/01/2011

LEHIGH AND NORTHAMPTON COUNTIES

	Rates	Fringes
CARPENTER.....	\$ 33.44	20.17

CARP1906-002 07/01/2011

CARBON (Townships: East Penn, Lower Towamensing, Mahoning,
Franklin, Towamensing, Penn Forest. Everything south of Route
903 and east to the Kidder Township Line. Boroughs: Hauto,
Nesquehoning, Lansford, Summit Hill, Jim Thorpe, Weissport,
Bownmanstown, Palmerton, Lehigh, and Parryville) , LEHIGH
AND NORTHAMPTON COUNTIES

	Rates	Fringes
MILLWRIGHT.....	\$ 33.76	24.84

CARP2274-002 05/01/2012

EXCEPT LEHIGH AND NORTHAMPTON COUNTIES

	Rates	Fringes
CARPENTER.....	\$ 27.18	12.38

CARP2274-003 05/01/2012

Adams, Berks, Bradford, Carbon, Columbia, Cumberland, Dauphin,

Juniata, Lackawanna, Lancaster, Lebanon, Luzerne, Lycoming, Monroe, Montour, Northumberland, Perry, Pike, Schuylkill, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne, Wyoming and York

	Rates	Fringes
PILEDRIVERMAN.....	\$ 27.18	12.38

ELEC0126-001 05/28/2012

	Rates	Fringes
Line Construction: (ADAMS, CUMBERLAND, DAUPHIN, LANCASTER, LEBANON, JUNIATA, PERRY AND YORK COUNTIES)		
Groundman.....	\$ 22.98	26%+7.50
Lineman.....	\$ 38.30	26%+7.50
Truck Driver.....	\$ 24.89	26%+7.50
Winch Truck Operator.....	\$ 26.81	26%+7.50

Line Construction: (BERKS AND LEHIGH NORTHAMPTON COUNTIES)		
Groundman.....	\$ 22.98	26%+7.50
Lineman.....	\$ 38.30	26%+7.50
Truck Driver.....	\$ 24.89	26%+7.50
Winch Truck Operator.....	\$ 26.81	26%+7.50

ELEC1319-001 09/05/2011

BRADFORD, CARBON, COLUMBIA, LACKAWANNA, LUZERNE, LYCOMING, MONROE, MONTOUR, NORTHUMBERLAND, PIKE, SCHUYLKILL, SNYDER, SULLIVAN, SUSQUEHANNA, TIOGA, UNION, WAYNE, AND WYOMING COUNTIES

	Rates	Fringes
Line Construction:		
Equipment Operators.....	\$ 45.45	14.40
Groundmen.....	\$ 28.46	10.13
Lineman.....	\$ 45.91	18.45
Truck Drivers.....	\$ 29.84	10.24

* ENGI0542-004 05/01/2012

	Rates	Fringes
Power equipment operators: (HIGHWAY CONSTRUCTION AND WATER LINES CONSTRUCTION (OFF PLANT SITE))		
GROUP 1.....	\$ 30.09	19.51
GROUP 1a.....	\$ 32.34	20.19
GROUP 2.....	\$ 28.91	19.17
GROUP 3.....	\$ 28.21	18.97
GROUP 4.....	\$ 27.75	18.85
GROUP 5.....	\$ 27.25	18.69
GROUP 6.....	\$ 30.33	19.57
GROUP 6a.....	\$ 32.58	20.23

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1 - Pile drivers, all types of cranes, all types of backhoes, draglines, keystones, all types of shovels, derricks, trench shovels, trenching machines, paver (blacktop and concrete), gradalls, all front end loaders, tandem scrapers, pippin types backhoes, boat captains, batch plant with mixer, drill self contained (drill-master type), CMI Autograde, milling machine, vemeer saw, conveyor loader (euclid type) scraper and tournapulls, bulldozers and tractors, concrete pumps, motor patrols, mechanic welders, log skidder, side boom, bobcat type (with attachments), boring machines including directional boring machines, chipper with boom, hydro ax, machines similar to the above including remote control equipment.

GROUP 1a: Crawler backhoes and Crawler gradalls over one cubic yard factory rating; Hydraulic backhoes over one cubic yard factory rating; All types of cranes 15 ton and over factory rating; Single person operation truck cranes 15 ton and over factory rating; Cherry picker type machinery and equipment 15 ton and over factory rating; Machines similar to above, including remote control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 2 - Spreaders, asphalt plant engineers, rollers (high grade finishing), machine similar to above, including remote control equipment, and forklifts 20ft and over.

GROUP 3 - Welding machine, well points, compressors, pump heaters, farm tractors, form line graders, ditch witch type trencher, road finishing machines, concrete breaking machines, rollers, miscellaneous equipment operator, seaman pulverizing mixer, power broom, seeding spreader, tireman - (for power equipment) conveyors, loaders other than EUC type, conveyors, driller second class, machines similar to the above including remote control equipment, and forklift under 20 ft.

GROUP 4 - Fireman and grease truck

GROUP 5 - Oilers and deck hands

GROUP 6 - All machines with booms (including jibs, masts, leads, etc.) 100 ft. and over.

GROUP 6a: All machines with Booms (including Jibs, Masts, Leads, etc.) 100 feet 15 ton and over factory rating; Machines similar to above, including remote control equipment; Equipment in this Wage Group that does not require an oiler.

TOXIC/HAZARDOUS WAST REMOVAL

Add 20 per cent to basic hourly rate for all classifications

* ENGI0542-022 05/01/2012

	Rates	Fringes
Power equipment operators: (HEAVY CONSTRUCTION:)		
GROUP 1.....	\$ 32.06	20.10+A
GROUP 1a.....	\$ 34.31	20.76+A
GROUP 2.....	\$ 31.77	20.02+A
GROUP 2a.....	\$ 34.02	20.69+A
GROUP 3.....	\$ 28.85	19.16+A
GROUP 4.....	\$ 27.71	18.83+A
GROUP 5.....	\$ 27.26	18.70+A
GROUP 6.....	\$ 26.39	18.43+A
HEAVY CONSTRUCTION:		

FOOTNOTE:

A: PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, the employee works the day before and the day after the holiday.

TOXIC/HAZARDOUS WASTE REMOVAL

Add 20 per cent to basic hourly rate for all classifications

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Machines doing hook work, any machine handling machinery, cable spinning machines, helicopters, machines similar to the above, including remote control equipment, all types of cranes, cableways, and draglines.

GROUP 1a: Machines doing hook work; Machines handling machinery; All types of cranes 15 ton and over factory rating; Cable ways; Draglines 15 ton and over factory rating; High Rail/Burro Crane 15 ton and over factory rating; Rail Loader (Winch Boom Type) 15 ton and over factory rating; Machines similar to above, including remote control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 2: Backhoes, keystones, shovels, derricks, trench shovels, trenching machines, hoist with two towers, pavers 21E and over, overhead cranes, building hoists (double drum) gradalls, mucking machines in tunnels, front end loaders, tandem scrapers, pippin type backhoes, boat captains, batch plant operators concrete drills, self-contained rotary drills, fork lifts, 20ft, lift and over, scrapers, tournapulls, spreaders, bulldozers and tractors, rollers (high grade finishing), mechanic-welder, motor patrols, concrete pumps, grease truck, bob cat type (all attachments), boring machines including directional boring machines, hydro ax, side boom, vermeer saw, chipper with boom, machines similar to the above including remote control equipment

GROUP 2a: Crawler backhoes and crawler gradalls over one cubic yard factory rating; Hydraulic backhoes over one cubic yard factory rating; Equipment 15 ton and over factory rating; Machines similar to above, including remote

control equipment; Equipment in this Wage Group that does not require an oiler.

GROUP 3: Conveyors, building hoist (single drum), high or low pressure boilers, drill operators, well drillers, asphalt plant engineers, ditch witch type trencher, second class driller, forklift truck under 20ft. lift, stump grinder, tireman (for power equipment), machines similar to above including remote control equipment.

GROUP 4: Welding machines, well points, compressors, pumps, heaters, farm tractors, form line graders, road finishing machines, concrete breaking machines, rollers, seaman pulverizing mixer, power boom, seeding spreader, chipper without boom, machines similar to the above including remote control equipment.

GROUP 5: Fireman.

GROUP 6: Oilers and deck hands (personnel boats).

IRON0036-002 07/01/2012

CARBON, LEHIGH (Except Fogelsville), NORTHAMPTON AND MONROE (Except Tobyhanna Army Depot)

	Rates	Fringes
Ironworkers:		
Projects Over 25 Million		
Dollars.....	\$ 33.55	24.00
Projects Under 25 Million		
Dollars.....	\$ 33.05	24.00

IRON0404-006 07/01/2011

ADAMS, CUMBERLAND, DAUPHIN, LEBANON (Western 3/4), LANCASTER (Western part), LYCOMING, MONTOUR, NORTHUMBERLAND, JUNIATA, PERRY, SCHUYLKILL (Western tip to include the twps. of Fearnot, Good Spring, Hegins, Jolett, Klingerstown, Muir, Pittman Haas, Rough and Ready, Sacramento, Spring Glen, Suedberg, Tower City, and Valley View), SNYDER, UNION, AND YORK COUNTIES

	Rates	Fringes
Ironworkers:.....	\$ 29.02	24.05

* IRON0420-006 07/01/2012

BERKS, LANCASTER (Eastern Part), LEBANON (Eastern 1/4), LEHIGH (Fogelsville), AND SCHUYLKILL (Remainder) COUNTIES

	Rates	Fringes
Ironworkers:		
Projects less than		
\$200,000,000.....	\$ 30.00	23.00

STRUCTURAL, ORNAMENTAL,
AND REINFORCING: Projects
\$200,000,000 and greater,
(all work).....\$ 31.00 23.00

IRON0489-002 07/01/2010

BRADFORD, COLUMBIA, LACKAWANNA, LUZERNE, MONROE (Tobyhanna
Depot only), PIKE, SULLIVAN, TIOGA, SUSQUEHANNA, WAYNE,
WYOMING, CARBON (Northern tip - McAdoo), LYCOMING (Southern tip
- Hughsville)

Rates Fringes

Ironworkers:

Structural and Ornamental...\$ 30.82 24.80

LABO0158-001 05/01/2012

Rates Fringes

Laborers:

GROUP 1.....	\$ 17.71	13.39
GROUP 2.....	\$ 24.33	13.39
GROUP 3.....	\$ 21.32	13.39
GROUP 4.....	\$ 21.67	13.39
GROUP 5.....	\$ 22.34	13.39
GROUP 6.....	\$ 21.76	13.39
GROUP 7.....	\$ 22.05	13.39
GROUP 8.....	\$ 22.53	13.39

LABORERS CLASSIFICATIONS

GROUP 1: Flag person

GROUP 2: Hazardous/Toxic/Asbestos Waste Handler, Lead Paint
Handler

GROUP 3: concrete pitman, puddlers, highway guide rail right
of way and property fence slab reinforcement placers,
Laborers, landscaper, seeders, planters, magazine tenders,
laser beam men for pipe laying and paving machines,,
railroad trackman, signalman, asphalt rakers, asphalt
tamper, lute or screed man, pneumatic and electric tool
operators, jackmammers, paving breakers, concrete saws,
whacker vibrator, chainsaw, highway concrete block layers,
sheet hammer, pipe layers, Walk Behind Rollers, Walk Behind
Trencher

GROUP 4: Caisson-open air below 8 feet, cofferdam open air
below 8 feet where excavations for circular caissons and
cofferdams 8 ft and below level of natural grade adjacent
to starting point, form setters (road) wagon drill diamond
point drill, gunite nozzle operators, walk behind rollers
and concrete rubbers, blaster.

GROUP 5: Form Setter, Reinforced Steel Placer, Bonding
Aligning and Securing and Burning and welding in
Conjunction wth Rebar, and Concrete Surfacers.

FREE AIR TUNNELS AND ROCK SHAFTS

GROUP 6: Outside labers in conjunction with tunnels and rock shafts

GROUP 7: Chuck tenders, muckers, nippers, miners, inside laborers

GROUP 8: Miners, drillers, blasters, pneumatic shield operators, lining, spotting and timber workmen, rebar steel placer, bonding and securing, welders, and concrete surfacers

PAIN0021-026 05/01/2010

ADAMS, CUMBERLAND, DAUPHIN, LANCASTER, PERRY, AND YORK COUNTIES

	Rates	Fringes
Painters:		
Bridge.....	\$ 28.45	9.60
Brush.....	\$ 22.57	9.60
Spray, Sandblast.....	\$ 23.57	9.60

PAIN0057-021 06/01/2012

JUNIATA COUNTY

	Rates	Fringes
Painters: (Commercial)		
Brush and Roller.....	\$ 26.25	14.35
Industrial Brush & Roller...	\$ 29.60	14.35
Spray.....	\$ 26.25	14.35
Painters: (Industrial)		
Bridge.....	\$ 31.70	14.35
Brush and Roller.....	\$ 26.25	14.35
Spray.....	\$ 26.25	14.35

PAIN1021-001 05/01/2009

BERKS, CARBON, LEBANON, LEHIGH, NORTHAMPTON, AND MONROE COUNTIES

	Rates	Fringes
Painters:		
Bridge; Brush, Roller.....	\$ 25.60	12.30
Bridge; Spray.....	\$ 26.60	12.30
Brush and Roller.....	\$ 24.75	12.30
Spray and Sandblast.....	\$ 25.75	12.30

PAIN1021-002 05/01/2009

BRADFORD, COLUMBIA, LACKWANNA, LUZERNE, LYCOMING, MONTOUR, NORTHUMBERLAND, PIKE, SCHUYLKILL, SNYDER, SULLIVAN, SUSQUEHANNA, TIOGA, UNION, WAYNE, WYOMING COUNTIES

	Rates	Fringes
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Painters:

Bridge; Brush, Roller.....	\$ 25.60	12.05
Bridge; Spray.....	\$ 26.60	12.05
Brush and roller.....	\$ 22.75	12.05
Spray, Sandblast.....	\$ 23.75	12.05

PLAS0592-004 06/01/2012

MONROE COUNTY; (EXCEPT TOBYHANNA DEPOT)

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 30.38	9.10

PLAS0592-005 06/01/2012

COLUMBIA COUNTY

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 30.38	9.10

PLAS0592-017 05/01/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER BERKS (Northeastern part lying North of a line starting from the Southern boundary line of Lehigh County continuing through Huffs Church, Fredericksville, Dryville, Lyon Station, Kutztown, Krumsville, and Stoney run in Berks County to the Lehigh County line), CARBON, LEHIGH, NORTHAMPTON (Northwest part including the towns of Walnutport, Bath, and Northampton) COUNTIES.....	\$ 26.00	18.15

PLAS0592-018 05/01/2009

	Rates	Fringes
Cement Mason/Concrete Finisher Adams, Lancaster, and York Counties.....	\$ 25.35	15.05
PLASTERER Adams, Berks (Portions of), Lancaster, and Lebanon Counties.....	\$ 23.70	12.96

PLAS9592-002 05/01/2000

MONROE COUNTY (TOBYHANNA ARMY DEPOT)

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 21.88	4.05

 TEAM0229-003 05/01/2012

	Rates	Fringes
TRUCK DRIVER (ADAMS, BERKS, CARBON, COLUMBIA, CUMBERLAND, DAUPHIN, JUNIATA, LACKAWANA, LANCASTER, LEBANON, LEHIGH, LUZERNE, LYCOMING, MONROE, MONTOUR, NORTHAMPTON, NORTHUMBERLAND, PERRY, PIKE, SCHUYKILL, SNYDER, SULLIVAN, SUSQUEHANNA, UNION, WAYNE, WYOMING, AND YORK COUNTIES)		
GROUP 1.....	\$ 30.98	0.00
GROUP 2.....	\$ 31.05	0.00
GROUP 3.....	\$ 31.54	0.00
Truck drivers: (BRADFORD AND TIOGA COUNTIES)		
GROUP 1.....	\$ 19.78	11.20
GROUP 2.....	\$ 19.85	11.20
GROUP 3.....	\$ 20.34	11.20

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Flat Bed Truck (Single-Axle), Dump Trucks (Under 10 Yds Single Axle), Stake Body Trck (Single Axle), Dumpster (Single Axle)

GROUP 2: Dump Truck (Over 10 Yds), Asphalt Distributors, Transit Mix (Under 5 Yds), Transit Mix (Over 5 Yds.), Flat or Stake Body (Tandem), Fuel Truck A-Frame/Winch Trucks, Dry Batch Truck, Truck Mounted Sweeper and Vac Trucks, Buses, Dumpster (Tandem)

GROUP 3: Euclid-Type, Off Highway Equipment-Back or Double Bottom Dump Trucks (Over 20 Tons), Straddle Trucks, Pusher, Articulate Dumped Trucks, Low Boy Trailers, Semi Trailers

Water Tank, Sprinkler Trucks, Winch Trucks and Fuel Trucks shall be governed by the appropriate classification as listed above.

 WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

37064-1

79 (7-94)

RAILROAD CROSSING DATA FOR DESIGN

Date: 7/18/02

CATION:

County LANCASTER City, Borough, Township MT. JOY

Route _____ Section _____ Highway Station EBY CHIQVES RD. (T-364)

Name of Railroad AMTRAK Branch KEYSTONE - HARRISBURG LINE

AAR No. _____ Railroad Mile Post 77.75

Width RR R/W _____

Does a fiber optics cable occupy RR R/W? Yes No Unknown

Name of Fiber Optic Company GPU/1st ENERGY

Minimum horizontal clear _____ Minimum vertical clear _____

Number of daily switching movements at crossing _____

AIL TRAFFIC:

Number passenger trains daily 13 WEST / 12 EAST Max speed 70 MPH #1 & #2 TRK. MPH

Number freight trains daily 4-6 Max speed 40 MPH #1 & #2 TRK. MPH

Number main line tracks 2 Electrified YES

Number branch line tracks 0 Electrified NO

Number spur or siding tracks 0 Electrified NO

Can any existing tracks be removed NO

Additional track space requested YES

Have plans been prepared for additional tracks YES

When will tracks be constructed ?

Is off track equipment being used _____ on which side _____

Are any toxic chemicals, fuels or wastes being hauled on any of the rail lines? Yes No

REMARKS: _____

Central
RAILROAD COMPANY
by J.J. Diemonte NAME
Project Manager Construction TITLE

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

(See reverse for public burden disclosure.)

1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. Report Type: <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known: Congressional District, if known: 4c	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, if known:	
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, if applicable: _____	
8. Federal Action Number, if known:	9. Award Amount, if known: \$ _____	
10. a. Name and Address of Lobbying Registrant (if individual, last name, first name, MI):	b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI):	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____	
Federal Use Only:		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

ENVIRONMENTAL DUE DILIGENCE (EDD) PHASE 1
VISUAL INSPECTION FORM

DATE: OCT. 21, 2011

SR/SEC: N/A

COUNTY: LANCASTER

SEGMENT: N/A

ECMS Project#: 37064

ACTIVITY: NEW BRIDGE OVER AMTRAK

Location: RAPHO TWP & MT. JOY BOROUGH

Visual Site Inspection (EDD-PHASE 1):

- Stressed Vegetation Yes [] No []
- Staining on Soils Yes [] No []
- Staining Along PennDOT ROW or on ROW Materials Yes [] No []
- Detectable Odors Yes [] No []

Comments: Attached additional pages or information as necessary.

Findings

Check one:

- Due diligence inspection performed and no visual evidence of a spill or release in project ROW was detected.
- Due diligence inspection performed and evidence of a spill or release in project ROW was detected. Phase 2 documents attached.
- Due diligence not applicable for this project. No waste or fill.

SIGNATURE: Douglas P. Murphy

PRINTED NAME: DOUGLAS P. MURPHY

TITLE: PROJECT MANAGER - DESIGN

ORGANIZATION: DISTRICT 8-0 HIGHWAY DESIGN UNIT

ENVIRONMENTAL DUE DILIGENCE (EDD) PHASE 1
VISUAL INSPECTION FORM

DATE: _____

SR/SEC: _____

COUNTY: _____

SEGMENT: _____

ECMS

Project#: _____

ACTIVITY: _____

Location: _____

Visual Site Inspection (EDD-PHASE 1):

- | | | |
|---|---------|--------|
| ▪ Stressed Vegetation | Yes [] | No [] |
| ▪ Staining on Soils | Yes [] | No [] |
| ▪ Staining Along PennDOT ROW
or on ROW Materials | Yes [] | No [] |
| ▪ Detectable Odors | Yes [] | No [] |

Comments: Attached additional pages or information as necessary.

Findings

Check one:

- Due diligence inspection performed and no visual evidence of a spill or release in project ROW was detected.
- Due diligence inspection performed and evidence of a spill or release in project ROW was detected. Phase 2 documents attached.
- Due diligence not applicable for this project. No waste or fill.

SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____

ORGANIZATION: _____

CLEAN FILL ENVIRONMENTAL DUE DILIGENCE [EDD] PHASE 2

DATE: _____

SR/SEC: _____ ECMS PROJECT #: _____

SEGMENT: _____

COUNTY: _____

ACTIVITY: _____

LOCATION: _____

A Phase 1 EDD was conducted for the above project and has identified evidence of a potential spill or release of regulated substances to the material. A Phase 2 EDD was performed.

Findings Check all that apply:

- 1. Based on the results of the Phase 2 investigations, it has been determined that **no** spill or release has occurred.
- 2. Based on the results of the Phase 2 investigations, there is documented evidence that a spill or release has occurred **MUST COMPLETE ITEM 3**
- 3. If Item 2 is checked, Item 3 must be completed: The materials were Collected and sampled, in accordance with Appendix A of the PADEP Management of Fill Guidance, and
 - All regulated substances analyzed were reported as non-detectable. Form FP-001 must be completed along with the laboratory data, and provided to the property owner of the fill receiving site. Attach documentation
 - The concentration of regulated substances detected were below the levels indicated in Table FP-1a/1b. Form FP-001 must be completed along with the laboratory data, and provided to the property owner of the fill receiving site. Attach documentation.
 - The concentration of regulated substances detected exceeds the levels in Table FP-1a/1b, but are below the levels indicated in Table GP-1a/1b. **The material is Regulated Fill** and must be approval by the PENNDOT Project Manager for use. If approved, PADEP General Permit WMGR096 must be obtained.
 - The concentration of regulated substances detected exceeds the levels in Table GP-1a/1b. **The materials are a waste.** Manage in accordance with applicable PA Solid Waste Management Act waste regulations. Attach documentation.

SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____

ORGANIZATION: _____

ENVIRONMENTAL DUE DILIGENCE PHASE 2: CLEAN FILL DETERMINATION

NOTE: PERSONS INVOLVED IN PERFORMING EDD ACTIVITIES DO NOT NEED TO COMPLETE ALL STEPS OF THIS PROCESS. ONLY THOSE REQUIRED FOR PROPERLY CHARACTERIZING MATERIALS TO DETERMINE THEY ARE CLEAN FILL.

EDD Phase 2: STEP 1

- **Property ownership and use histories (deed reviews) for evidence of potential releases of wastes or chemicals from operations along the PennDOT ROW:**

Land and Property Use and Ownership Types Found (Check All That Apply)

- *Public* []
- *Private* []
- *Agricultural* []
- *Industrial* []
- *Commercial* []
- *Residential* []
- *Unused* []
- *Other* []

(Specify) _____

- **Searching environmental databases to determine the existence of potential impacts from any types of waste sites or related activities that exist or may have existed within the vicinity of the PennDOT ROW: (See Appendix 1)**

Databases Searched (Check All That Apply):

- *PennDOT* []
- *PA DEP* []
- *US EPA* []
- *Other* []

(Specify) _____

ENVIRONMENTAL DUE DILIGENCE PHASE 2: CLEAN FILL DETERMINATION

- **Conducting Interviews with All Relevant Parties to determine whether there had been any incidents that involved the release of substances directly to the PennDOT ROW:**

Interviews Conducted (Check All That Apply).

- *Former Property Owners* []
- *Current Property Owners* []
- *Former Land Owners* []
- *Current Land Owners* []
- *Fire Departments* []
- *Hazardous Materials Teams* []
- *Regulatory Agencies* []

(Specify) _____

- **Examination of aerial photographs in order to determine all land uses within the vicinity of the ROW:**

- Aerial Photographs Evaluated Yes [] No [], if "Yes" refer to Appendix 1 for a Pennsylvania Department of Conservation and Natural Resources (PA DCNR) web site address for locating aerial photographs.

- **Examination of Sanborne or other fire insurance maps (there is an additional cost for obtaining these), in order to determine the existence of businesses that may have had any prior releases of regulated substances to the PennDOT ROW:**

- *Sanborne Fire Insurance Maps Examined* [], refer to Appendix 1 for web site address and telephone number for obtaining these maps;
- *Alternate Fire Insurance Maps Examined* []

(Specify) _____

EDD Phase 2 STEP 2:

- **Sampling and Analysis of PennDOT ROW Materials. If there is documented evidence of a spill or release, materials must be tested to determine if they are clean fill, regulated fill, or to characterize for proper waste disposal.**
- **Sampling and analysis should be conducted in accordance with Appendix A of the PA DEP Management of Fill Guidance: 258-2182-773 April 24, 2004.**

ENVIRONMENTAL DUE DILIGENCE PHASE 2: CLEAN FILL DETERMINATION

APPENDIX 1: LISTING OF WEB SITES AND RELATED CONTACTS FOR ENVIRONMENTAL DUE DILIGENCE DATABASE SEARCHES

Pennsylvania Department of Environmental Protection (PA DEP) -Related Sites

- **Pennsylvania Municipal and Residual Waste Facilities** (web link: www.dep.state.pa.us/dep/deputate/airwaste/wm/mrw/Docs/Landfill_list.htm); (this website contains descriptions of all Pennsylvania landfills and incinerators (site name, permit number, host county, municipality, and contact person), all arranged by PA DEP region; for more information, click on either the facility name link (this leads to the PA DEP Environmental Facility Application and Compliance Tracking System (E-Facts) information about any specific facility) or contact person (e-mail) link).
- **Pennsylvania Land Recycling and Environmental Remediation Standards Act (Act 2) Sites** (web link: www.pasitefinder.state.pa.us/Site_listing.asp); this website contains information on all Act 2 sites that have been completed to date and updates that are made to the website when needed; click on the “more details” box associated with each site listed to obtain an interactive “E-Map” location/link for any site selected along with pertinent site information).
- **Pennsylvania Hazardous Sites Cleanup Act (HSCA) Sites** (web link: www.dep.state.pa.us/dep/deputate/airwaste/wm/hscp/docs/HSCA_Site_List.pdf); this website brings up a list of Pennsylvania HSCA sites that are arranged by PA DEP Region and shows municipality, county, number and dates for HSCA responses (interim and remedial levels), in addition to the site status (complete, listed on Pennsylvania Priority List, or de-listed).
- **Pennsylvania Storage Tank Release and Active Storage Tank Sites** (web link for storage tank releases: www.dep.state.pa.us/dep/deputate/airwaste/wm/Tanks/Document/tank_release.htm); this website contains a listing of all known storage tank incidents, and is arranged by PA DEP region (with each regional incident alphabetized by county), other details included are facility I. D. #, site name, address, city, county, incident description, confirmation date, type of incident (underground storage tank release (petroleum or hazardous material), or above-ground storage tank release; click on the “Tank Incidents” PDF or Adobe Acrobat Files to see the entire list of storage tank releases to date); web link for active storage tanks: www.dep.state.pa.us/dep/deputate/airwaste/wm/tanks/storagetanks/tank_listings.htm; click on the PA DEP Regional links to obtain Excel spreadsheet lists of storage tanks; information similar to what can be found on the storage tank release sites (except releases) can be found on the active storage tanks list)

ENVIRONMENTAL DUE DILIGENCE PHASE 2: CLEAN FILL DETERMINATION

APPENDIX 1: LISTING OF WEB SITES AND RELATED CONTACTS FOR ENVIRONMENTAL DUE DILIGENCE DATABASE SEARCHES

United States Environmental Protection Agency (US EPA)-Related Sites

- **Pennsylvania Comprehensive Environmental Response and Liability Act (CERCLA/Superfund) Sites** (web link: www.epa.gov/reg3hwmd/super/PA/index.htm); this website contains information on all Pennsylvania Superfund sites, including name, address, city, county, zip code, US EPA I. D. number, and National Priority List (NPL) status; click on the site name to learn more about any Superfund site).
- **Pennsylvania Resource Conservation and Recovery Act (RCRA) Facilities** (web link: www.epa.gov/reg3wcmd/ca/pa.htm); this website contains information for all Pennsylvania RCRA sites, including facility name (click on this for more details), US EPA I. D. number, location (click on this link to get a map showing the site in relation to nearby roadways), environmental indicators (human exposure, groundwater – click on either of these to get the documentation sheets for either or both), and clean up status (initiated, remedy selected, complete with or without controls, construction completed)).
- **Toxic Release Inventories (TRI)** (web link: www.epa.gov/tri); this website is from the US EPA, and contains some background information about TRI is and how it is used; releases for specific areas can be found by entering a zip code on the title page, from here, the user can view the facilities that are part of the TRI for the zip code entered, and the extent of releases that have occurred over the years (starting with 1989, and continuing through 2001, the latest year for which TRI information is available); click on the name of any facility shown to obtain a detailed report about the releases and related activities associated with the facility (onsite, off-site, air emissions, water discharges, land disposal)).
- **Comprehensive Federal and State Site Environmental Database (Enviro-Facts)** (web link: www.epa.gov/enviro/index_java.html), this website contains information about virtually every type of environmental matter known, both in terms of facilities and the media affected by these facilities' collective activities; under the "topics" tab, click on the links related to "waste", "water", "air", "toxics", "land", "radiation", "maps", and "other", to determine the type of media information desired; under the "advanced capabilities" tab, click on the "queries", "maps", or "reports" links to locate more specific information; from here, the user will be led to a page where queries about any type of environmental site can be entered using a zip code, county or State abbreviation; click on the "find it" link to locate information about one or multiple environmental sites, or, to generate map locations for the any type of environmental site activity desired; the map is interactive, and the user can "zoom in" for closer details about the site; this database may include information on sites from the aforementioned Municipal and Residual Waste, Storage Tanks, RCRA, HSCA, CERCLA, Act 2, and TRI databases; sites with National Pollutant Discharge Elimination System (NPDES) and radiation-related permits also included in this database).

ENVIRONMENTAL DUE DILIGENCE PHASE 2: CLEAN FILL DETERMINATION

APPENDIX 1: LISTING OF WEB SITES AND RELATED CONTACTS FOR ENVIRONMENTAL DUE DILIGENCE DATABASE SEARCHES

Sites for Aerial Photographs and Fire Insurance Maps

- **Aerial Photographs:** Aerial photographs may be accessed via the Pennsylvania Department of Conservation and Natural Resources (PA DCNR) web site (web link: www.dcnr.state.pa.us/topogeo/gismaps/aerials.aspx.htm, click on the "Proceed to the new DCNR" link, then click on the "Aerial Photos" option; this will lead to a link for the U. S. Geological Survey's Aerial Photo Finder; information can be sought, and site location maps can be generated by selecting the "zip code", "populated place", or "map location" options).
- **Sanborne Fire Insurance Maps:** These maps may be obtained from EDR Sanborne, Inc., at 1-800-352-0050, or at www.edrnet.com; click on the "Sanborne Maps" link, and then click on the phrase "Download Sample" to view an example of this map type **There is an additional cost for obtaining these maps.**

EXHIBIT D

NATIONAL RAILROAD PASSENGER CORPORATION
TEMPORARY PERMIT TO ENTER UPON PROPERTY
C.E.-17 (REVISED 12/1/06)

Date:
File: E-47-
W.E.:

ATTN:

1. TEMPORARY PERMISSION. Temporary permission is hereby granted to _____ (hereinafter called "Permittee"), to enter property owned and/or controlled by the National Railroad Passenger Corporation (hereinafter called "Railroad"), for the purpose of _____ at _____, State of _____, under the terms and conditions set forth below.

2. LOCATION AND ACCESS. (Give map reference, description or both)

(hereinafter called "Property").

3. INDEMNIFICATION. Permittee shall defend, indemnify and hold harmless Railroad, its officers, directors, employees, agents, servants, successors, assigns and subsidiaries, irrespective of their negligence or fault, from and against any and all losses and liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including cost of defense and attorneys' fees), which any or all of them may hereafter incur, be responsible for, or pay as a result of injury, death, disease, or occupational disease to any person, and for damage (including environmental contamination and loss of use) to or loss of any property, including property of Railroad, arising out of or in any degree directly or indirectly caused by or resulting from activities of or work performed by Permittee, its officers, employees, agents, servants, contractors, subcontractors, or any other person acting for or by permission of Permittee. The foregoing obligation shall not be limited by the existence of any insurance policy or by any limitation on the amount or type of damages, compensation, or benefits payable by or for Permittee or any contractor or subcontractor, and shall survive the termination of this Temporary Permit for any reason. As used in this paragraph, the term "Railroad" also includes all commuter agencies and other railroads with rights to operate over Railroad property, and their respective officers, directors, employees, agents, servants, successors, assigns and subsidiaries.

4. CONSIDERATION FOR PREPARATION OF TEMPORARY PERMIT. Permittee will pay to Railroad the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, as compensation for the preparation of this Temporary Permit.

5. STARTING OF USE OF PROPERTY. Permittee shall notify Railroad's Deputy Chief Engineer-Construction, or his designee, at least ten (10) days in advance before entering upon, or starting any work on, the Property. No entry upon or use of the Property will be permitted until a fully executed copy of this Temporary Permit is returned to Railroad, and specific permission to enter upon the Property is received by Permittee from Railroad's Director Project Initiation & Development. (See paragraph 17 for contact information.)

6. RAILROAD OPERATIONS. All activities performed by or on behalf of Permittee shall be performed so as not to interfere with Railroad's operations or with any of Railroad's facilities. In no event shall personnel, equipment or material cross a track or tracks without special advance permission from Railroad's Deputy Chief Engineer-Construction or his designee. If, in the opinion of Railroad's Deputy Chief Engineer-Construction or his designee, conditions warrant at any time, Railroad will provide flag service and/or other protection at the sole cost and expense of Permittee, and Permittee agrees to pay to Railroad the full cost and expense therefor.

7. CLEARANCES. All equipment and material of Permittee shall be kept at all times not less than fifteen (15) feet from the centerline of the outside track, unless specifically otherwise authorized in

EXHIBIT D

writing by Railroad's Deputy Chief Engineer-Construction or his designee. Permittee shall conduct all operations so that no part of any equipment shall foul an operated track; transmission, communication or signal line; or any other structure or facility of Railroad.

8. RESTORATION OF PREMISES. Upon completion of its work, Permittee shall, at the option of Railroad, (a) leave the Property in a condition satisfactory to Railroad, or (b) restore the Property to its original condition. This may include, without limitation, the restoration of any fences removed or damaged by Permittee.

9. TERM OF TEMPORARY PERMIT. This Temporary Permit shall commence on the date Railroad receives a fully executed copy of this Temporary Permit pursuant to paragraph 17 hereof and shall extend until the end of the period Railroad determines is necessary for Permittee to accomplish the purpose set forth in paragraph 1 hereof; provided, however, Railroad reserves the right to revoke this Temporary Permit at any time, and in no event shall this Temporary Permit extend beyond _____, 200_. Under no circumstances shall this Temporary Permit be construed as granting to Permittee any right, title or interest of any kind in any property of Railroad.

10. PROTECTION. All work on, over, under, within or adjacent to the Property shall be performed in accordance with the document entitled "SPECIFICATIONS REGARDING SAFETY AND PROTECTION OF RAILROAD TRAFFIC AND PROPERTY," a copy of which is attached hereto as Attachment A and incorporated herein by reference.

11. INSURANCE. Before Permittee commences any work on, over, under, within or adjacent to the Property, Permittee and its contractors (unless Permittee opts to provide the required coverage for them), shall furnish to Railroad's Director Project Initiation & Development, evidence of the insurance coverages specified in the document entitled "INSURANCE REQUIREMENTS - NATIONAL RAILROAD PASSENGER CORPORATION," a copy of which is attached hereto as Attachment B and incorporated herein by reference.

12. SAFETY ORIENTATION CLASS. No person may enter within twenty-five (25) feet of the Property until he/she has attended Railroad's Safety Orientation Class, as noted in paragraph 12 of Attachment A.

13. COMPLIANCE BY CONTRACTORS. Permittee shall take all steps necessary to ensure that its contractors and subcontractors comply with the terms and conditions of this Temporary Permit.

14. SUPPORT SERVICES; COSTS; PAYMENTS. Railroad shall not be responsible for any costs incurred by Permittee in relation to any matter whatsoever. Permittee is required to reimburse Railroad for all costs incurred by Railroad in relation to this Temporary Permit. Without limiting the foregoing, Permittee is required to reimburse Railroad for all costs incurred by Railroad in connection with the review of any plans, drawings or other submissions made by Permittee.

Railroad's costs, expenses and labor charges will be billed to Permittee at Railroad's standard force account rates. Except as specified in paragraph 4 hereof, all payments due from Permittee to Railroad under this Temporary Permit shall be due and payable within thirty (30) days from the date of invoice. Permittee shall have no right to set off against any payment due under this Temporary Permit any sums which Permittee may believe are due to it from Railroad for any reason whatsoever. In the event that Permittee shall fail to pay, when due, any amount payable by it under this Temporary Permit, Permittee shall also pay to Railroad, together with such overdue payment, interest on the overdue amount at an annual rate of six (6) percentage points over and above the rate published from time to time by *The Wall Street Journal* as the prime commercial lending rate (or the highest rate allowed by law, if less than the foregoing), calculated from the date the payment was due until paid. All payments due from Permittee to Railroad hereunder shall be: (a) made by check drawn from currently available funds; (b) deemed made only upon receipt by Railroad of collected funds; (c) made payable to National Railroad Passenger

EXHIBIT D

Corporation; and (d) delivered to the National Railroad Passenger Corporation, 23615 Network Place – GROUP, Chicago, IL 60673-1236. (However, the permit fee referenced in paragraph 4 hereof and the Railroad Protective Liability premium referenced in Attachment B, if applicable, shall be delivered to Railroad at the address set forth in paragraph 17 hereof.) All payment obligations of Permittee under this Temporary Permit shall survive the termination or expiration of this Temporary Permit.

15. ENVIRONMENTAL AND GEOTECHNICAL TESTS AND STUDIES. Permittee shall not perform any environmental or geotechnical tests or studies (e.g., air, soil or water sampling) unless specifically identified and authorized in paragraph 1 of this Temporary Permit. If any such tests or studies are performed, Permittee shall promptly furnish to Railroad, at no cost, a copy of the results including any reports or analyses obtained or compiled. Except as may be required by applicable law or as authorized by Railroad in writing, Permittee shall not disclose the results of any such tests or studies to anyone other than Railroad or Permittee’s client. Failure to comply with the provisions of this clause shall result in immediate termination of this Temporary Permit and forfeiture of all compensation paid Railroad therefor.

16. SEVERABILITY. If any provision of this Temporary Permit is found to be unlawful, invalid or unenforceable, that provision shall be deemed deleted without prejudice to the lawfulness, validity and enforceability of the remainder of the Temporary Permit.

17. ACCEPTANCE. To confirm acceptance of this Temporary Permit, one fully executed copy must be returned to: Director Project Initiation & Development, National Railroad Passenger Corporation, 30th Street Station, Mail Box 64, Philadelphia, PA 19104 (215/349-1127). The second copy may be retained for your file.

NATIONAL RAILROAD PASSENGER CORPORATION

By: _____
DEPUTY CHIEF ENGINEER - CONSTRUCTION

Date: _____

AGREED TO AND ACCEPTED:

By: _____
(signature)

Title: _____
Must be an Owner/Partner or
duly authorized representative

Date: _____

EXHIBIT D

ATTACHMENT A

Temporary Permit to Enter Upon Property

SPECIFICATIONS REGARDING SAFETY AND PROTECTION OF RAILROAD TRAFFIC AND PROPERTY (Revised 2/3/06)

National Railroad Passenger Corporation (Railroad)

In the following Specifications, "Railroad" shall mean the National Railroad Passenger Corporation; "Chief Engineer" shall mean Railroad's Chief Engineer and/or his duly authorized representative; "Permittee" shall mean the party so identified in the Temporary Permit to Enter Upon Property; and "Contractor" shall mean the entity retained by the Permittee or the entity with whom Railroad has contracted in a Preliminary Engineering Agreement or Force Account Agreement, as applicable.

- (1) Pre-Entry Meeting: Before entry of Permittee and/or Contractors onto Railroad's property, a pre-entry meeting shall be held at which time Permittee and/or Contractors shall submit for written approval of the Chief Engineer, plans, computations and a detailed description of proposed methods for accomplishing the work, including methods for protecting Railroad's traffic. Any such written approval shall not relieve Permittee and/or Contractor of their complete responsibility for the adequacy and safety of their operations.
- (2) Rules, Regulations and Requirements: Railroad traffic shall be maintained at all times with safety and continuity, and Permittee and/or Contractors shall conduct their operations in compliance with all rules, regulations, and requirements of Railroad (including these Specifications) with respect to any work performed on, over, under, within or adjacent to Railroad's property. Permittee and/or Contractors shall be responsible for acquainting themselves with such rules, regulations and requirements. Any violation of Railroad's safety rules, regulations, or requirements shall be grounds for the immediate suspension of Permittee and/or Contractor work, and the re-training of all personnel, at Permittee's expense.
- (3) Maintenance of Safe Conditions: If tracks or other property of Railroad are endangered during the work, Permittee and/or Contractor shall immediately take such steps as may be directed by Railroad to restore safe conditions, and upon failure of Permittee and/or Contractor to immediately carry out such direction, Railroad may take whatever steps are reasonably necessary to restore safe conditions. All costs and expenses of restoring safe conditions, and of repairing any damage to Railroad's trains, tracks, right-of-way or other property caused by the operations of Permittee and/or Contractors, shall be paid by Permittee.
- (4) Protection in General: Permittee and/or Contractors shall consult with the Chief Engineer to determine the type and extent of protection required to ensure safety and continuity of railroad traffic. Any Inspectors, Track Foremen, Track Watchmen, Flagmen, Signalmen, Electric Traction Linemen, or other employees deemed necessary by Railroad, at its sole discretion, for protective services shall be obtained from Railroad by Permittee and/or Contractors. The cost of same shall be paid directly to Railroad by Permittee. The provision of such employees by Railroad, and any other precautionary measures taken by Railroad, shall not relieve Permittee and/or Contractors from their complete responsibility for the adequacy and safety of their operations.
- (5) Protection for Work Near Electrified Track or Wire: Whenever work is performed in the vicinity of electrified tracks and/or high voltage wires, particular care must be exercised, and Railroad's requirements regarding clearance to be maintained between equipment and tracks and/or energized wires, and otherwise regarding work in the vicinity of electrified tracks, must be strictly observed. No employees or equipment will be permitted to work near overhead wires, except when protected by a Class A employee of Railroad. Permittee and/or Contractors must supply an adequate length of grounding cable (4/0 copper with approved clamps) for each piece of equipment working near or adjacent to any

EXHIBIT D

overhead wire.

(6) Fouling of Track or Wire: No work will be permitted within twenty-five (25) feet of the centerline of track or the energized wire or have potential of getting within twenty-five (25) feet of track wire without the approval of the Chief Engineer's representative. Permittee and/or Contractors shall conduct their work so that no part of any equipment or material shall foul an active track or overhead wire without the written permission of the Chief Engineer's representative. When Permittee and/or Contractors desire to foul an active track, they must provide the Chief Engineer's representative with their site-specific work plan a minimum of twenty-one (21) working days in advance, so that, if approved, arrangements may be made for proper protection of Railroad. Any equipment shall be considered to be fouling a track or overhead wire when located (a) within fifteen (15) feet from the centerline of the track or within fifteen (15) feet from the wire, or (b) in such a position that failure of same, with or without a load, would bring it within fifteen (15) feet from the centerline of the track or within fifteen (15) feet from the wire and requires the presence of the proper Railroad protection personnel.

If acceptable to the Chief Engineer's representative, a safety barrier (approved temporary fence or barricade) may be installed at fifteen (15) feet from centerline of track or overhead wire to afford the Permittee and/or Contractor with a work area that is not considered fouling. Nevertheless, protection personnel may be required at the discretion of the Chief Engineer's representative.

(7) Track Outages: Permittee and/or Contractors shall verify the time and schedule of track outages from Railroad before scheduling any of their work on, over, under, within, or adjacent to Railroad's right-of-way. Railroad does not guarantee the availability of any track outage at any particular time. Permittee and/or Contractors shall schedule all work to be performed in such a manner as not to interfere with Railroad operations. Permittee and/or Contractors shall use all necessary care and precaution to avoid accidents, delay or interference with Railroad's trains or other property.

(8) Demolition: During any demolition, Contractor must provide horizontal and vertical shields, designed by a Professional Engineer registered in the state in which the work takes place. These shields shall be designed in accordance with the Railroad's specifications and approved by the Railroad, so as to prevent any debris from falling onto the Railroad's right-of-way or other property. A grounded temporary vertical protective barrier must be provided if an existing vertical protective barrier is removed during demolition. In addition, if any openings are left in an existing bridge deck, a protective fence must be erected at both ends of the bridge to prohibit unauthorized persons from entering onto the bridge.

Ballasted track structure shall be kept free of all construction and demolition debris.

(9) Equipment Condition: All equipment to be used in the vicinity of operating tracks shall be in "certified" first-class condition so as to prevent failures that might cause delay to trains or damage to Railroad's property. No equipment shall be placed or put into operation near or adjacent to operating tracks without first obtaining permission from the Chief Engineer's representative. Under no circumstances shall any equipment or materials be placed or stored within twenty-five (25) feet from the centerline of an outside track, except as approved by the Site Specific Safety Work Plan. To ensure compliance with this requirement, Permittee and/or Contractors must establish a twenty-five (25) foot foul line prior to the start of work by either driving stakes, taping off or erecting a temporary fence, or providing an alternate method as approved by the Chief Engineer's representative. Permittee and/or Contractors will be issued warning stickers which must be placed in the operating cabs of all equipment as a constant reminder of the twenty-five (25) foot clearance envelope.

(10) Storage of Materials and Equipment: No material or equipment shall be stored on Railroad's property without first having obtained permission from the Chief Engineer. Any such storage will be on the condition that Railroad will not be liable for loss of or damage to such materials or equipment from any cause.

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If permission is granted for the storage of compressed gas cylinders on Railroad property, they shall be stored a minimum of 25 feet from the nearest track in an approved lockable enclosure. The enclosure shall be locked when the Permittee and/or Contractor is not on the project site.

(11) Condition of Railroad's Property: Permittee and/or Contractors shall keep Railroad's property clear of all refuse and debris from its operations. Upon completion of the work, Permittee and/or Contractors shall remove from Railroad's property all machinery, equipment, surplus materials, falsework, rubbish, temporary structures, and other property of Permittee and/or Contractors and shall leave Railroad's property in a condition satisfactory to the Chief Engineer.

(12) Safety Training: All individuals, including representatives and employees of Permittee and/or Contractors, before entering onto Railroad's property or coming within twenty-five (25) feet of the centerline of the track or energized wire shall first attend Railroad's Safety Orientation Class. The Safety Orientation Class will be provided by Railroad's Safety Representative at Permittee's expense. A photo I.D. will be issued and must be worn/displayed while on Railroad property. All costs of complying with Railroad's safety training shall be at the sole expense of Permittee. Permittee and/or Contractors shall appoint a qualified person as their Safety Representative. He/she shall continuously ensure that all individuals comply with Railroad's safety requirements. All safety training records shall be maintained with the site specific work plan.

(13) No Charges to Railroad: It is expressly understood that neither these Specifications, nor any document to which they are attached, include any work for which Railroad is to be billed by Permittee and/or Contractors, unless Railroad gives a written request that such work be performed at Railroad's expense.

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ATTACHMENT B Temporary Permit to Enter Upon Property

INSURANCE REQUIREMENTS NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK) CHICAGO UNION STATION COMPANY (CUSCO) WASHINGTON TERMINAL COMPANY (WTC) Revised as of December 3, 2009

DEFINITIONS

In these Insurance Requirements "Railroad" or "Amtrak" shall mean National Railroad Passenger Corporation and as appropriate, its subsidiaries Chicago Union Station Company ("CUSCO") and Washington Terminal Company ("WTC"). "Contractor" shall mean the party identified as "Permittee" in the Temporary Permit to Enter Upon Property Agreement or the party with whom Amtrak has contracted in the Preliminary Engineering Agreement or Force Account Agreement, as well as its officers, employees, agents, servants, contractors, subcontractors, or any other person acting for or by permission of Permittee or Contractor. "Operations" shall mean activities of or work performed by Contractor. "Agreement" shall mean the Temporary Permit to Enter Upon Property Agreement, Preliminary Engineering Agreement, or Force Account Agreement, as applicable.

INSURANCE

Contractor shall procure and maintain, at its sole cost and expense, the types of insurance specified below. Contractor shall evidence such coverage by submitting to Amtrak the original Railroad Protective Liability Policy and certificates of insurance evidencing the other required insurance, prior to commencement of Operations. All insurance shall be procured from insurers authorized to do business in the jurisdiction(s) where the Operations are to be performed. Contractor shall require all subcontractors to carry the insurance required herein, or Contractor may, at its option, provide the coverage for any or all subcontractors, provided the evidence of insurance submitted by Contractor to Amtrak so stipulates. The insurance shall provide for thirty (30) days prior written notice to Amtrak in the event coverage is substantially changed, canceled or non-renewed. All insurance shall remain in force until all Operations are satisfactorily completed (unless otherwise noted below), all Contractor personnel and equipment have been removed from Railroad property, and any work has been formally accepted. Contractor agrees to provide certified copies of its insurance policies within 30 days of Amtrak's written request. Contractor's failure to comply with the insurance requirements set forth herein shall constitute a violation of the Agreement.

Workers' Compensation Insurance complying with the requirements of the statutes of the jurisdiction(s) in which the Operations will be performed, covering all employees of Contractor. Employer's Liability coverage with limits of not less than \$1 million each accident or illness shall be included.

In the event the Operations are to be performed on or over navigable waterways, a Longshoremen and Harbor Workers' Compensation Act Endorsement and a Maritime Coverage Endorsement are to be added, including coverage for wages, transportation, maintenance and cure.

Commercial General Liability Insurance covering liability of Contractor with respect to all operations to be performed and all obligations assumed by Contractor under the terms of the Agreement. Products-completed operations, independent contractors and contractual liability coverages are to be included, with the contractual exclusion related to construction/demolition activity within fifty (50) feet of the railroad and any Explosion/Collapse/Underground (X-C-U) exclusions deleted. The policy shall name National

EXHIBIT D

Railroad Passenger Corporation, as appropriate CUSCO or WTC, and all commuter agencies and railroads that operate over the property or tracks at issue as additional insureds with respect to the operations to be performed. In addition the policy shall include an ISO endorsement form CG 24 17 10 01 or its equivalent providing contractual liability coverage for the railroads listed as additional insureds. Coverage under this policy shall have limits of liability of not less than \$2 million each occurrence, combined single limit, for bodily injury (including disease or death), personal injury and property damage (including loss of use) liability.

Automobile Liability Insurance covering the liability of Contractor arising out of the use of any vehicles which bear, or are required to bear, license plates according to the laws of the jurisdiction in which they are to be operated, and which are not covered under Contractor's Commercial General Liability insurance. The policy shall name National Railroad Passenger Corporation, as appropriate CUSCO or WTC, and all commuter agencies and railroads that operate over the property or tracks at issue as additional insureds with respect to the operations to be performed. Coverage under this policy shall have limits of liability of not less than \$1 million each occurrence, combined single limit, for bodily injury and property damage (including loss of use) liability.

In the event Contractor or any subcontractor will be transporting and/or disposing of any hazardous material or waste off of the jobsite, a MCS-90 Endorsement is to be added to this policy and the limits of liability are to be increased to \$5 million each occurrence.

Railroad Protective Liability (RRP) Insurance covering the Operations performed by Contractor or any subcontractor within fifty (50) feet vertically or horizontally of railroad tracks. The current ISO Occurrence Form (claims-made forms are unacceptable) in the name of the National Railroad Passenger Corporation (and as appropriate CUSCO or WTC, and all commuter agencies and railroads that operate over the property or tracks at issue) shall have limits of liability of not less than \$2 million each occurrence, combined single limit, for Coverages A and B, for losses arising out of injury to or death of all persons, and for physical loss or damage to or destruction of property, including the loss of use thereof. A \$6 million annual aggregate shall apply. Additionally, Policy Endorsement CG 28 31 - Pollution Exclusion Amendment, is required to be endorsed onto the policy. Further, "Physical Damage to Property" as defined in the policy is to be deleted and replaced by the following endorsement:

"It is agreed that 'Physical Damage to Property' means direct and accidental loss of or damage to all property owned by any named insured and all property in any named insured's care, custody and control."

The original RRP Liability Insurance Policy must be submitted to Amtrak prior to commencement of Operations.

In the alternative, and upon Amtrak's approval, Contractor may elect to have Amtrak insure the Operations under its Blanket RRP Liability Insurance Program. The premium, which shall be determined by the rate schedule promulgated by the insurer in effect as of the effective date of the Agreement, shall be prepaid by Contractor. In the event Contractor and Amtrak agree to insure the Operations under Amtrak's RRP Program, Contractor shall include the RRP premium of \$_____ in addition to the Permit Fee, and send its check made payable to National Railroad Passenger Corporation to the individual set forth below prior to commencement of Operations.

All Risk Property Insurance covering physical loss or damage to all property used in the performance of the Operations. The policy shall have limits of liability adequate to cover all property of Contractor (including personal property of others in Contractor's care, custody or control) and shall include a waiver of subrogation against Amtrak, as appropriate CUSCO or WTC, and all commuter agencies and railroads that operate over the property or tracks at issue.

EXHIBIT D

Contractor's Pollution Liability Insurance covering the liability of Contractor arising out of any sudden and/or non-sudden pollution or impairment of the environment, including clean-up costs and defense, that arise from the Operations of Contractor with National Railroad Passenger Corporation, as appropriate CUSCO or WTC, and all commuter agencies and railroads that operate over the property or tracks at issue named as additional insureds. Coverage under this policy shall have limits of liability of not less than \$2 million each occurrence. The coverage shall be maintained during the term of the project, and for at least two (2) years following Amtrak acceptance of the completion of all Operations to be performed.

Pollution Legal Liability Insurance is required if any hazardous material or waste is to be transported or disposed of off of the jobsite. Contractor, its subcontractor or transporter, as well as the disposal site operator, shall maintain this insurance. Contractor shall designate the disposal site, and must provide a certificate of insurance from the disposal facility to Amtrak. The policy shall name National Railroad Passenger Corporation, as appropriate CUSCO or WTC, and all commuter agencies and railroads that operate over the property or tracks at issue as additional insureds, with limits of liability of not less than \$2 million per claim.

Further, any additional insurance coverages, permits, licenses and other forms of documentation required by the United States Department of Transportation, the Environmental Protection Agency and/or related state and local laws, rules and regulations shall be obtained by Contractor.

Professional Liability Insurance covering the liability of Contractor for any and all errors or omissions committed by Contractor in the performance of the Operations, regardless of the type of damages. The coverage shall be maintained during the term of the Operations, and for at least three (3) years following completion thereof. The policy shall have limits of liability of not less than \$2 million per claim and in the annual aggregate. The policy may contain a deductible of a maximum of two hundred fifty thousand dollars (\$250,000), but in such case the deductible is the sole responsibility of Contractor, and no portion of such deductible is the responsibility of Amtrak.

Contractor may elect to satisfy this requirement through the addition of endorsement CG2279 "Incidental Professional Liability" to its CGL policy.

Claims-Made Insurance - If any liability insurance specified above shall be provided on a claims-made basis, then in addition to coverage requirements above, such policy shall provide that:

1. The retroactive date shall coincide with or precede Contractor's start of Operations (including subsequent policies purchased as renewals or replacements);
2. The policy shall allow for the reporting of circumstances or incidents that might give rise to future claims;
3. Contractor will use its best efforts to maintain similar insurance under the same terms and conditions that describe each type of policy listed above (e.g., Commercial General Liability, Professional Liability) for at least three (3) years following completion of the Operations; and
4. If insurance is terminated for any reason, Contractor will purchase an extended reporting provision of at least two (2) years to report claims arising from Operations.

Contractor shall furnish evidence of insurance as specified above at least fifteen (15) days prior to commencing Operations. THESE DOCUMENTS SHALL INCLUDE A DESCRIPTION OF THE PROJECT AND THE LOCATION ALONG THE RAILROAD RIGHT-OF-WAY (typically given by milepost designation) IN ORDER TO FACILITATE PROCESSING. The fifteen (15) day advance notice of coverage may be waived by Amtrak in situations where such waiver will benefit Amtrak, but under no circumstances will Contractor begin Operations without providing satisfactory evidence of

EXHIBIT D

insurance as approved by Amtrak. Such evidence of insurance coverage shall be sent to:

Director Project Initiation & Development
National Railroad Passenger Corporation
30th Street Station, Mail Box 64
Philadelphia, PA 19104-2817

SECTION 01141A – SAFETY AND PROTECTION OF RAILROAD TRAFFIC AND PROPERTY

PART 1 - GENERAL

1.1 SCOPE

- A. This specification describes the safety procedures and protection provisions for Contractors and Permittees entering and working upon railroad property.
- B. Use of this specification is as required by Amtrak, as described in Amtrak Engineering Practice EP3014.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. CHIEF ENGINEER: Amtrak Chief Engineer
- B. RAILROAD: National Railroad Passenger Corporation (Amtrak), and/or the duly authorized representative
- C. ENGINEERING PRACTICE: Amtrak Engineering Practices establish a system of uniform practices, notices and instructions for the Amtrak Engineering Department, providing current, permanent and temporary, departmental procedures and policies.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PRE-ENTRY MEETING

- A. Before entry of Permittee and/or Contractors onto Railroad's property, a pre-entry meeting shall be held at which time Permittee and/or Contractors shall submit for written approval of the Chief Engineer, plans, computations and a detailed description of proposed methods for accomplishing the work, including methods for protecting Railroad's traffic. Any such written approval shall not relieve Permittee and/or Contractor of their complete responsibility for the adequacy and safety of their operations.

3.2 RULES, REGULATIONS AND REQUIREMENTS

- A. Railroad traffic shall be maintained at all times with safety and continuity, and Permittee and/or Contractors shall conduct their operations in compliance with all rules, regulations, and requirements of Railroad (including these Specifications) with respect to any work performed on, over, under, within or adjacent to Railroad's property. Permittee and/or Contractors shall be responsible for acquainting themselves with such rules, regulations and requirements. Any violation of Railroads safety rules, regulations, or requirements shall be grounds for the immediate suspension of the Permittee and/or Contractor work, and the re-training of all personnel, at the Permittee's expense.

3.3 MAINTENANCE OF SAFE CONDITIONS

- A. If tracks or other property of Railroad are endangered during the work, Permittee and/or Contractor shall immediately take such steps as may be directed by Railroad to restore safe conditions, and upon failure of Permittee and/or Contractor to immediately carry out such direction, Railroad may take whatever steps are reasonably necessary to restore safe conditions. All costs and expenses of restoring safe conditions, and of repairing any damage to Railroad's trains, tracks, right-of-way or other property caused by the operations of Permittee and/or Contractors, shall be paid by Permittee.

3.4 PROTECTION IN GENERAL

- A. Permittee and/or Contractors shall consult with the Chief Engineer to determine the type and extent of protection required to insure safety and continuity of railroad traffic. Any Inspectors, Track Foremen, Track Watchmen, Flagman, Signalmen, Electric Traction Linemen, or other employees deemed necessary by Railroad, at its sole discretion, for protective services shall be obtained from Railroad by Permittee and/or Contractors. The cost of same shall be paid directly to Railroad by Permittee. The provision of such employees by Railroad, and any other precautionary measures taken by Railroad, shall not relieve Permittee and/or Contractors from their complete responsibility for the adequacy and safety of their operations.

3.5 PROTECTION FOR WORK NEAR ELECTRIFIED TRACK OR WIRE

- A. Whenever work is performed in the vicinity of electrified tracks and/or high voltage wires, particular care must be exercised, and Railroad's requirements regarding clearance to be maintained between equipment and tracks and/or energized wires, and otherwise regarding work in the vicinity of electrified tracks, must be strictly observed. No employees or equipment will be permitted to work near overhead wires, except when protected by a Class A employee of Railroad. **Permittee and/or Contractors must supply an adequate length of grounding cable (4/0 copper with approved clamps) for each piece of equipment working near or adjacent to any overhead wire.**

3.6 FOULING OF TRACK OR WIRE

- A. No work will be permitted within twenty-five (25) feet of the centerline of track or the energized wire or have potential of getting within twenty-five (25) feet of track wire without the approval of the Chief Engineer's representative. Permittee and/or Contractors shall conduct their work so that no part of any equipment or material shall foul an active track or overhead

wire without the written permission of the Chief Engineer's representative. When Permittee and/or Contractors desire to foul an active track, they must provide the Chief Engineer's representative with their site-specific work plan a minimum of twenty-one (21) working days in advance, so that, if approved, arrangements may be made for proper protection of Railroad. Any equipment shall be considered to be fouling a track or overhead wire when located (a) within fifteen (15) feet from the centerline of the track or within fifteen (15) feet from the wire, or (b) in such a position that failure of same, with or without a load, would bring it within fifteen (15) feet from the centerline of the track or within fifteen (15) feet from the wire and requires the presence of the proper Railroad protection personnel.

- B. If acceptable to the Chief Engineer's representative, a safety barrier (approved temporary fence or barricade) may be installed at fifteen (15) feet from centerline of track or overhead wire to afford the Permittee and/or Contractor with a work area that is not considered fouling. Nevertheless, protection personnel may be required at the discretion of the Chief Engineer's representative.

3.7 TRACK OUTAGES

- A. Permittee and/or Contractors shall verify the time and schedule of track outages from Railroad before scheduling any of their work on, over, under, within, or adjacent to Railroad's right-of-way. Railroad does not guarantee the availability of any track outage at any particular time. Permittee and/or Contractors shall schedule all work to be performed in such a manner as not to interfere with Railroad operations. Permittee and/or Contractors shall use all necessary care and precaution to avoid accidents, delay or interference with Railroad's trains or other property.

3.8 DEMOLITION

- A. During any demolition, the Contractor must provide horizontal and vertical shields, designed by a Professional Engineer registered in the state in which the work takes place. These shields shall be designed in accordance with the Railroad's specifications and approved by the Railroad, so as to prevent any debris from falling onto the Railroad's right-of-way or other property. A grounded temporary vertical protective barrier must be provided if an existing vertical protective barrier is removed during demolition. In addition, if any openings are left in an existing bridge deck, a protective fence must be erected at both ends of the bridge to prohibit unauthorized persons from entering onto the bridge.
- B. Ballasted track structure shall be kept free of all construction and demolition debris. Geotextiles or canvas shall be placed over the track ties and ballast to keep the ballast clean.

3.9 EQUIPMENT CONDITION

- A. All equipment to be used in the vicinity of operating tracks shall be in "certified" first-class condition so as to prevent failures that might cause delay to trains or damage to Railroad's property. No equipment shall be placed or put into operation near or adjacent to operating tracks without first obtaining permission from the Chief Engineer's representative. **Under no circumstances shall any equipment or materials be placed or stored within twenty-five (25) feet from the centerline of an outside track, except as approved by the Site Specific**

Safety Work Plan. To insure compliance with this requirement, Permittee and/or Contractors **must establish a twenty-five (25) foot foul line prior to the start of work** by either driving stakes, taping off or erecting a temporary fence, or providing an alternate method as approved by the Chief Engineer's representative. Permittee and/or Contractors will be issued warning stickers which must be placed in the operating cabs of all equipment as a constant reminder of the twenty-five (25) foot clearance envelope.

3.10 STORAGE OF MATERIALS AND EQUIPMENT

- A. No material or equipment shall be stored on Railroad's property without first having obtained permission from the Chief Engineer. Any such storage will be on the condition that Railroad will not be liable for loss of or damage to such materials or equipment from any cause.
- B. If permission is granted for the storage of compressed gas cylinders on Railroad property, they shall be stored a minimum of 25 feet from the nearest track in an approved lockable enclosure. The enclosure shall be locked when the Permittee and/or Contractor is not on the project site.

3.11 CONDITION OF RAILROAD'S PROPERTY

- A. Permittee and/or Contractors shall keep Railroad's property clear of all refuse and debris from its operations. Upon completion of the work, Permittee and/or Contractors shall remove from Railroad's property all machinery, equipment, surplus materials, falsework, rubbish, temporary structures, and other property of the Permittee and/or Contractors and shall leave Railroad's property in a condition satisfactory to the Chief Engineer.

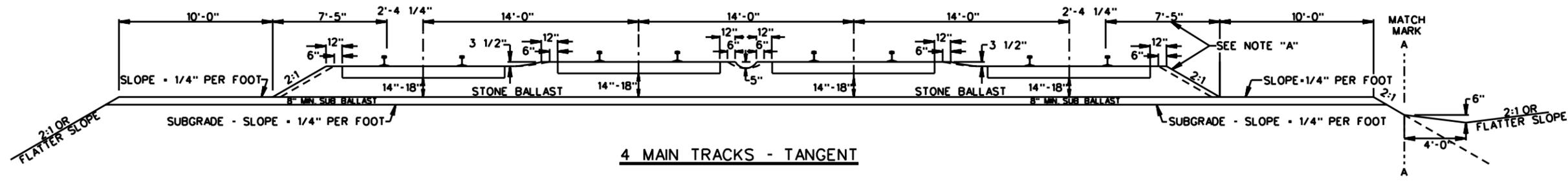
3.12 SAFETY TRAINING

- A. All individuals, including representatives and employees of the Permittee and/or Contractors, before entering onto Railroad's property or coming within twenty-five (25) feet of the centerline of the track or energized wire shall first attend Railroad's Safety Contractor/Leasee Employee Training Class. The Safety Orientation Class will be provided by Railroad's Safety Representative at Permittee's expense. A photo I.D. will be issued and must be worn/displayed while on Railroad property. All costs of complying with Railroad's safety training shall be at the sole expense of Permittee. Permittee and/or Contractors shall appoint a qualified person as their Safety Representative. The Safety Representative shall continuously assure that all individuals comply with Railroad's safety requirements. All safety training records shall be maintained with site specific work plan.

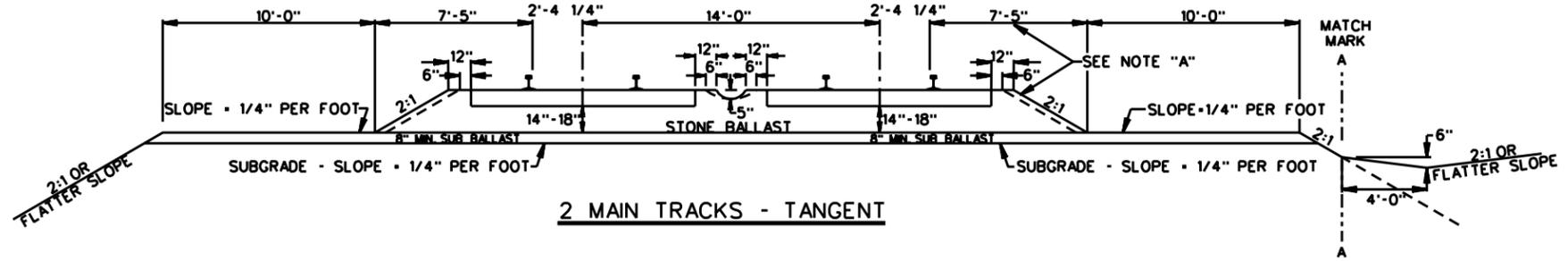
3.13 NO CHARGES TO RAILROAD

- A. It is expressly understood that neither these Specifications, nor any document to which they are attached, include any work for which Railroad is to be billed by Permittee and/or Contractors, unless Railroad gives a written request that such work be performed at Railroad's expense.

END OF SECTION 01141A

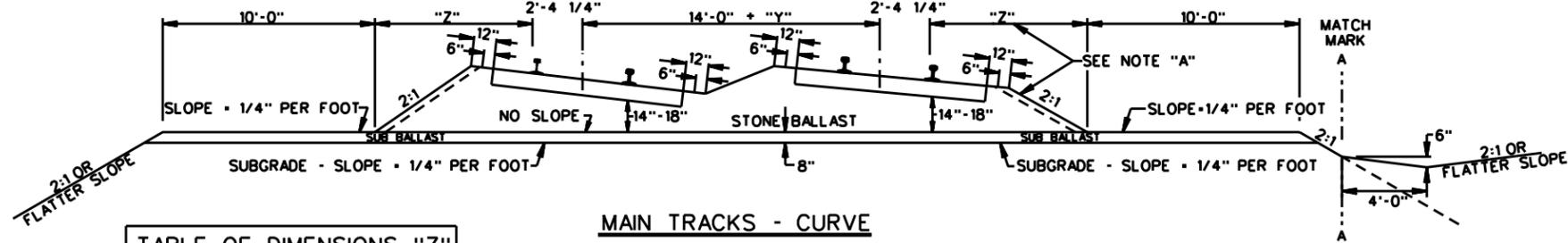


4 MAIN TRACKS - TANGENT



2 MAIN TRACKS - TANGENT

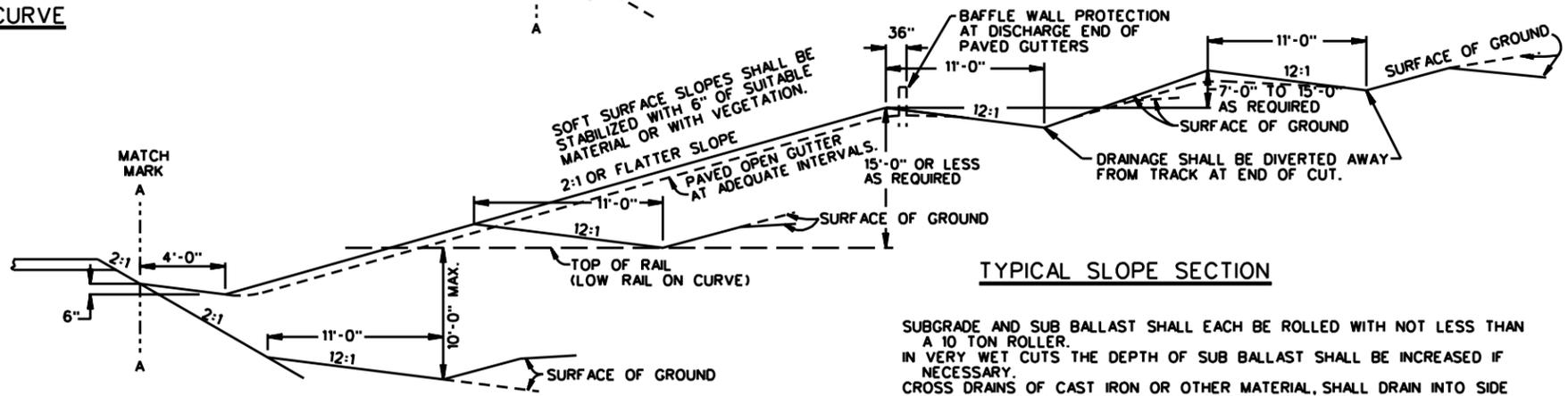
"Y" - ON ADJACENT TRACKS - WHERE SUPER-ELEVATION IS THE SAME OR THE OUTER TRACK HAS THE LESSER, THIS DIMENSION SHALL BE INCREASED 1" FOR EVERY 1/2 DEGREE OF CURVATURE. WHERE SUPER-ELEVATION ON OUTER TRACK IS GREATER, THIS DIMENSION SHALL BE INCREASED AS ABOVE, PLUS 3 1/2 TIMES THE AMOUNT OF DIFFERENCE IN SUPER-ELEVATION.



MAIN TRACKS - CURVE

OUTSIDE EDGE OF BALLAST FROM GAGE OF NEAR RAIL FOR CURVED TRACK		
SUPER-ELEVATION	INSIDE OF CURVE	OUTSIDE OF CURVE
1"	7'-0"	7'-5"
2"	6'-10"	7'-7"
3"	6'-9"	7'-10"
4"	6'-8"	8'-1"
5"	6'-7"	8'-4"
6"	6'-6"	8'-7"

NOTE "A" BALLAST SECTION SHOWN IN SOLID LINES IS FOR TRACK IN CONTINUOUS WELDED RAIL TERRITORY. IN BOLTED RAIL TERRITORY BALLAST SECTION WITH SHOULDERS INDICATED BY SHORT DASHED LINES MAY BE USED, AND DIMENSIONS DESIGNATED "Z" SHALL BE REDUCED BY 6".



TYPICAL SLOPE SECTION

SUBGRADE AND SUB BALLAST SHALL EACH BE ROLLED WITH NOT LESS THAN A 10 TON ROLLER. IN VERY WET CUTS THE DEPTH OF SUB BALLAST SHALL BE INCREASED IF NECESSARY. CROSS DRAINS OF CAST IRON OR OTHER MATERIAL, SHALL DRAIN INTO SIDE DITCH AND BE LOCATED MIDWAY BETWEEN RAIL JOINTS. ALL TRACKS SHALL BE BROUGHT TO THE SAME ELEVATION Laterally AT HIGHWAY CROSSINGS AND OVER OPEN OR SOLID FLOOR BRIDGES. ALL OTHER REQUIREMENTS SHALL CONFORM TO THE AMTRAK SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF TRACK, M.W.-1000.



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OFFICE OF THE CHIEF ENGINEER OF TRACK

John J. [Signature]

File: PA Date: April 20, 2000 Approved:

No.	Revisions	Date	By

STANDARD TRACK PLAN
ROADWAY SECTIONS

Designed: Amtrak Drawn: TDI-SLC Checked: NJS Date: 5-7-99

Dwg. No. AM70003A
Sheet No. 1 of 1



Lancaster County Conservation District

1383 Arcadia Road, Room 200 • Lancaster, Pennsylvania 17601-3149

Telephone (717) 299-5361 Ext. 5 • FAX (717) 299-9459

www.lancasterconservation.org

August 12, 2009

PennDOT District 8-0
2140 Herr St
Harrisburg PA 17013

RE: Eby Chiques Road T-347, General Permit No. PAG2003609040
Rapho Township, Lancaster County

Dear Sirs:

Enclosed is the above referenced permit that authorizes the discharge of storm water from the construction activity described in the final erosion and sedimentation control plan and permit application. Please ensure that the erosion and sedimentation control plan is fully implemented and available at the construction site.

The Lancaster County Conservation District may have reviewed the erosion and sedimentation control plan to determine whether it is adequate to satisfy the requirements of the Chapter 102, Erosion Control Rules and Regulations. The Lancaster County Conservation District assumes no responsibility for the implementation of the plan, or the proper construction and operation of the facilities contained in the plan.

This authorization does not relieve the permittee from applying for and obtaining any and all additional permits or approvals from local, state or federal agencies for the construction activity described in the permit application.

Please read carefully Parts A, B, and C of the permit, which detail the terms and conditions of this authorization. Conservation District staff and/or representatives of the Department of Environmental Protection may inspect this earthmoving activity to determine compliance with applicable permit requirements, Chapter 92, 101, and 102 Rules and Regulations and the Clean Streams Law.

Permit requirements and federal regulations at 40 C.F.R. §122.21(b) require "when a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit." Please be advised that once a contractor has been selected for the project, the permit must either be transferred to the contractor or the contractor must be made a co-permittee. If the permit does not cover the operator, they are conducting earthmoving activities without a permit and are in violation of federal and state statute.

Enclosed you will find a Transfer/Co-Permittee Application form (3930-PM-WMO228 Rev. 1/2006). In accordance with the provisions of Part B, Section D of the enclosed General Permit, this office is to be notified as to the identity of the operator at this project. If the operator has not been identified on the Notice of Intent form, this can be accomplished through the submission to this office of a completed and notarized Transferee/Co-Permittee Application and a written agreement. In the event of any pending change in control of ownership facilities, you are required to notify this office through the submission of a complete and notarized Transferee/Co-Permittee Application, a Notice of Intent, and a written agreement at least thirty (30) days prior to the change in ownership.

Page 2
PennDOT District 8-0
8/12/09

Enclosed is a Notice of Termination (3930-PM-WMO229 Rev. 10/2002) form to complete and file with this office when construction activities have ceased and final stabilization has been achieved.

If you have any questions regarding this permit, please contact me at 299-5361.

Yours for a better environment,



Nevin Greiner
Resource Conservationist

C: Rapho Township
Dawood

NG/ch

Enclosures: Form 3930-PM-WMO280 10/2005
Form 3930-PM-WM0228 Rev. 1/2006 and Draft Agreements
Form 3930-PM-WM0229 Rev. 10/2002



**APPROVAL OF COVERAGE UNDER THE GENERAL NPDES
PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH
CONSTRUCTION ACTIVITIES
PAG-2 (2002 Amendment)**

NPDES PERMIT NO: PAG2003609040

Project Name & Address

Permittee Name & Address

Eby Chiques Road T-347

PennDOT District 8-0

2140 Herr St

Harrisburg PA 17013

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq., the Department of Environmental Protection hereby approves the Notice of Intent (NOI) submitted for coverage to discharge stormwater to the following surface water(s)

Chiques Creek

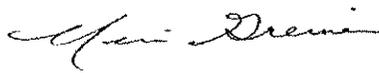
from a 1 to less than 5 acres of earth disturbance with a point source discharge (or)
 5 or more acres of earth disturbance

subject to the Department's enclosed PAG-2 which incorporates all effluent limitations, monitoring and reporting requirements and other terms, conditions, criteria and special requirements for the discharge of stormwater from point sources composed entirely of stormwater associated, in whole or in part, with construction activity, as defined in this general permit, to surface waters of the Commonwealth, including to municipal separate storm sewers and non-municipal separate storm sewer.

APPROVAL TO DISCHARGE IN ACCORDANCE WITH THE TERMS AND CONDITIONS HEREIN MAY COMMENCE ON THE DATE OF THE APPROVAL OF COVERAGE, AND IS VALID FOR A PERIOD OF FIVE YEARS WHEN CONDUCTED PURSUANT TO SUCH TERMS AND CONDITIONS. COVERAGE MAY BE EXTENDED BY THE DEPARTMENT IF A TIMELY ADMINISTRATIVELY COMPLETE AND ACCEPTABLE NOI RENEWAL IS SUBMITTED TO THE DEPARTMENT AT LEAST 90 DAYS PRIOR TO DATE OF COVERAGE TERMINATION, UNLESS PERMISSION FOR SUBMISSION AT A LATER DATE HAS BEEN GRANTED BY THE DEPARTMENT. THE PERMIT MAY BE TERMINATED PRIOR TO THE EXPIRATION DATE UPON NOTICE TO AND APPROVAL BY THE DEPARTMENT OR AUTHORIZED COUNTY CONSERVATION DISTRICT. NO CONDITION OF THIS PERMIT SHALL RELEASE THE PERMITTEE OR CO-PERMITTEE FROM ANY RESPONSIBILITY OR REQUIREMENT UNDER PENNSYLVANIA, OR FEDERAL ENVIRONMENTAL STATUTES, AND REGULATIONS OR LOCAL ORDINANCES.

COVERAGE APPROVAL DATE: August 12, 2009

COVERAGE EXPIRATION DATE: August 12, 2014

AUTHORIZED BY: 

TITLE: Resource Conservationist

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COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERSHED MANAGEMENT

**GENERAL NPDES
PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

PAG-2 (2002 Amendment)

This permit applies to earth disturbance activities, other than agricultural plowing and tilling, timber harvesting activities and road maintenance activities, that disturb five (5) or more acres, or an earth disturbance on any portion, part, or during any stage of, a larger common plan of development or sale that involves five (5) or more acres of earth disturbance, AND, earth disturbance activities with a point source discharging to surface waters of the Commonwealth that disturb from one (1) to less than five (5) acres, or an earth disturbance on any portion, part, or during any stage of, a larger common plan of development or sale that involves one (1) to less than five (5) acres of disturbance.

Notice of Intent (NOI) Submittal

1. GENERAL INFORMATION AND REQUIREMENTS

- a. Persons proposing to discharge stormwater associated with construction activities and eligible persons proposing to expand the scope of previously authorized construction activity which discharges stormwater, who wish to be covered by this general permit, must submit an administratively complete and acceptable Notice of Intent (NOI) to the Department or authorized County Conservation District at least 30 days prior to commencing the construction activity. The NOI shall be filed in accordance with the detailed instructions specified in the NOI instruction package.
- b. The Department or authorized County Conservation District may notify the permittee at any time that the activities pursuant to this permit are not being met. Upon plan review or site inspection the Department or authorized County Conservation District may require E & S Plan revisions or other appropriate action to ensure compliance with the conditions of this permit.
- c. Operators of all construction activities shall develop, implement, and maintain erosion and sediment and post construction stormwater best management practices (BMPs) and other pollution prevention measures required by this permit.
- d. Erosion and sediment control BMPs shall be designed and implemented to meet the standards and specifications identified in Chapters 91-105, any other applicable laws and regulations, and in the Department's Erosion and Sediment Pollution Control Manual, No. 363-2134-008, as amended and updated, or an approved alternative, when legally authorized.
- e. The Erosion and Sediment Control Plan (E&S Plan), Post Construction Stormwater Management Plan (PCSM Plan), and Preparedness, Prevention, and Contingency Plan (PPC Plan) shall identify appropriate BMPs that will be implemented to ensure that existing and designated uses of surface water are protected and maintained.
- f. The permittee or co-permittee shall have the E&S Plan, PPC Plan, PCSM Plan, and other documents required by this permit available at the site and available for review by the Department, Conservation District or other authorized local, state, or federal government official.

2. The following activities are not eligible for coverage under this permit:

- a. Discharges to waters with a designated or existing use of High Quality or Exceptional Value pursuant to 25 Pa. Code Chapter 93;
- b. Discharges which contain hazardous pollutants, toxics, or any other substance which - because of its quantity, concentration, or physical, chemical, or infectious characteristics - may cause or contribute to an increase in mortality or morbidity in either an individual or the total population, or pose a substantial present or future hazard to human health or the environment when discharged into surface waters of the Commonwealth;
- c. Discharges which individually or cumulatively have the potential to cause significant adverse environmental impact;

- d. Discharges to waters for which NPDES general permit coverage is prohibited under 25 Pa. Code Chapter 92;
 - e. Discharges which are not, or will not be in compliance with any of the terms or conditions of this general permit;
 - f. Discharges from a person who has failed and continues to fail to comply has shown a lack of ability or intention to comply with a regulation, permit, schedule of compliance or order issued by the Department.
 - g. Discharges subject to categorical point source effluent limitations promulgated by EPA;
 - h. Discharges which do not, or will not, result in compliance with applicable effluent limitations or water quality standards;
 - i. Discharges from construction activities for which the Department requires an Individual NPDES permit to ensure compliance with the Clean Water Act, the Clean Streams Law, or rules and regulations promulgated thereto; or where a change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
 - j. Discharges associated with coal mining or non-coal mining activities pursuant to the Department's regulations at 25 Pa. Code Chapters 77 and 86-90.
 - k. Discharges associated with a construction activity that may adversely affect a Pennsylvania or federal endangered or threatened species or its habitat;
 - l. Discharges from a site where other point source(s) require the issuance of an Individual NPDES permit.
3. The Department, or the authorized County Conservation District may require by written notice any person authorized by this permit to apply for an Individual NPDES permit. This notice shall include the following: (1) a brief statement of the reasons for the decision, (2) an application form for an Individual NPDES permit, and (3) a statement setting a 90 day deadline for the owner or operator to file the application.
4. Persons requesting a renewal of coverage under this general permit must submit to the Department or authorized County Conservation District an administratively complete and acceptable NOI, at least 90 days prior to the expiration date of the coverage, unless permission has been granted by the Department or authorized County Conservation District for submission at a later date. In the event that a timely, administratively complete, and acceptable application for renewal of coverage has been submitted and the Department or authorized County Conservation District is unable, through no fault of the permittee, to reissue the approval for coverage before the expiration date of the approved coverage, the terms and conditions of the approved coverage will be automatically continued and will remain fully effective and enforceable pending the issuance or denial of the renewal of coverage, provided the permittee is, and has been, operating in compliance with the terms and conditions of the permit.
5. No condition of this permit shall release any person from any responsibility or requirements under other federal or Pennsylvania environmental statutes or regulations or local ordinances.

The General NPDES Permit for Stormwater Discharges Associated with Construction Activities PAG-2 is issued December 7, 2002 and shall expire at midnight December 7, 2007 unless reissued on or before this date by the Department.

BY Stuart J. Gansell
STUART J. GANSELL
DIRECTOR
BUREAU OF WATERSHED MANAGEMENT

PART A

EFFLUENT LIMITATIONS, MONITORING AND REPORTING REQUIREMENTS

1. EFFLUENT LIMITATIONS

a. **Best Management Practices (BMPs)**

This permit establishes effluent limitations in the form of implemented BMPs identified in PPC Plans, PCSM Plans, and E&S Plans which restrict the rates and quantities of sediment, stormwater runoff and associated pollutants from being discharged into surface waters of the Commonwealth and which replicate preconstruction infiltration and runoff conditions to the maximum extent possible.

b. **Applicable Effluent Limitations**

All stormwater discharges associated with construction activities must comply with applicable effluent limitations established in 25 Pa. Code Chapters 91-105.

c. **Water Quality Based Effluent Limitations**

Water quality based effluent limitations shall be imposed under applicable state and federal law when necessary to ensure that the water quality standards of the receiving water are attained. Discharges of stormwater associated with a construction activity shall not result in a violation of the water quality standards.

2. MONITORING AND REPORTING REQUIREMENTS

a. **Visual Inspections**

The permittee and co-permittee must ensure that visual site inspections are conducted weekly, and after each measurable precipitation event by qualified personnel, trained and experienced in erosion and sediment control, to ascertain that the Erosion and Sediment Control (E&S) BMPs are operational and effective in preventing pollution to the waters of the Commonwealth. A written report of each inspection shall be kept, and include:

- (1) a summary of site conditions, E&S BMP's, and compliance; and
- (2) the date, time, and the name of the person conducting the inspection.

b. **Non-compliance Reporting**

Where E&S BMP's are found to be inoperative or ineffective during an inspection, or any other time, the permittee and co-permittee shall immediately contact the Department or authorized County Conservation District, by phone or personal contact, followed by the submission of a written report within 5 days of the initial contact. Non-compliance reports shall include the following information:

- (1) any condition on the project site which may endanger public health, safety, or the environment, or involve incidents which cause or threaten pollution;
- (2) the period of non-compliance, including exact dates and times and/or anticipated time when the activity will return to compliance;
- (3) steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance; and
- (4) the date or schedule of dates, and identifying remedies for correcting non-compliance conditions.

c. **Supplemental Monitoring**

The Department, and authorized County Conservation District, reserve the right to require additional monitoring where a danger of water pollution is present, or water pollution is suspected to be occurring from a construction activity subject to this general permit, or for any reason in accordance with, 25 Pa. Code Section 92.41. The permittee or co-permittee shall commence such monitoring upon notification from the Department, or authorized County Conservation District.

3. RECORD KEEPING

a. Retention of Records

The permittee and co-permittee shall retain records of all monitoring information including copies of all monitoring and inspection reports required by this permit, and records of data used to complete the Notice of Intent for this permit, for a period of three years from the date of the termination of coverage under this permit.

b. Reporting of Monitoring Reports

Monitoring results shall be submitted to the Department, or authorized County Conservation District upon request.

4. DISCHARGES CONSISTENT WITH TERMS AND CONDITIONS OF THE PERMIT

All discharges authorized by this NPDES permit shall be consistent with the terms and conditions of the permit.

PART B
STANDARD CONDITIONS

1. MANAGEMENT REQUIREMENTS

a. Permit Modification, Termination, or Revocation and Reissuance

- (1) This permit may be modified, suspended, revoked and reissued, or terminated during its term for any of the causes specified in 25 Pa. Code Chapter 92.

The Department may modify, revoke, suspend, or terminate previously issued coverage under this general NPDES permit, and require the stormwater discharger to apply for and obtain an Individual NPDES permit in accordance with 25 Pa. Code Chapter 92.

- (2) The filing of a request by the permittee or co-permittee for a permit or coverage modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.
- (3) Permit modification or revocation will be conducted according to 25 Pa. Code Chapter 92.

b. Duty to Provide Information

- (1) The permittee or co-permittee shall furnish to the Department, or authorized County Conservation District, within 30 days of the date of request, any information that the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or coverage approved under this permit, or to determine compliance with this permit.
- (2) The permittee or co-permittee shall furnish, upon request, to the Department, or authorized County Conservation District, copies of records required to be kept by this permit.
- (3) When the permittee or co-permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI, PPC Plan, E&S Plan, PCSM Plan or in any other report to the Department, or authorized County Conservation District, the permittee or co-permittee shall promptly submit or correct such facts or information.
- (4) The permittee or co-permittee shall give seven calendar days advance notice to the Department, or authorized County Conservation District, of any planned physical alterations or additions to the permitted facility which could, in any way, substantially affect the quality and/or quantity of stormwater discharged from the activity.

c. Signatory Requirements

Documents required, submitted, or maintained under this permit shall be signed in accordance with the following:

- (1) Notices of Intent, Transferree/Co-permittee Form, and Notices of Termination.
 - (a) Corporations: (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - (b) Partnerships or sole proprietorships: a general partner or the proprietor, respectively; or
 - (c) Municipalities, State, Federal, or other public agencies: either a principal executive officer or ranking elected official; (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

- (2) All reports, plans, documents, and other information required by the permit or requested by the Department, or authorized County Conservation District, shall be signed by the permittee or co-permittee, or by a duly authorized representative of the permittee or co-permittee.
- (3) If there is a change in the duly authorized representative of the permittee or co-permittee, respectively, the permittee or co-permittee shall notify the Department or authorized County Conservation District within 30 days of the change.

d. Transfer of Ownership or Control

- (1) This permit is not transferable to any person except after notice to the Department, or authorized County Conservation District.
 - (a) In the event of any pending change in control or ownership of facilities from which the authorized discharges emanate, the permittee or co-permittee shall notify the Department, or authorized County Conservation District, using the form entitled "Transferee/Co-permittee Application" of such pending change at least 30 days prior to the change in ownership or control.
 - (b) The Transferee/Co-permittee Application form shall be accompanied by a written agreement between the existing permittee and the new owner or operator stating that the existing permittee shall be liable for violations of the permit up to and until the date of coverage transfer and that the new owner or operator shall be jointly and individually liable for permit violations under the permit from that date on.
 - (c) After receipt of the required documentation, the Department, or authorized County Conservation District, shall notify the existing permittee and the new owner or controller of its decision concerning approval of the transfer. Such requests shall be deemed approved unless the Department, or authorized County Conservation District, notifies the applicant otherwise within 30 days.
- (2) The Department or authorized County Conservation District may require the new owner or operator to apply for and obtain an Individual NPDES permit.
- (3) For purposes of this permit, operators shall include general contractors. If, prior to construction activities, the owner is the permittee and an operator/general contractor is later identified to become a co-permittee, the owner shall:
 - (a) Notify the Department, or authorized County Conservation District by submitting an administratively complete and acceptable Transferee/Co-permittee Application Form.
 - (b) After receipt of the documentation described in (a) above, the permit will be considered modified by the Department. For purposes of this permit, this modification is considered to be a minor permit modification.
 - (c) Monitoring reports and any other information requested under this permit shall reflect all changes to the permittee and the co-permittee name.

e. Removed Substances

Solids, sediments and other pollutants removed in the course of treatment or control of stormwater shall be disposed in accordance with federal and state law and regulations in order to prevent any pollutant in such materials from adversely affecting the environment.

f. Facilities Construction, Operation, and Maintenance

The permittee and co-permittee are responsible for the design and installation of the BMPs identified in the E & S Plan, PPC Plan and PCSM Plan, and for the operation and maintenance of the BMPs identified in the E & S and PPC Plans.

g. Adverse Impact

The permittee and co-permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

h. Reduction, Loss, or Failure of the BMPs

Upon reduction, loss or failure of the BMPs, the permittee and co-permittee shall take immediate action to restore the BMPs or provide an alternative method of treatment.

i. Termination of Coverage

Notice of Termination. Where all stormwater discharges associated with construction activity that are authorized by this permit are eliminated, and BMPs identified in the PCSM Plan have been installed, the permittee or co-permittee of the facility must submit a Notice of Termination (NOT) form that is signed in accordance with Part B.1.c. (Signatory Requirements) of this permit. All letters certifying discharge termination are to be sent to the Department, or the authorized County Conservation District.

2. COMPLIANCE RESPONSIBILITIES

a. Duty to Comply

The permittee and co-permittee must comply with all terms and conditions of this general permit. Any permit non-compliance constitutes a violation of the Pennsylvania Clean Streams Law and the federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit or permit renewal.

b. Penalties for Violations of Permit Conditions

The permittee and co-permittee may be subject to criminal and/or civil penalties for violations of the terms and conditions of this general permit under Section 602 and 605 of the Clean Streams Law, 35 P.S. Sections 691.602 and 691.605, and under the Clean Water Act as specified in 40 C.F.R. Sections 122.41(a)(2) and (3), which are incorporated by reference.

c. Need to Halt or Reduce Activity Not a Defense

The permittee or co-permittee may not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.

d. Penalties and Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee or co-permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA (33 U.S.C. §1321) or Section 106 of CERCLA.

e. Property Rights

This permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

f. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

g. Other Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee or co-permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

h. Right of Entry

Pursuant to Sections 5(b) and 305 of the Pennsylvania Clean Streams Law (35 P.S. §§691.5(b) and 691.305) and 25 Pa. Code Chapter 92, and §1917-A of the Administrative Code, the permittee and co-permittee shall allow the head of the Department, the EPA Regional Administrator, and/or an authorized representative of EPA, DEP, County Conservation District or, in the case of a facility which discharges to a municipal separate storm sewer, an authorized representative of the municipal operator or the separate storm sewer receiving the discharge, upon the presentation of credentials and other documents, as may be required by law, to:

- (1) Enter upon the permittee's or co-permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- (2) Have access to and copy at reasonable times, any records that must be kept under the terms and conditions of this permit;
- (3) Inspect any facilities or equipment (including monitoring and control equipment); and
- (4) Observe or sample any discharge of stormwater.

i. Availability of Reports.

Except for data determined to be confidential under Section 607 of the Clean Streams Law, (35 P.S. §691.607) all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department or authorized County Conservation District. As required by the Clean Water Act, the Clean Streams Laws, and 25 Pa. Code, Chapter 92 of the Department's regulations, permit applications, permits, and other documents related to this permit shall not be considered confidential.

j. Penalties for Falsification of Reports

Section 309(c)(4) of the Clean Water Act provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or by both. In addition, criminal sanctions are set forth for false swearing and unsworn falsification at 18 Pa. C.S. §§4903-4904.

3. DEFINITIONS

Authorized County Conservation District – For purposes of this permit, shall generally mean the local County Conservation District that has entered into a delegation agreement with the Department to administer the NPDES Program for Stormwater Discharges Associated with Construction Activities. The Department retains program administration and enforcement if the local County Conservation District is not delegated.

Best Management Practices (BMPs) – Activities, facilities, measures, or procedures used to protect, maintain, reclaim and restore the quality of waters, and existing and designated uses within this Commonwealth. BMPs include PPC Plans, E&S Plans, PCSM Plans, Storm Water Management Act Plans, and other treatment requirements, operating procedures, and practices to control project site runoff, spillage or leaks, and other drainage from the construction activity.

Co-Permittee –A discharger of stormwater associated with construction activity who is jointly and individually responsible for compliance with all conditions of a permit and applicable laws with another entity for discharges to surface waters of the Commonwealth from their construction activity.

Department – The Department of Environmental Protection (“DEP”) of the Commonwealth.

Director – The Director of the Bureau of Watershed Management, or any authorized employee thereof.

Erosion and Sediment Control Plan (“E&S Plan”) – A site-specific plan identifying BMPs to minimize accelerated erosion and sedimentation and which meets the requirements of 25 Pa. Code Chapter 102 Rules and Regulations.

Municipality – Any county, city, borough, town, township, school district, institution or any authority created by one or more of the foregoing.

NOI – “The Notice of Intent for Coverage under the Pennsylvania General Permit for Discharges of Stormwater Associated with Construction Activities (PAG-2).”

Owner - A person who holds legal title to the land subject to construction activity. This term also includes the person(s) who held legal title to the land subject to construction activity at the time such activity was commenced on a site.

Permanent Stabilization – Long-term protection of soil and water resources from accelerated erosion.

Person – Any natural person, partnership, association, corporation, business organization, or any agency, instrumentality or entity of Federal or State Government. Whenever used in any clause prescribing and imposing a penalty, or imposing a fine or imprisonment or both, the term "person" shall not exclude the members of an association and the directors, officers, or agents of a corporation.

Point Source - Any discernable, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, CAFO, landfill leachate collection system, or vessel or other floating craft, from which pollutants are or may be discharged.

Preparedness, Prevention and Contingency Plan (PPC Plan) – A written plan that identifies an emergency response program, material and waste inventory, spill and leak prevention and response, inspection program, housekeeping program, security and external factors, developed and implemented at the construction site to control potential discharges of pollutants other than sediment into waters of the Commonwealth. Potential pollutants at construction activities can include, but are not limited to pesticides, fertilizers, lime, petrochemicals, construction-related chemicals and solvents, wastewater, wash water, core drilling wastewater, cement, sanitary wastes or hazardous wastes.

Post Construction Stormwater Management Plan (PCSM Plan) – A site specific plan identifying BMPs to manage stormwater runoff after construction activities have ended and the project site permanently stabilized to protect and maintain existing and designated uses. The PCSMP must contain a written narrative, including calculations or measurements, and justifications for each BMP. The BMPs should be designed to maximize infiltration technologies, minimize point source discharges to surface waters, preserve the integrity of stream channels, and protect the physical, biological and chemical qualities of the receiving water.

Runoff Coefficient – The fraction of total rainfall that will appear at the conveyance as runoff.

Stabilization – The proper placing, grading, constructing reinforcing, lining, and covering of soil, rock or earth to insure its resistance to erosion, sliding or other movement.

Stormwater – Stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Associated with Construction Activity – The discharge into surface waters of the Commonwealth, municipal separate storm sewers, or non-municipal separate storm sewers from any conveyance which is used for collecting and conveying stormwater and which is related to construction activities. Construction activities include clearing, grading, and excavation activities. The term does not include non-point source stormwater discharges from silvicultural activities.

Surface Waters of the Commonwealth – Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, ponds, springs, wetlands and all other bodies or channels of conveyance of surface water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

Wetlands – Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas.

PART C

OTHER CONDITIONS

1. PROHIBITION OF NON-STORMWATER DISCHARGES

All discharges covered by this permit shall be composed entirely of stormwater. Discharges of material other than stormwater must be in compliance with an NPDES permit (other than this permit) issued for the discharge. Discharge of sewage or industrial waste (other than sediment under this permit) to an erosion and sediment control BMP is not permitted.

The discharger may not discharge floating materials, oil grease, scum, foam, sheen and substances which produce odor, taste, turbidity, or settle to form deposits in concentrations or amounts sufficient to be, or create a danger of being, inimical to the water uses to be protected or to human, animal, plant or aquatic life.

2. EROSION AND SEDIMENT CONTROL PLANS

a. An E&S Plan, must be prepared, developed, and implemented for each activity covered by this permit in accordance with the Department's Chapter 102 Rules and Regulations, and Department guidance. Each E & S plan must be submitted to the Department or authorized County Conservation District. The BMPs shall be designed to minimize the potential for accelerated erosion and sedimentation in order to protect, maintain, reclaim and restore water quality and existing and designated uses. Various BMPs and their design standards are listed in the Erosion and Sediment Pollution Control Program Manual (#363-2134-008). The manual is available from the Department or Authorized County Conservation District, or can be downloaded from the Department website www.depweb.state.pa.us. E&S Plans, BMPs, and revisions thereto, which meet the requirements of 25 Pa Code Chapter 102, are conditions of this permit and incorporated by reference.

b. E&S Plans required under this permit are considered reports that shall be available to the public under Section 607 of the Clean Streams Law, and 25 Pa. Code, Chapter 92 of the Department's regulations. The owner or operator of a facility with stormwater discharges covered by this permit shall make E & S plans available to the public upon request. E&S Plans must be made available at the site of the construction activity at all times.

c. The staging of earth disturbance activities and maintenance requirements contained in the E&S Plan must be followed.

3. RECYCLING AND DISPOSAL OF BUILDING MATERIALS AND WASTES

All building materials and wastes must be removed from the site and recycled or disposed in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code §260.1 et seq., §271.1 et seq., and §287.1 et seq. No building material or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.

4. PREPAREDNESS, PREVENTION AND CONTINGENCY PLANS

If the potential exists for causing accidental pollution of air, land, or water, or for causing endangerment of public health and safety through accidental release of toxic, hazardous, or other polluting materials, the permittee or co-permittee must develop a Preparedness, Prevention, and Contingency (PPC) Plan. The PPC Plan shall be developed in accordance with Department regulations. The PPC Plan shall identify areas which may include, but are not limited to, waste management areas, raw material storage areas, temporary and permanent spoils storage areas, maintenance areas, and any other areas that may have the potential to cause non-compliance with the terms and conditions of this permit due to the storage, handling, or disposal of any toxic or hazardous substances such as oil, gasoline, pesticides, herbicides, solvents, etc. BMP's shall be developed and implemented for each identified area. The PPC Plan shall be maintained on site at all times and shall be made available for review at the Department's or authorized County Conservation Districts' request.

5. POST CONSTRUCTION STORMWATER MANAGEMENT PLANS

A PCSM Plan that identifies the BMPs to be installed to manage and treat the stormwater discharge to protect water quality after construction must be prepared and implemented. Such BMPs should be designed to maximize groundwater infiltration, to protect the structural integrity of the stream, and to protect and maintain existing and

designated uses. In addition, some counties have adopted Act 167 Stormwater Management Plans that incorporate measures to protect and maintain existing uses and protect and maintain water quality to maintain those existing uses. In areas where plans exist and are supported by local ordinances, the applicant must design the PCSM Plan in accordance with these ordinances. Permittees and co-permittees are responsible for proper installation of the PCSM Plan BMPs prior to the submission of the Notice of Termination of this Permit.

6. PRE-CONSTRUCTION CONFERENCES

The permittee or co-permittee shall contact the Department or authorized County Conservation District at least seven days before construction is to begin to determine if a pre-construction conference is required. The permittee, co-permittee and others undertaking the earth disturbance activity must attend a pre-construction conference when requested by the Department or authorized County Conservation District.

7. SPOIL OR BORROW AREA

An E&S Plan shall be submitted to the Department or authorized County Conservation District and implemented for all spoil and borrow areas, regardless of their location.

8. PHASED PROJECTS

Prior to the commencement of earth disturbance activities for subsequent phases of the project, the permittee or co-permittee shall submit an E&S Plan and PCSM Plan for each additional phase or portion of the project to the Department or authorized County Conservation District.

Coverage under this permit is only granted for those phases or portions of a project for which an E&S Plan and PCSM Plan has been submitted to the Department or authorized County Conservation District.

9. CLARIFICATION ASSISTANCE

The permittee or co-permittee shall contact the Department or authorized County Conservation District for clarification of any requirements contained in the E&S Plan, PCSM Plan, PPC Plan, or other documents related to this permit.

10. WETLAND PROTECTION

If hydric soils are present, a wetland determination must be conducted in accordance with Department procedures. All wetlands identified must be included on the E&S Plan and PCSM Plan.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERSHED MANAGEMENT

OFFICIAL USE ONLY
PA _____

NOTICE OF TERMINATION
OF A GENERAL OR INDIVIDUAL NPDES PERMIT
FOR STORMWATER DISCHARGES ASSOCIATED WITH
CONSTRUCTION ACTIVITIES
- OR -
FOR AN EROSION AND SEDIMENT CONTROL PERMIT

1. PERMIT INFORMATION:
Check the appropriate boxes.
 NPDES Stormwater Permit # _____ Erosion and Sediment Control Permit # _____
Check one:
 I/we am/are no longer the Owner(s) or Operator(s) of the Construction Activity.
 Earth disturbance activity has ceased and the site is stabilized.

2. EARTH DISTURBANCE SITE LOCATION:
Facility/Development Name: _____
Municipality: _____ County: _____
Latitude: _____°/ _____'/ _____" Longitude: _____°/ _____'/ _____"
U.S.G.S. Quad Map Name: _____

3. PERMITTEE/CO-PERMITTEE SUBMITTING THIS NOTICE OF TERMINATION:

PERMITTEE	CO-PERMITTEE
Name: _____	Name: _____
Address: _____	Address: _____
City: _____	City: _____
State: _____ Zip Code: _____	State: _____ Zip Code: _____
Telephone Number: _____	Telephone Number: _____

4. PERMITTEE INFORMATION AND ACKNOWLEDGEMENT (IF APPLICABLE): (This Section must be completed by the permittee to acknowledge that a co-permittee is submitting this Notice. Leave this section blank if a Co-Permittee is not listed in Section 3.)

Name: _____
Address: _____
City: _____
State: _____ Zip Code: _____
Telephone Number: _____

I hereby acknowledge that the co-permittee submitting this Notice (identified in Section 3 above) is withdrawing as a permittee.

Name and Official Title of Permittee

Signature: _____
Date Signed: _____, 20____

5. **CERTIFICATION (To be completed by person(s) listed in Section 3):**

I certify under penalty of law that (1) all discharges associated with earth disturbance activities at the site that are authorized by the NPDES permit or Erosion and Sediment Control Permit identified in Section 1 above have been eliminated, the site has been stabilized and Post Construction Stormwater Management BMPs have been installed or (2) I am no longer an owner or operator of the construction activity. I understand that by submitting this Notice of Termination, I am no longer authorized to conduct earth disturbance activities under the above referenced NPDES permit, or under the Erosion and Sediment Control Permit and that discharging stormwater from construction activities to waters of the Commonwealth is unlawful where the discharge is not authorized by an NPDES permit. I also understand that the submittal of the Notice of Termination does not release a permittee from liability for any violations of this permit or of the federal Clean Water Act, the Pennsylvania Clean Streams Law and the regulations promulgated pursuant thereto or from liability for any environmental damages occurring as a result of any earth disturbance activities conducted at the site. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Official Title of person listed under Section 3:

Signature: _____

Notarization:

Commonwealth of Pennsylvania

County of _____

Sworn to and Subscribed to Before Me This

_____ Day of _____, 20_____

**NOTARY
SEAL**

Notary Public My Commission Expires: _____

Who may file a Notice of Termination (NOT) form:

Permittees or Co-permittees who are presently covered under an Individual NPDES Permit, the Pennsylvania General NPDES Permit for discharges of stormwater associated with construction activities or an Erosion and Sediment Control Permit may submit an NOT form when: (1) they are no longer the owner or operator of the construction activity at a site which has not been stabilized, or (2) any earth disturbance activity or discharges associated with construction activity at the site have been terminated and the site has been stabilized. For construction activities, elimination of all stormwater discharges occurs when disturbed soils at the construction site have been stabilized and temporary erosion control BMP's have been removed.

D. TRANSFEREE/CO-PERMITTEE INFORMATION

DEP Client ID# (if known)		Applicant Type / Code (if known)		
Organization Name or Registered Fictitious Name		Employer ID# (EIN)	Contact Person	
Individual Last Name	First Name	MI	Suffix	SSN
Additional Individual Last Name	First Name	MI	Suffix	SSN
Mailing Address Street				
City	State	ZIP+4	County	Phone

E. COMPLIANCE REVIEW

Yes No Does the applicant (owner and/or operator) have or require other environmental permits issued by the Department for this project? If yes, list each permit and the compliance history of the permitted facility or operation.

Permit Program: _____

Permit Number: _____

Brief Description: _____

Compliance History: _____

If the applicant is not in compliance with any environmental law or regulation, or Department permit, order or schedule of compliance, or has failed and continues to fail to comply, or has shown a lack of ability or intent to comply with environmental laws or regulations or any Department permit, order, or schedule of compliance, as indicated by past or continuing violations, provide a narrative description of how the applicant will achieve compliance including the appropriate milestones.

F. CERTIFICATION AND SIGNATURE OF APPLICANT

Applicant Certification

I certify under penalty of law that this application and all related attachments were prepared by me or under my direction or supervision by qualified personnel to properly gather and evaluate the information submitted. Based on my own knowledge and on inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. The responsible official's signature also verifies that the activity is eligible to participate in the General or Individual NPDES Permit, and BMP's and other controls are or will be implemented to ensure that water quality standards and effluent limits are attained. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment or both for knowing violations.

Print Name and Title of Person Signing

() _____
Telephone Number of Person Signing

Signature of Applicant

Date of Application Signed

**NOTARY
SEAL**

Notarization:

Sworn to and Subscribed to Before Me This

Commonwealth of Pennsylvania

County of _____

_____ Day of _____, 20____

My Commission Expires: _____

Notary Public

CO-PERMITTEE AGREEMENT ASSUMPTION OF RESPONSIBILITY UNDER A GENERAL OR INDIVIDUAL NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES

_____ (Permit Number)
 _____ (Name of Facility/Project)
 _____ (Municipality)
 _____ (County)

The following parties agree to a change in ownership and/or operational control under the above referenced permit effective _____ (date) _____.

_____ (New Co-Permittee name and address) hereby assumes joint and severable responsibility, coverage, and liability under the permit for any obligations, duties, responsibilities and violations under said permit. _____ (Current Permittee) shall remain liable under the permit for violations of the permit conditions up to and including the above referenced date AND until a Notice of Termination is filed and acknowledged by the (Conservation District OR DEP Regional Office).

[The following paragraph should be used for multiple co-permittees.]

Attached is a description of site responsibilities and a map or plan drawing depicting the limits of permit responsibility, coverage, and liability for each co-permittee.

 (Current Permittee(s))
 (Company Name, if applicable)

 (New Co-permittee(s))

**INSTRUCTIONS FOR THE
TRANSFEREE / CO-PERMITTEE APPLICATION FORM FOR A GENERAL OR INDIVIDUAL NPDES PERMIT
FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

Who may file the Transferee/Co-Permittee Application Form: This form may be used by an applicant seeking to apply for either complete or partial operational control of earth disturbance activities at a site which are already authorized by either an Individual or General NPDES Permit. Federal NPDES Regulations at 40 C.F.R. §122.21(b) require that Operator(s) must become a permittee. An operator is a person who meets either of the following criteria: 1.) You have operational control of construction project plans and specifications, including the ability to make modifications to those plans and specifications; **OR** 2.) You have day-to-day operational control (supervision) of those activities at the project that are necessary to ensure compliance with the Erosion and Sediment Control Plan for the site or ensure compliance with other permit conditions, i.e., General Contractors. Subcontractors generally do not have supervisory control over earth disturbance activities and therefore usually **should not** become a permittee or co-permittee. If prior to construction activities, there is no operator, the owner must apply for the permit. Once the operator has been selected, the operator must use this application either to be made a co-permittee or to have the permit transferred to the contractor. **Failure of the operator to be added to the permit is a violation of federal and state law and regulation.**

Where to file the Transferee/Co-Permittee Application Form: Send this form to the reviewing entity, either to the local county conservation district that is participating as the reviewing entity or, if the Department is the reviewing entity, to the appropriate DEP Regional Office, Permitting and Technical Services Section.

When to file the Application: This application must be filed at least 30 days prior to the proposed change of ownership and/or operational control which will result in the transfer of permit responsibility, coverage and liability.

Completing the Application: TYPE OR PRINT IN BLOCK LETTERS IN THE APPROPRIATE SPACES

- Section A. Permit Information** - Check the appropriate box and enter the Permit Number and date of issuance of the existing Individual or General NPDES Permit assigned to the construction activity at the site identified in Section C below.
- Section B. Current Permittee Information** - Enter the full name, address and telephone number of the individual or organization and contact person that is the current permittee. The Regional Office can supply the Client ID # and Applicant Code, if known.
- Section C. Site Information** - Enter the DEP Site ID#, site name, site address/location, county and municipality of the site where the construction activity authorized by the NPDES Permit is located. Include the date on which the transfer of Permit responsibility, coverage and liability will occur. The Regional Office can supply the Site ID #.
- Section D. Transferee/Co-Permittee Information** - Enter the full name, address and telephone number of the individual or organization and contact person that is applying to assume operational control of construction activities at the site. The Regional Office can supply the Client ID # and Applicant Code, if known.
- Section E. Compliance Review** - The individual or organization referenced in Section D must indicate if any other environmental permits have been received or are pending from DEP as well as their past compliance history and if they are currently in compliance with environmental laws, rules and regulations, permits, orders and schedules of compliance.
- Section F. Certification and Signature of Applicant** - The new Transferee/Co-Permittee Applicant (named in Section D) must complete the required certification that the information contained in this application is true, accurate, and complete; the BMPs are or will be designed and fully implemented in accordance with the NPDES Permit requirements and will meet the applicable standards and limitations of the permit; and further that the applicant has read, understands and agrees to abide by the terms and conditions of the permit. The application shall be signed as follows:
- a. **For a corporation** -- By a responsible corporate officer, which means: (1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (2) The manager of one or more manufacturing, production or operating facilities if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. **For a partnership or sole proprietorship** -- By a general partner or the proprietor, respectively; or
 - c. **For a municipality, State, Federal or other public agency** -- by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

The application shall be notarized in the space provided.

3706A-2

DOT 7-94



RAILROAD CROSSING DATA FOR CONTRACTOR

Date: 7/18/02

LOCATION:

County LANCASTER Municipality MT. JOY
 Route Eby Chiques Rd. (T-364) Section _____
 AAR No. _____ Railroad Mile Post 77.75

1. (a) When and under what conditions will the contractor be allowed to work over the tracks or within the track area?
With permission from AMTRAK Designated Representative after all Administrative, safety, scheduling requirements are handled.

(b) How much advance notice is required for your company to provide watchmen/flagmen? 21 DAYS

2. Will temporary track outages be permitted during construction? Yes No
 If so, under what conditions? ① DAY TIME FOULS BETWEEN TRAINS / Possible Elec. OFF.
② Nighttime TRACK FOULS / OUT OF SERVICE & ELECTRIC OFF - APPROX. - 3 to 5 hours

3. Will your company agree to restrict train speeds through the project area during construction? Yes No

4. (a) Describe the work which will be performed by railroad forces at the job site. Remove Signaling & GRADE CROSSING MATERIALS / APPARATUS.

(b) How many railroad employees will be assigned to work at the job sites? ELECTRIC TRACTION dept. de energize wire AS NECESSARY. TRACK DEPT. obtain TRACK FOULS / OUT OF SERVICE TRACKS AS NECESSARY. C&S Employees AS NECESSARY. ENGINEERING & INSPECTION PERSONNEL AS NECESSARY.

5. Describe any special license or permit fees required of the contractor. _____

6. What is the number and speed of passenger, freight and switching trains between 8:00 a.m. and 4:30 p.m.?
 Number Passengers 6 WEST / 7 EAST Speed 70 MPH #1 & #2 TRK.
 Number Freight 2-4 PER DAY Speed 40 MPH #1 & #2 TRK.
 Number Switching 0 Speed _____

7. (If applicable)

(a) Will your company permit blasting as a means of demolition of the existing bridge? Yes No

If so, under what constraints? N/A

(b) Will your company require a shield be erected over your tracks to protect your property from falling debris during demolition of the bridge? Yes No

N/A

(c) If a shield is required, what vertical clearance from the top of rail to underside of shield will you require at what design load do you want specified for the shield?

N/A

8. What identifying name and/or number would you prefer to be utilized in reference to this project? _____

Eby Chiques Rd Crossing, M.P. 77.75 @ MT. JOY, PA.

9. Is it necessary to move C & S line prior to construction? Yes No - Simultaneously

How many working days required for C & S line relocations? ?

10. If temporary grade crossing is required, what procedures are necessary to obtain same? N/A

11. Railroad representative for contact by Department's contractor

Name: J. J. DIAMONTE

Title: Project Manager Construction

Telephone Number: 410-642-1465

FRA Flow Down Provisions

I. PASSENGER RAIL INVESTMENT AND IMPROVEMENT ACT OF 2008.

Section 1. Buy American. CONTRACTOR agrees to comply with the Buy America provisions set forth in 49 U.S.C. §24405(a), with respect to the use of steel, iron, and manufactured goods produced in the United States, subject to the conditions set forth therein.

Section 2. Labor Provisions. CONTRACTOR recognizes that 49 U.S.C. 24405(b) provides that persons conducting rail operations over rail infrastructure constructed or improved in whole or in part with funds provided through this agreement shall be considered a "rail carrier," as defined by 49 U.S.C. 10102(5), for the purposes of Title 49, United States Code, and any other statute that adopts that definition or in which that definition applies, including the Railroad Retirement Act of 1974 (45 U.S.C., See. 231 et seq.), the Railway Labor Act 43 (43 U.S.C. 151 et seq.), and the CONTRACTOR Unemployment Act (45 U.S.C. 351 et seq.).

Section 3. Labor Protective Arrangements. CONTRACTOR shall comply with the protective arrangements established under section 504 of the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act), 45 U.S.C. 836, with respect to employees affected by actions taken in connection with the project financed in whole or in part under this arrangement (See 49 U.S.C. 24405(c).) CONTRACTOR agrees to comply with the protective arrangements established by the Department of Labor under 45 U.S.C. 836, and to insure that the CONTRACTOR agrees to those terms.

Section 4. Davis-Bacon Act Provisions. CONTRACTOR shall comply with the provisions of 49 U.S.C. 24405(c)(2)), with respect to the payment of prevailing wages consistent with the provisions of 49 U.S.C. 24312. For these purposes, wages in collective bargaining agreements negotiated under the Railway Labor Act are deemed to comply with Davis-Bacon Act requirements.

II. AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009.

Section 1. Whistleblower Protection. An employee of CONTRACTOR may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing, including a disclosure made in the ordinary course of employee's duties, to the Recovery Accountability and Transparency Board, an Inspector General, the Comptroller General of the United States, a member of Congress, a State or Federal regulatory or law enforcement agency, a person with supervisory authority over the employee (or such other person working for the employer who has the authority to investigate, discover, or terminate misconduct), a court or grand jury, the head of a federal agency, or their representatives, information that the employee reasonably believes is evidence of:

1. Gross mismanagement of an agency contract or grant relating to ARRA funds;
2. A gross waste of ARRA funds;

3. A substantial and specific danger to public health or safety related to the implementation or use of ARRA funds;
4. An abuse of authority related to the implementation or use of ARRA funds; or
5. A violation of law, rule, or regulation related to an agency contract (including the competition for or negotiation of a contract) or grant awarded or issued relating to ARRA funds.

Section 2. ARRA Funding Announcement. CONTRACTOR shall post a sign at the project location at the most publicly accessible location announcing that the project was funded by the U.S. Department of Transportation, Federal Railroad Administration (FRA), with funds provided through ARRA. The configuration of the signs will be consistent with guidance issued by the Office of Management and Budget and/or the Department of Transportation and approved by the FRA

III. GENERAL PROVISIONS.

Section 1. General Requirements. CONTRACTOR agrees to carry out the Project in a sound, economical, and efficient manner, and in accordance with the provisions of the FRA cooperative grant agreement, the application, approved project budget, project schedules, and all applicable laws, regulations, and public policies of FRA.

Section 2. Federal Laws and Regulations. CONTRACTOR understands that Federal laws and regulations related to this Agreement on the date the Agreement was executed may be modified from time to time. CONTRACTOR agrees that the most recent of such Federal requirements will govern the administration of this Agreement at any particular time, so long as consistent with the terms of this Agreement. Likewise, new Federal laws and regulations may be established after the date the Agreement has been executed and may apply, to the extent they are consistent with the terms of this Agreement. To achieve compliance with changing Federal requirements, CONTRACTOR agrees to include in all sub-assistance agreements and third party contracts financed with FRA assistance, specific notice that Federal requirements may change and the changed requirements will apply to the Project to the extent they are consistent with the terms of this Agreement. All limits or standards set forth in this Agreement to be observed in the performance of the Project are minimum requirements.

Section 3. State Law. Except to the extent that a Federal statute or regulation preempts State law, nothing in this Agreement shall require CONTRACTOR to observe or enforce compliance with any provision thereof, perform any other act, or do any other thing in contravention of any applicable State law; however, if any of the provisions of this Agreement violate any applicable State law, or if compliance with the provisions of this Agreement would require CONTRACTOR to violate any applicable State law, CONTRACTOR agrees to notify the State immediately in writing in order that the State, in consultation with FRA, and CONTRACTOR may make appropriate arrangements to proceed with the Project as soon as possible.

Section 4. Ethics.

1. General. CONTRACTOR agrees to maintain a written code or standards of conduct that shall govern the performance of its officers, employees, board members, or agents. The code or standards shall provide that CONTRACTOR's officers, employees, board members, or agents may neither solicit nor accept gratuities, favors or anything of monetary value from present or potential contractors or sub-Grantees. CONTRACTOR may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. As permitted by State or local law or regulations, such code or standards shall provide for penalties, sanctions, or other disciplinary actions for violations by CONTRACTOR's officers, employees, board members, or agents, or by contractors or sub-Grantees or their agents.

2. Personal Conflict of Interest. CONTRACTOR's code or standards must provide that no employee, officer, board member, or agent of CONTRACTOR may participate in the selection, award, or administration of a contract supported by Federal funds if a real or apparent conflict of interest would be involved. Such a conflict would arise when any of the parties set forth below has a financial or other interest in the firm selected for award:

- a) The employee, officer, board member, or agent;
- b) Any member of his or her immediate family;
- c) His or her partner; or
- d) An organization that employs, or is about to employ, any of the above.

3) Organizational Conflicts of Interest. CONTRACTOR's code or standards of conduct must include procedures for identifying and preventing real and apparent organizational conflicts of interests. An organizational conflict of interest exists when the nature of the work to be performed under a proposed third party contract, may, without some restrictions on future activities, result in an unfair competitive advantage to the contractor or impair the contractor's objectivity in performing the contract work.

Section 5. Accounting Records.

1. Project Accounts. CONTRACTOR agrees to establish and maintain for the Project either a separate set of accounts or accounts within the framework of an established accounting system, in a manner consistent with 49 C.F.R. § 18.20, as amended, whichever is applicable.

2. Documentation of Project Costs and Program Income. All costs charged to the Project, including any approved services contributed by CONTRACTOR or others, shall be supported by properly executed payrolls, time records, invoices, contracts, or vouchers describing in detail the nature and propriety of the charges. CONTRACTOR also agrees to maintain accurate records of all Program Income derived from Project implementation.

3. Checks, Orders, and Vouchers. CONTRACTOR agrees that all checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining in whole or in part to the Project shall be clearly identified, readily accessible, and, to the extent feasible, kept separate from documents not pertaining to the Project.

Section 6. Record Retention, Audits and Inspection.

1. Submission of Proceedings, Contracts and Other Documents. During the course of the Project and for six years thereafter, CONTRACTOR agrees to retain intact and to provide any data, documents, reports, records, contracts, and supporting materials relating to the Project as FRA may require. Reporting and record-keeping requirements are set forth in 49 C.F.R. Part 18. Project closeout does not alter these requirements.

2. Audit. CONTRACTOR agrees to comply with the audit requirements of 49 C.F.R. § 18.26 and OMB Circular A-133, and any revision or supplement thereto. CONTRACTOR agrees to obtain any other audits required by FRA. Project closeout will not alter CONTRACTOR's audit responsibilities. Audit costs for Project administration and management are allowable under this Project to the extent authorized by OMB Circular A-87, Revised; OMB Circular A-2 1, Revised; or OMB Circular A-122, Revised.

3. Inspection. CONTRACTOR agrees to permit the Secretary and the Comptroller General of the United States, or their authorized representatives, to inspect all Project work, materials, payrolls, and other data, and to audit the books, records, and accounts of CONTRACTOR and its sub-contractors pertaining to the Project. CONTRACTOR agrees to require each third party contractor whose contract award is not based on competitive bidding procedures as defined by the Secretary to permit the Secretary of Transportation and the Comptroller General of the United States, or their duly authorized representatives, to inspect all work, materials, payrolls, and other data and records involving that contract, and to audit the books, records, and accounts involving that contract as it affects the Project.

Section 7. Payment by FRA. CONTRACTOR agrees to provide the State with information necessary for the State to complete and submit Standard Form 3881, "Payment Information Form - ACH Payment Vendor Payment System," to FRA and to complete and submit Standard Form 270, "Request for Advance or Reimbursement," to FRA.

Upon receipt of a payment request and adequate accompanying information (invoices in accordance with applicable cost principles) by the State, FRA will authorize payment provided CONTRACTOR:

- (i) is complying with its obligations under this Agreement,
- (ii) has satisfied FRA that it needs the requested Federal funds during the requisition period, and
- (iii) is making adequate and timely progress toward Project completion.

If all these circumstances are present, FRA may reimburse allowable costs incurred by CONTRACTOR up to the maximum amount of FRA's share of the total Project funding.

Section 8. Allowable Costs. CONTRACTOR's expenditures will be reimbursed only if they meet all requirements set forth below:

- 1) Conform with the Project description, the Statement of Work, and the Approved Project Budget and all other terms of the Cooperative Agreement;
- 2) Be necessary in order to accomplish the Project;
- 3) Be reasonable for the goods or services purchased;
- 4) Be actual net costs to CONTRACTOR (i.e., the price paid minus any refunds, rebates, or other items of value received by CONTRACTOR that have the effect of reducing the cost actually incurred);
- 5) Be incurred (and be for work performed) after the effective date of this Agreement, unless specific authorization from FRA to the contrary is received in writing;
- 6) Unless permitted otherwise by Federal status or regulation, conform with Federal guidelines or regulations and Federal cost principles including, but not limited to the standards of OMB Circular A-87, Revised, "Cost Principles for State and Local Governments";
- 7) Be satisfactorily documented; and
- 8) Be treated uniformly and consistently under accounting principles and procedures approved and prescribed by FRA for the State, and those approved or prescribed by the State for its Grantees.

Section 9. Disallowed Costs. CONTRACTOR agrees that reimbursement of any cost under the "Payment by FRA," part of this Agreement does not constitute a final FRA decision about the allowability of that cost and does not constitute a waiver of any violation by CONTRACTOR of the terms of this Agreement. CONTRACTOR understands that FRA will not make a final determination about the allowability of any cost until an audit of the Project has been completed. If FRA determines that CONTRACTOR is not entitled to receive any part of the Federal funds requested, FRA will notify CONTRACTOR stating the reasons therefore. Project closeout will not alter CONTRACTOR's obligation to return any funds due to FRA as a result of later refunds, corrections, or other transactions. Nor will Project closeout alter FRA's right to disallow costs and recover funds on the basis of a later audit or other review. Unless prohibited by law, FRA may offset any Federal assistance funds to be made available under this Project as needed to satisfy any outstanding monetary claims that the Federal Government may have against CONTRACTOR. Exceptions pertaining to disallowed costs will be assessed based on their applicability, as set forth in the applicable Federal cost principals or other written Federal guidance.

Section 10. General Federal Requirements. CONTRACTOR agrees to comply with the property management standards of 49 C.F.R. §§ 18.31, 18.32, and 18.33, including any amendments thereto, and other applicable guidelines or regulations that are issued.

Section 11. Records. CONTRACTOR agrees to keep satisfactory records with regard to the use of the property, equipment, and supplies, and submit to the State, upon request, such information as may be required to assure compliance with this section of this Agreement.

Section 12. Flood Hazards. CONTRACTOR agrees to comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, 42 U.S.C. § 4012a(a), with respect to any construction or acquisition Project.

Section 13. Procurement.

1. Federal Standards. CONTRACTOR agrees to comply with the Procurement Standards requirements set forth at 49 C.F.R. § 18.36 and with applicable supplementary U.S. DOT or FRA directives or regulations. If determined necessary for proper Project administration, the State and FRA reserves the right to review CONTRACTOR's technical specifications and requirements.

2. Buy American. CONTRACTOR agrees to conform with the Buy American Act (41 U.S.C. §§10a–d), as required by Section 414 of the Transportation, Housing and Urban Development, and Related Agencies Appropriations Act, 2008 (Public Law 101 – 161 (December 26, 2007)). As required by Section 415 of the appropriations act, CONTRACTOR representatives and it have never been convicted of violating the Buy American Act, and agrees that it will not make funding received under the appropriations act available to any person or entity that has been convicted of violating the Buy American Act.

3. Cargo Preference. Use of United States - Flag Vessels. Pursuant to U.S. DOT, Maritime Administration regulations, "Cargo Preference -- U.S.-Flag Vessels," 46 C.F.R. Part 381, CONTRACTOR shall insert the following clauses in contracts entered into by CONTRACTOR in which equipment, materials or commodities may be transported by ocean vessel in carrying out the Project:

As required by 46 C.F.R. Part 381, the contractor agrees:

- 1) To utilize privately owned United States-flag commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, materials, or commodities pursuant to this contract to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- 2) To furnish within 20 days following the date of loading for shipments originating within the United States, or within 30 working days following the date of loading for shipment originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) above to the recipient (through the prime contractor in the case of subcontractor bills-of lading) and to the Division of Cargo Preference and Domestic Trade, Maritime Administration, 1200 New Jersey

Avenue, SE, Washington, D.C. 20590, marked with appropriate identification of the Project.

4. Notification Requirement. With respect to any procurement for goods and services (including construction services) having an aggregate value of \$500,000 or more, CONTRACTOR agrees to:

- 1) specify in any announcement of the awarding of the contract for such goods or services the amount of Federal funds that will be used to finance the acquisition; and
- 2) express the said amount as a percentage of the total costs of the planned acquisition.

5. Debarment and Suspension; and Drug-Free Work Place. CONTRACTOR agrees to comply with U.S. DOT regulations, "Non-procurement Suspension and Debarment," 2 C.F.R. Part 1200, and "Government wide Requirements for Drug-Free Workplace (Grants)," 49 C.F.R. Part 32.

6. Participation by Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals. CONTRACTOR agrees to utilize small business concerns owned and controlled by socially and economically disadvantaged individuals (as that term is defined for other DOT agencies in 49 C.F.R. Part 26) to the extent practicable in carrying out the Project.

Section 14. Metric System: CONTRACTOR agrees to use the metric system of measurement in its Project activities to the extent practicable, in conformance with applicable regulations, guidelines, and policies that U.S. DOT or FRA may issue. The Metric Conversion Act of 1975, as amended by the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 205), designates the metric system of measurement as the preferred system of weights and measures for United States trade and commerce, and it requires that each agency use the metric system of measurement in its procurements, grants, and other business- related activities, except to the extent that such use is impracticable or likely to cause significant inefficiencies or loss of markets to U.S. firms.

Section 15. Patent Rights.

1. If any invention, improvement, or discovery of CONTRACTOR or any of its third party contractors is conceived or first actually reduced to practice in the course of or under this Project, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, CONTRACTOR agrees to notify FRA immediately and provide a detailed report. The rights and responsibilities of CONTRACTOR, third party contractors and FRA with respect to such invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, policies, and any waiver thereof.

2. If CONTRACTOR secures a patent with respect to any invention, improvement, or discovery of CONTRACTOR or any of its third party contractors conceived or first actually reduced to practice in the course of or under this Project, CONTRACTOR agrees to grant to FRA a royalty-free, nonexclusive, and irrevocable license to use and to authorize others to use the patented device or process for Federal Government purposes.

Section 16. Rights in Data and Copyrights.

1. The term "subject data" used in this section means recorded information, whether or not copyrighted, that is developed, delivered, or specified to be delivered under this Agreement. The term includes graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term does not include financial reports, cost analyses, and similar information incidental to Project administration.

2. The following restrictions apply to all subject data first produced in the performance of this Agreement:

a. Except for its own internal use, CONTRACTOR may not publish or reproduce such data in whole or in part, or in any manner or form, nor may CONTRACTOR authorize others to do so, without the written consent of FRA, until such time as FRA may have either released or approved the release of such data to the public; this restriction on publication, however, does not apply to grant agreements with academic institutions.

b. As authorized by 49 C.F.R. § 18.34, FRA reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government purposes:

i. Any work developed under a grant, cooperative agreement, sub-grant, sub-agreement, or third party contract, irrespective of whether or not a copyright has been obtained; and

ii. Any rights of copyright to which CONTRACTOR, its sub-Grantee, or a third party contractor purchases ownership with Federal assistance.

c. When FRA provides assistance to a Grantee for a Project involving planning, research, or development, it is generally FRA's intent to increase the body of knowledge, rather than to limit the benefits of the Project to those parties that have participated therein. Therefore, unless FRA determines otherwise, CONTRACTOR understands and agrees that, in addition to the rights set forth in preceding portions of this section of this Agreement, FRA may make available to any FRA Grantee, sub-Grantee, third party contractor, or third party subcontractor, either FRA's license in the copyright to the "subject data" derived under this Agreement or a copy of the "subject data" first produced under this Agreement. In the event that such a Project

which is the subject of this Agreement is not completed, for any reason whatsoever, all data developed under that Project shall become subject data as defined herein and shall be delivered as FRA may direct.

d. Unless prohibited by State law, CONTRACTOR agrees to indemnify, save and hold harmless FRA, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by CONTRACTOR of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under this Agreement. CONTRACTOR shall not be required to indemnify FRA for any such liability arising out of the wrongful acts of employees or agents of FRA.

e. Nothing contained in this section on rights in data, shall imply a license to FRA under any patent or be construed as affecting the scope of any license or other right otherwise granted to FRA under any patent.

f. The requirements of this section of this Agreement do not apply to material furnished to CONTRACTOR by FRA and incorporated in the work carried out under this Agreement, provided that such incorporated material is identified by CONTRACTOR at the time of delivery of such work.

g. Unless FRA determines otherwise, CONTRACTOR agrees to include the requirements of this section of this Agreement in its third party contracts for planning, research, development, or demonstration under the Project.

Section 17. Acknowledgment of Support.

1. An acknowledgment of FRA support and a disclaimer must appear in any CONTRACTOR publication, whether copyrighted or not, based on or developed under this Agreement, in the following terms:

“This material is based upon work supported by the Federal Railroad Administration under a grant/cooperative agreement, dated March 11, 2009.”

2. All CONTRACTOR publications must also contain the following:

“Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the Federal Railroad Administration and or U.S.DOT.”

3. CONTRACTOR agrees to cause to be erected at the site of any construction, and maintain during construction, signs satisfactory to FRA identifying the Project and indicating that FRA is participating in the development of the Project.

Section 18. Site Visits. CONTRACTOR understand that FRA, through its authorized representatives, has the right, at all reasonable times, to make site visits to review Project

accomplishments and management control systems and agrees to provide such technical assistance as may be required. CONTRACTOR shall provide and shall require its sub-grantees or subcontractors to provide, all reasonable facilities and assistance for the safety and convenience of FRA representatives in the performance of their duties. All site visits and evaluations shall be performed in such a manner as will not unduly delay work being conducted by CONTRACTOR, sub-Grantee, contractor, or subcontractor.

Section 19. Reprints of publications. At such time as any article resulting from work under this agreement is published in a scientific, technical, or professional journal or publication, two reprints of the publication should be sent to at the State, clearly referenced with the appropriate identifying information.

Section 20. Safety Oversight. To the extent applicable, CONTRACTOR agrees to comply with any Federal regulations, laws, or policy and other guidance that FRA or U.S. DOT may issue pertaining to safety oversight in general, and in the performance of this Agreement, in particular.

Section 21. Civil Rights. CONTRACTOR agrees to comply with all civil rights laws and regulations, in accordance with applicable Federal directives, except to the extent that FRA determines otherwise in writing. These include, but are not limited to, the following:

- a) Title VI of the Civil Rights Act of 1964 (P.L.88-352) (as implemented by 49 C.F.R. Part 21), which prohibits discrimination on the basis of race, color or national origin;
- b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681 - 1683, and 1685 - 1686, which prohibits discrimination on the basis of sex;
- c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps;
- d) The Age Discrimination Act of 1975, as amended 42 U.S.C. §§ 1601-1607, which prohibits discrimination on the basis of age;
- e) The Drug Abuse Office and Treatment Act of 1972 (P.L., 92-255), as amended, relating to nondiscrimination on the bases about called the use or alcoholism;
- f) The Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism;
- g) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§ 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records;
- h) Title V111 of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or finance housing;
- i) 49 U.S.C. section 306, which prohibits discrimination on the basis of race, color, national origin, or sex in CONTRACTOR financial assistance programs;

- j) Any other nondiscrimination provisions in the specific statute under which application for Federal assistance was made; and
- k) The requirements of any other nondiscrimination statutes which may apply to CONTRACTOR.

Section 22. Americans with Disabilities Act. CONTRACTOR agrees to utilize funds provided under this Agreement in a manner consistent with the requirements of the Americans With Disabilities Act of 1990, as amended (42 U.S.C. § 12101 et seq.).

Section 23. Environmental Protection.

1. All facilities that will be used to perform work under this Agreement shall not be so used unless the facilities are designed and equipped to limit water and air pollution in accordance with all applicable local, state and Federal standards.

2. CONTRACTOR will conduct work under this Agreement, and will require that work that is conducted as a result of this Agreement be in compliance with the following provisions, as modified from time to time, all of which are incorporated herein by reference: section 114 of the Clean Air Act, 42 U.S.C. 7414, and section 308 of the Federal Water Pollution Control Act, 33 U.S.C. 1318, and all regulations issued there under. CONTRACTOR certifies that no facilities that will be used to perform work under this Agreement are listed on the List of Violating Facilities maintained by the Environmental Protection Agency ("EPA"). CONTRACTOR will notify the Administrator as soon as it or any contractor or subcontractor receives any communication from the EPA indicating that any facility which will be used to perform work pursuant to this Agreement is under consideration to be listed on the EPA's List of Violating Facilities; provided, however, that CONTRACTOR's duty of notification hereunder shall extend only to those communications of which it is aware, or should reasonably have been aware. CONTRACTOR will include or cause to be included in each contract or subcontract entered into, which contract or subcontract exceeds Fifty Thousand Dollars (\$50,000.00) in connection with work performed pursuant to this Agreement, the criteria and requirements of this section and an affirmative covenant requiring such contractor or subcontractor to immediately inform CONTRACTOR upon the receipt of a communication from the EPA concerning the matters set forth herein.

3. CONTRACTOR may not expend any of the funds provided in this agreement on construction or other activities that represent an irretrievable commitment of resources to a particular course of action affecting the environment until after all environmental and historic preservation analyses required by the National Environmental Policy Act (42 U.S.C. 4332)(NEPA), the National Historic Preservation Act (16 U.S.C. 470(f))(NHPA), and related laws and regulations have been completed and the FRA has provided CONTRACTOR with a written notice authorizing CONTRACTOR to proceed.

4. CONTRACTOR shall assist the FRA in its compliance with the provisions of NEPA, the Council on Environmental Quality's regulations implementing NEPA (40 C.F.R. Part 1500 et seq.), FRA's "Procedures for Considering Environmental Impacts" (45 Fed. Reg.

40854, June 16, 1980), as revised May 26, 1999, 64 Fed. Reg. 28545), Section 106 of the NHPA, and related environmental and historic preservation statutes and regulations. As a condition of receiving financial assistance under this agreement, CONTRACTOR may be required to conduct certain environmental analyses and to prepare and submit to the FRA draft documents required under NEPA, NHPA, and related statutes and regulations (including draft environmental assessments and proposed draft and final environmental impact statements).

5. No publicly-owned land from a park, recreational area, or wildlife or waterfowl refuge of national, state, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from an historic site of national, state or local significance as so determined by such officials shall be used by CONTRACTOR without the prior written concurrence of FRA. CONTRACTOR shall assist the FRA in complying with the requirements of 49 U.S.C. §303(c).

Section 24. Project Completion, Audit, Settlement and Closeout.

1. Project Completion. Within 90 days of the project completion date, or termination by FRA, CONTRACTOR agrees to submit a final financial status report (Standard Form 269), a certification or summary of project expenses, and third-party Potter reports, as applicable

2. Audits. CONTRACTOR agrees to provide information necessary for the State to undertake the audits required by 49 C.F.R. § 18.26 and OMB Circular A-128 or any revision or supplement thereto. Each non-governmental Grantee agrees to undertake the audits required by 49 C.F.R. § 19.26 and OMB Circular A-133 or any revision or supplement there to.

3. Remittance of Excess Payments. If the State has made payments to CONTRACTOR in excess of the total amount of FRA funding due, CONTRACTOR agrees to promptly remit that excess and interest as may be required by the "Payment by FRA" section of this Attachment.

4. Project Closeout. Project closeout occurs when all required Project work and all administrative procedures described in 49 C.F.R. Part 18, or 49 C.F.R. Part 19, as applicable, have been completed, and when FRA notifies CONTRACTOR and forwards the final Federal assistance payment, or when FRA acknowledges CONTRACTOR's remittance of the proper refund. Project closeout shall not invalidate any continuing obligations imposed on CONTRACTOR by this Agreement or by the FRA's final notification or acknowledgment.

Section 25. Right of FRA to Terminate.

1. Upon written notice, CONTRACTOR agrees that FRA may suspend or terminate all or part of the financial assistance provided herein if CONTRACTOR has violated the terms of this Agreement, or if FRA determines that the purposes of the statute under which the Project is authorized would not be adequately served by continuation of Federal financial assistance for the Project. Any failure to make reasonable progress on the Project or other violation of this Agreement that significantly endangers substantial performance of the Project shall provide sufficient grounds for FRA to terminate this Agreement.

2. In general, termination of any financial assistance under this Agreement will not invalidate obligations properly incurred by CONTRACTOR and concurred in by FRA before the termination date; to the extent those obligations cannot be canceled. However, if FRA determines that CONTRACTOR has willfully misused Federal assistance funds by failing to make adequate progress, failing to make reasonable use of the Project property, facilities, or equipment, or failing to adhere to the terms of this Agreement, FRA and the State reserve the right to require CONTRACTOR to refund the entire amount of FRA funds provided under this Agreement or any lesser amount as may be determined by FRA.

3. Expiration of any Project time period established for this Project does not, by itself, constitute an expiration or termination of this Agreement.

Implementation of the American Recovery and Reinvestment Act of 2009

Preamble

The American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, (“ARRA”) was enacted to preserve and create jobs and promote economic recovery, assist those most impacted by the recession, provide investments needed to increase economic efficiency by spurring technological advances in science and health, invest in transportation, environmental protection, and other infrastructure that will provide long-term economic benefits, stabilize State and local government budgets, in order to minimize and avoid reductions in essential services and counterproductive State and local tax increases.

This Addendum addresses additional requirements applicable to ARRA funds. Subject to further guidance by the applicable Federal awarding agency, the following terms and conditions are consistent with the mandatory requirements for agreements funded by ARRA.

Be advised that ARRA funds can be used in conjunction with other funding as necessary to complete projects, but tracking and reporting must be separate to meet the reporting requirements of ARRA and related guidance. For projects funded by other sources in addition to ARRA funds, Contractors must keep separate records for ARRA funds and must ensure those records comply with the requirements of the ARRA.

The federal Government has not fully developed the implementing instructions of ARRA, particularly concerning specific procedural requirements for the new reporting requirements. The Contractor will be provided these details as they become available. The Contractor must comply with all applicable requirements of ARRA. In the event there is any inconsistency between these ARRA requirements and current award terms and conditions, the ARRA requirements will take precedence.

Contractor agrees that in consideration of receipt of Federal ARRA Funds, it will comply with all of the terms, conditions, requirements and limitations set forth below:

Definitions

A. “ARRA funds” means funds expended or obligated from appropriations under the American Recovery and Reinvestment Act of 2009, Pub. L. 111-5.

B. “Contractor” is defined as any person, including, but not limited to, a bidder, offeror, loan recipient, grantee, or subgrantee, who has furnished or seeks to furnish goods, supplies, services, or leased space, or who has performed or seeks to perform construction activity under contract, subcontract, grant, or subgrant with the Commonwealth, or with a person under contract, subcontract, grant, or subgrant with the Commonwealth or its state-affiliated entities, and state-related institutions. The term contractor may include a permittee, licensee, or any agency, political subdivision, instrumentality, public authority, or other entity of the Commonwealth.

ARRA Terms & Conditions

1. Revisions to Requirements. Contractor acknowledges that this Addendum may be revised pursuant to ongoing guidance from the relevant Federal or Commonwealth agency regarding requirements for ARRA funds. Contractor agrees to abide by any such applicable revisions upon receipt of written notification from the Commonwealth of the revisions, which will automatically become a material part of this Addendum, without the necessity of either party executing any further instrument.

2. Reporting Requirements. Not later than fifteen days after the end of each calendar quarter, or more frequently as directed by the Commonwealth, the Contractor shall submit a report to the Commonwealth that contains:

(a) A detailed list of all Project activities for which ARRA funds were expended or obligated, including:

- i) the name of the Project activity;
- ii) a description of the Project activity;
- iii) an evaluation of the completion status of the Project activity;
- iv) an estimate of the number of jobs created and the number of jobs retained by the Project or activity; and
- v) for infrastructure investments made by State and local governments, the purpose, total cost, and rationale of the agency for funding the infrastructure investment with funds made available under ARRA, and name of the person to contact at the agency if there are concerns with the infrastructure investment;

(b) Detailed information on any subcontracts awarded by the Contractor must include the data elements required to comply with the Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), allowing aggregate reporting on awards below \$25,000 or to individuals, as prescribed by the Director of the Office of Management and Budget;

(c) If required by the Commonwealth, Contractor shall submit backup documentation for expenditures of ARRA funds including such items as timecards and invoices. Contractor shall provide copies of backup documentation at the request of the Commonwealth.

3. Registrations and Identification Information Contractor must maintain current registrations in the Center Contractor Registration (www.ccr.gov) at all times during which they have active federal awards funded with ARRA funds. A Dun and Bradstreet Data Universal Numbering System (DUNS) Number (www.dnb.com) is one of the requirements for registration in the Central Contractor Registration.

4. Flow Down Requirement. Contractor must include these ARRA Terms and Conditions in any subcontract.

5. Prohibition on Use of Funds. No ARRA funds may be used for any casino or other gambling establishment, aquarium, zoo, golf course, or swimming pool, or any other items prohibited by ARRA.

6. Required Job Posting. To ensure Pennsylvanians have the utmost opportunity to be hired for jobs created through the receipt of ARRA funding, Contractor shall post jobs it creates or seeks to fill as a result of receiving ARRA funding to the PA CareerLink® system at www.pacareerlink.state.pa.us . Contractor can locate the local PA CareerLink® office through the same website or by calling 1-866-858-2753. Staff at local PA CareerLinks® can assist Contractors with posting positions and explain how to retrieve resumes or applications within the system.

7. Wage Rate Requirements. For the portion of the Project using rights-of-way owned by a railroad, Amtrak shall comply with the provisions of 49 U.S.C. 24405(c)(2) with respect to the payment of prevailing wages consistent with the provisions of 49 U.S.C. 24312. For these purposes, wages in collective bargaining agreements negotiated under the Railway Labor Act are deemed to comply with Davis-Bacon Act requirements. For portions of the Project not using rights-of-way owned by a railroad, Contractor will comply with the provisions of 40 U.S.C. 3141 et seq.

8. Whistleblower Provision.

(a) An employee of any non-Federal employer receiving covered funds may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing, including a disclosure made in the ordinary course of an employee's duties, to an inspector general, the Comptroller General, a member of Congress, a State or Federal regulatory or law enforcement agency, a person with supervisory authority over the employee (or such other person working for the employer who has the authority to investigate, discover, or terminate misconduct), a court or grand jury, the head of a Federal agency, or their representatives, information that the employee reasonably believes is evidence of:

- (1) gross mismanagement of an agency contract or grant relating to covered funds;
- (2) a gross waste of covered funds;
- (3) a substantial and specific danger to public health or safety related to the implementation or use of covered funds;
- (4) an abuse of authority related to the implementation or use of covered funds; or
- (5) a violation of law, rule, or regulation related to an agency contract (including the competition for or negotiation of a contract) or grant, awarded or issued relating to covered funds.

(b) A person who believes that the person has been subjected to a reprisal prohibited by subsection (a) may submit a complaint regarding the reprisal to the appropriate U.S. Office of the Inspector General.

(c) Any employer receiving covered funds under ARRA, shall post notice of the rights and remedies as required by Section 1553 of ARRA. See www.recovery.gov.

9. Duty to Report Fraud. Contractors and subcontractors shall promptly refer to the U.S. Office of Inspector General and Commonwealth Office of Inspector General any credible evidence that a principal, employee, agent, contractor, sub-grantee, subcontractor or other person will or has: 1) submitted a false claim under the False Claims Act; 2) committed a criminal or civil violation of laws pertaining to fraud, conflict of interest, bribery, gratuity, ethics or similar misconduct involving ARRA funds; or 3) engaged in misuse, gross waste, gross mismanagement or abuse of authority related to the use or award of ARRA funds.

10. Environmental and Preservation Requirements. The Contractor shall comply with all applicable Federal, State, and local environmental and historic preservation (EHP) requirements and shall provide any information requested by the awarding Federal agency to ensure compliance with applicable laws including: National Environmental Policy Act, National Historic Preservation Act, Endangered Species Act, the Clean Air Act, the Federal Water Pollution and Control Act, and Executive Orders on Floodplains (11988), Wetlands (11990) and Environmental Justice (12898). Failure of the Contractor to meet Federal, State, and local EHP requirements and obtain applicable permits may jeopardize Federal funding. The Contractor shall not undertake any project having the potential to impact EHP resources without the prior approval of the awarding Federal agency, including but not limited to communication towers, physical security enhancements, new construction, and modification to buildings that are 50 years old or greater. The Commonwealth shall be responsible for the coordination of all EHP evaluations, reviews and/or permits. The Contractor must comply with all conditions placed on the Project as a result of the EHP review. Any change to the approved Project scope of work will require re-evaluation for compliance with these EHP requirements. If ground disturbing activities occur during project implementation, and the EHP reviews require it, the Contractor must ensure monitoring of ground disturbance and if any potential archeological resources are discovered, the Contractor will immediately cease construction in that area and notify the awarding Federal agency and the Pennsylvania Historical and Museum Commission. Any construction activities that have been initiated prior to the full environmental and historic preservation review will result in a non-compliance finding.

11. No Contracts with Debarred or Suspended Entities. The Contractor shall not enter into any contract or subcontract with any party that has been debarred or suspended from either:

(a) contracting with the Federal Government or the Commonwealth; or

(b) participating in any Federal or Commonwealth assistance programs.

12. Prohibition on Lobbying.

(a) The Contractor covenants and agrees that it will not expend any funds appropriated by Congress to pay any person for influencing or attempting to influence an officer or employee of any agency, or a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any agreement; and, the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or agreement.

(b) Section 319 of Public Law 101-121 (31 U.S.C. Section 1352) and any applicable regulations are incorporated by reference and the Contractor agrees to comply with all the provisions thereof, including any amendments to the Interim Final Rule that may hereafter be issued.

(c) Pursuant to the Notice published by the OMB entitled "Government-wide Guidance for New Restrictions on Lobbying" (55 Fed. Reg. 24540, June 15, 1990), any certification or statement, including the covenant stated above, concerning the expenditure of appropriated funds shall apply only to the expenditure of such funds which are the subject of this Agreement.

13. Nondiscrimination Provisions. The Contractor covenants and agrees that no person shall be denied benefits of, or otherwise be subjected to discrimination in connection with the Contractor's performance under this Agreement. Accordingly, and to the extent applicable, the Contractor covenants and agrees to comply with the following:

(a) On the basis of race, color or national origin, in Title VI of the Civil Rights Act of 1964 (42 U.S.C. Section 2000d et seq.) as implemented by applicable regulations.

(b) On the basis of race, color, religion, sex, or national origin, in Executive Order 11246 (3 CFR, 1964-1965 Comp. pg. 339), as implemented by applicable regulations.

(c) On the basis of sex or blindness, in Title IX of the Education Amendments of 1972 (20 U.S.C. 1681, et seq.), as implemented by applicable regulations.

(d) On the basis of age, in The Age Discrimination Act of 1975 (42 U.S.C. Section 6101 et seq.), as implemented by applicable regulations.

(e) On the basis of handicap, in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), as implemented by applicable regulations.

14. Creating Opportunities for Small and Disadvantaged Businesses.

Contractor is encouraged to utilize small business concerns owned and controlled by socially and economically disadvantaged individuals (as that term is defined in 49 CFR part

26) in carrying out activities funded under this Agreement and Contractor shall ensure that it provides maximum practicable opportunities for small businesses to compete for subcontracts resulting from the Agreement.

15. Access to Records. Contractor agrees that with respect to each agreement using, in whole or in part, ARRA funds, any representative of the Secretary of Transportation or an appropriate U.S. Inspector General appointed under section 3 or 8G of the Inspector General Act of 1988 (5 U.S.C. App.) or of the U.S. Comptroller General is authorized:

- (a) to examine any records of the Contractor, any of its subcontractors, or any state or local agency administering such contract that pertain to, and involve transactions relating to the contract; and
- (b) to interview any officer or employee of the contractor, subcontractor or agency regarding such transactions.

16. Records Retention. The Contractor shall retain all such contract records intact in a form, if not original documents, as may be approved by the Federal Government, for at least three (3) years following termination of a project funded by ARRA or for such longer period of time as required by the Commonwealth.

17. Access to Information. This Agreement and any records or expenditures related thereto may be subject to disclosure under the Pennsylvania Right to Know Law 65 P.S. 67.101 *et seq.* and the Freedom of Information Act, 5 U.S.C. §552.

18. Compliance. The Contractor shall comply with all applicable laws, regulations and program guidance. A **non-exclusive** list of statutes, regulations and/or guidance deemed to be applicable to Amtrak in connection with the subject Project follows:

General

- Drug-Free Workplace Act of 1988 (Public Law 100-690, Title V, Subtitle D; 41 U.S.C. 701 *et seq.*; 32 CFR part 26, Subpart B
- Copeland “Anti-Kickback Act”, 18 U.S.C. Section 874; 29 CFR Part 3
- Contract Work Hours and Safety Standards Act, 40 U.S.C. §§327-330; 29 CFR Part 5
- Americans with Disabilities Act of 1990, as amended; 42 U.S.C. Chapter 126; 28 C.F.R. §35.101 *et seq.*

Administrative Requirements

- 49 CFR Part 18, but only to the extent not inconsistent with 49 CFR Part 19 (as those regulations are applied to Amtrak pursuant to its operating and capital grant agreements with the Federal Railroad Administration)

Cost Principles

- 48 CFR Part 31

Audit Requirement

- OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, as amended

19. Buy America - Use of American Iron, Steel, and Manufactured Goods.

The Contractor agrees to comply with the Buy America provisions set forth in 49 U.S.C. 24405(a), as interpreted in the FRA Guidance at 74 Fed. Reg. 29926, Appendix 3.4.1 to the extent the Project may involve the use of steel, iron and manufactured goods. Appendix 3.4.1 states in pertinent part as follows:

“Title 49 U.S.C. 24405(a)...specifically provide[s] that the Secretary of Transportation may obligate ARRA funds for a High-Speed Rail/Intercity Passenger Rail or congestion project only if the steel, iron, and manufactured goods used in the project are produced in the United States. [The FRA Administrator] may waive this requirement if the Secretary finds that applying this requirement would be inconsistent with the public interest; the steel, iron, and goods produced in the United States are not produced in a sufficient and reasonably available amount or are not of a satisfactory quality; rolling stock or power train equipment cannot be bought and delivered in the United States within a reasonable time; or including domestic material will increase the cost of the overall project by more than 25 percent. For purposes of implementing these requirements, in calculating the components’ costs, labor costs involved in final assembly shall not be included in the calculation.

If the Secretary determines that it is necessary to waive the application of the Buy America requirements for this project, the Secretary is required before the date on which such finding takes effect to publish in the Federal Register a detailed written justification as to why the waiver is needed; and provide notice of such finding and an opportunity for public comment on such finding, for a reasonable period of time, not to exceed 15 days. The Secretary may not make a waiver for goods produced in a foreign country if the Secretary, in consultation with the United States Trade Representative, decides that the government of that foreign country has an agreement with the United States Government under which the Secretary has waived the requirement of this subsection, and the government of that foreign country has violated the agreement by discriminating against goods to which this subsection applies that are produced in the United States and to which the agreement applies. The Buy America requirements described in this section shall only apply to projects for which the costs exceed \$100,000.”

EXHIBIT E
INDEMNITY FROM CONTRACTORS PERFORMING
DESIGN OR ENGINEERING FUNCTIONS

This form is to be copied, executed by a duly authorized representative, and returned to Amtrak at the address specified in the Agreement. Amtrak will not review any documents until this form has been received.

_____ (“Contractor”) hereby agrees to defend, indemnify and hold harmless Amtrak (and any other affected railroad), from all liability caused by errors or omissions in its work, or in the work of its contractors, subcontractors, agents, or employees relating to the design of the elimination of the Eby Chiques at-grade crossing at railroad milepost 77.8 in Rapho Township, Lancaster County, Pennsylvania and the design of a new overhead highway bridge approximately 600 feet east thereof. The foregoing obligation shall not be limited by the existence of any insurance policy or by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or its contractor or any subcontractor, and shall survive the termination of this Agreement for any reason.

DULY AUTHORIZED

By: _____

Its: _____

Date: _____

Witness:

Print Name: _____

THE PENNSYLVANIA RAILROAD

CE 565-A

SPECIFICATION

FOR

NON-FERROUS RODS, BOLTS, TUBES, BARS, AND FORGINGS

101. Scope and Purpose

(a) This specification covers the manufacture and test of high-strength, corrosion-resisting bronze for cold working and hot forging, and copper for tubes and bars, except as noted in paragraph (b) of this section.

(b) For applications on portions of the Railroad outside of electrified territory, where the high strength bronze of this specification may not be required, bronze in accordance with A. S. T. M. specifications may be used.

(c) General definitions, conditions of purchase, inspection, tests, shipment, guarantee, and like subjects shall be in accordance with Specification C.E. 503, Prefix to Specifications for Apparatus and Materials, which is hereby made a part of this specification.

102. Industry Standards

(a) All material ordered under this specification, unless otherwise stated herein or in the purchase order, shall conform to all applicable provisions of the latest standards of the American Standards Association and the American Society for Testing Materials.

103. General

(a) The bronze material shall be in accordance with the chemical and physical requirements of Section 106 for Class A bronze, Section 107 for Class B bronze, or Section 108 for Class C bronze as required. It shall be free from imperfections not consistent with the best commercial practice.

(b) For the purpose of calculating weights, cross-section, etc., the specific gravity of the bronze shall be taken at 8.75 at 20 degrees centigrade.

(c) The copper material shall have a purity of at least 99.88 per cent as determined by electrolytic assay, silver being counted as copper.

(d) Corrosion-resisting properties shall be approved by the Railroad.

(e) All tolerances for rods, tubes, and bars shall conform to A. S. T. M. specifications as they apply.

104. Material and Workmanship

(a) Bolts shall conform to details shown on the drawing or drawings specified on the order.

(b) The heads of all bolts shall be neatly formed, free from large projecting fins, with no nicking or reduction of the size of the body of the bolt by dies.

(c) Reentrant corners shall have small fillets to prevent high stress concentrations.

(d) Hexagonal head bolts, U-bolts, and J-bolts shall be made of Class B bronze.

(e) Nuts shall be hexagonal American Standard Regular with National Coarse Threads of a Class 2 fit unless otherwise specified on the drawing.

(f) Nuts shall be made of Class B bronze.

(g) Nuts shall develop the full strength of the threaded section of the bolt.

(h) Threads of hexagonal head bolts, U-bolts, and J-bolts may be rolled or cut, unless a specific method is shown on the drawings.

(i) Carriage bolts shall be made of Class C bronze.

- (j) Threads of carriage bolts shall be rolled.
- (k) Bronze tubes shall be made of Class B material.
- (l) Copper tubes shall be seamless.
- (m) Bronze bars shall be made of Class B material.
- (n) Bronze rods shall be made of Class B material.

105. Marking

(a) Heads of bolts shall be marked with the Manufacturer's trade mark, initials, or other accepted identification.

(b) U-bolts and J-bolts shall be marked on the ends before threading, with suitable identification mark of the Manufacturer.

106. Class A Bronze for Hot Working

(a) Chemical Requirements

<u>Material</u>	<u>Per Cent Minimum</u>	<u>Per Cent Maximum</u>
Copper	94.80	
Silicon	2.70	3.75
Tin		0.75
Manganese		1.50
Zinc		1.75
Iron		1.60
Lead		0.05

Sum of all the above elements shall be not less than 99.5 per cent.

(b) Physical Requirements

Tensile Strength, minimum in lbs. per sq. in.	52,000
Yield Point, minimum lbs. per sq. in. (Stress corresponding to 0.5 per cent strain)	18,000
Elongation in 2 in. minimum in per cent	45

107. Class B Bronze for Cold Working

(a) Chemical Requirements

<u>Material</u>	<u>Per Cent Minimum</u>	<u>Per Cent Maximum</u>
Copper	96.5	
Silicon		2.90
Tin		2.50
Silicon plus Tin		3.00
Manganese		0.50
Zinc		1.25
Iron		0.70
Lead		0.05

Sum of all the above elements shall be not less than 99.5 per cent.

(b) Physical Requirements - Rods, Bolts, & Bars

	Diameter or Distance Between Parallel Faces	
	<u>Up to 1/4 in.</u>	<u>Over 1/4 in.</u>
Tensile Strength, minimum lbs. per sq. in.	60,000	60,000 *
Elongation in 2 in.-minimum per cent	8	15
Number of twists in 10 inches	8	8

* Except nut stock

(c) Physical Requirements - Tubes

<u>Nominal Diameter</u>	<u>Outside Diameter Inches</u>	<u>Wall Thickness Inches</u>	<u>Weight Lbs. Per Foot</u>	<u>Minimum Tensile Strength Lbs. Per Sq. In.</u>	<u>Minimum Elongation Per Cent in 10 Inches</u>
3/4" IPS	1.050	0.113	1.25	60,000	3.00
1 5/8" OD	1.625	0.109	2.01	60,000	3.00
2" OD	2.000	0.180	3.79	60,000	3.00

108. Class C Bronze for Carriage Bolts

(a) Chemical Requirements

	<u>Per Cent Minimum</u>	<u>Per Cent Maximum</u>
Total of Tin & Copper	99.50	
Tin	1.10	1.60
Zinc		0.30
Total of Other Elements		0.20

(b) Physical Requirements

Tensile Strength, minimum-lbs. per sq. in.	60,000
Elongation in 2 inches - minimum per cent	15
Number of twists in 10 inches	8

109. Copper Tubes and Bars

(a) Physical Requirements

<u>Nominal Diameter</u>	<u>Outside Diameter Inches</u>	<u>Wall Thickness Inches</u>	<u>Weight Lbs. Per Foot</u>	<u>Minimum Tensile Strength Lbs. Per Sq. In.</u>	<u>Minimum Elongation Per Cent in 10 Inches</u>
1 1/8" OD	1.125	0.109	1.35	40,000	5.00
1 1/4" IPS	1.660	0.146	2.69	40,000	5.00
1 1/2" OD	1.500	0.065	1.14	40,000	5.00
4" IPS	4.500	0.250	12.94	30,000 *	10.00 *

* After annealing

110. Tests for Rods

(a) Twist and Bend Tests

For the purpose of determining and developing defects which may be prejudicial to the life of the rod, twisting and bending tests shall be made upon one sample of rod selected by the Inspector from each lot of 200 rods. Twist tests shall be made upon samples ten inches in length between jaws. The twisting machine shall be so constructed that there is a linear motion of the tail stock with respect to the head. The twist shall be applied not faster than ten turns per minute. All samples shall be twisted to destruction and shall not reveal under this test any seams, pits, slivers, or surface imperfections not consistent with the best commercial practice.

At the time of fracture the rod shall be twisting with reasonable uniformity. Samples of rod must withstand at least the number of twists called for in Section 107(b) before breaking. Rods shall bend through an angle of 360 degrees about their own diameter, without a sign of cracking.

(b) Tensile and Elongation Tests

1. Tensile and elongation tests shall be made upon one sample of rod selected by the Inspector from each lot of 200 rods.

2. The elongation of the specimen shall be determined as the permanent increase in length due to the breaking of specimen in tension, measured between gage marks originally placed upon the specimen ten inches apart. The fracture shall be between the gage marks and not closer than one inch to either gage mark.

(c) Special Test

When considered necessary by the Inspector, material to be used in cold working operation shall be subjected to the following test:

The rod shall be cold-headed at both ends to the form intended for use. The heads thus formed shall develop the full specified strength of the rod. Heads shall not crack when struck a sharp blow with a hammer.

111. Tests for Bolts, U-Bolts, and J-Bolts

(a) Twist and Bend Tests

Twisting and bending tests shall be made upon one sample of rod selected by the Inspector from each lot of bolt stock formed from each bronze billet. Twisting tests shall be made upon samples ten inches in length between the jaws of the twisting machine. The twisting machine shall be so constructed that there is a linear motion of the tail stock with respect to the head. The twisting shall be applied not faster than ten turns per minute. All samples shall be twisted to destruction and shall not reveal under this test any seams, pits, slivers, or surface imperfections not consistent with the best commercial

practice. At the time of fracture the rod shall be twisting with reasonable uniformity. Samples of rod must withstand at least the number of twists called for in section 107(b) before breaking. Rods shall bend through an angle of 360 degrees about their own diameter, without a sign of cracking.

(b) Tensile and Elongation Tests

Tensile and elongation tests shall be made upon one sample of bolt stock selected by the Inspector from each billet. Bolts shall develop a tensile strength at the net section of the thread equal to that specified for the material. Nuts shall be made of similar material and shall develop the full strength of the threaded section. The elongation of the specimens shall be determined as the permanent increase in length due to breaking of specimen in tension, measured between gage marks placed originally upon the specimen two inches apart, when the fracture occurs in the middle third of the distance between the gage marks.

(c) "Nick and Break" Test

The two ends of the bolt stock formed from a bronze billet which is to be made into bolts covered by this specification shall be given a "nick and break" test to determine that there are no "pipes" in the stock. By "pipe" is meant a separation of the material within the bolt stock which may have been caused during the pouring of the billet.

(d) Special Test

When considered necessary by the Inspector, material to be used in cold working operation shall be subjected to the following test:

The rod shall be cold-headed at both ends to the form intended for use. The heads thus formed shall develop the full specified strength of the rod. Heads shall not crack when struck a sharp blow with a hammer.

112. Tests for Tubes and Bars

(a) Tensile and Elongation Tests - Tubes

1. Tensile and elongation tests shall be made upon one sample of tube selected by the Inspector from each lot of 200 tubes. The tension test specimen of tube shall preferably be a full section, the ends of which shall be plugged with metal plugs which shall not extend within the gage marks. If it is not possible to make the test in this manner, a milled specimen of the tube may be tested in lieu of the full section.

2. The elongation of the specimen shall be determined as the permanent increase in length due to the breaking of specimen in tension, measured between gage marks originally placed upon the specimen ten inches apart. The fracture shall be between the gage marks, and not closer than one inch to either gage mark.

(b) Strain Test

A six-inch test specimen selected from each lot of 200 bronze tubes shall stand an immersion in mercurous nitrate solution containing 100 gms. mercurous nitrate and 13 cc. of nitric acid (1.42 Sp. Gr.) per liter, for 15 minutes, without fracture.

(c) Tube Test

One sample of tube from each lot of 200 tubes shall be flattened to the extent that a micrometer caliper set at 3 times the wall thickness can be passed over the tube freely throughout the flattened area except at the points where the change in element of flattening takes place.

Test shall be made without annealing.

(d) Tensile and Elongation Tests - Bars

Tensile and elongation tests shall be made upon one sample of bar selected by the Inspector from each lot of 200 bars. The strength and elongation shall be not less than that called for in Section 107 (b).

H. T. Cover
Chief of Motive Power

J. L. Gressitt
Chief Engineer

ISSUED
Dec. 30, 1950

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NATIONAL RAILROAD PASSENGER CORPORATION

ELECTRIFIED TERRITORY

SPECIFICATION NO. P-116

FOR

MALLEABLE IRON CASTINGS

USED IN

CATENARY CONSTRUCTION

OFFICE OF THE CHIEF ENGINEER

NORTHEAST CORRIDOR

Issue No.	Date	Approved	Approved for	
			C.M.P.	A.R.W.
1	March 10, 1927	H.S.R. F.W.H.		
2	April 28, 1927	H.S.R. F.W.H.		
3	April 10, 1929	H.S.R. F.W.H.		
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6	Dec. 15, 1936			
7	April 1, 1978	E.C.L. W.P.H.H.R.		B.A.L.

Calv. Spec
revised
Rev. Par. 22

NATIONAL RAILROAD PASSENGER CORPORATION

ELECTRIFIED TERRITORY

SPECIFICATION FOR MALLEABLE IRON CASTINGS FOR CATENARY CONSTRUCTION

GENERAL

1. These specifications are intended to cover the manufacture, testing and delivery of malleable iron castings for the National Railroad Passenger Corporation, "Amtrak".
2. In these specifications the word "Amtrak" means the National Railroad Passenger Corporation.
3. The word "Engineers" means Amtrak Engineering-Design & Construction, or approved engineers.
4. The word "Contractor" means such manufacturing company as shall contract to execute the work described in these specifications.
5. The word "Inspector" means any person or persons whom Amtrak shall designate as their representative.
6. No changes shall be made in these specifications except by written consent of Amtrak Engineering-Design & Construction. All questions of interpretation of these specifications shall be referred in writing to Amtrak Engineering-Design & Construction whose decision shall be final and binding.
7. The contractor shall furnish full information and samples of any material or component parts used in the construction of the material herein specified, if so requested by Amtrak.

8. All tests hereinafter specified shall be made in the presence of the Inspector. No material shall be shipped until passed by the Inspector.

MANUFACTURE

9. Malleable iron castings shall be produced by either the air furnace, open hearth, or electric furnace process.

10. They shall be made in a workmanlike manner of the best grade iron, true to pattern, full size and thoroughly annealed throughout. They shall be of good coring, tough and free from blow holes, slag, cinders, cracks or other defects. They shall be free from hard spots and sufficiently soft to be readily worked by ordinary machine operations, such as cutting, boring, drilling and tapping.

11. All castings shall have a smooth and even finish. All gates or other projections shall be removed from bearing surfaces.

12. A fracture shall show a uniform fine grain free from blow holes. The edge of fracture shall show bright and the center shall show dark.

13. Castings shall conform closely to pattern. Diameter of holes shall not vary more than 0.03125 inch from the size given on the drawings, and all holes shall be accurately placed. The dimensions of the metal rings around eyes shall not vary more than 0.0625 inch greater, nor 0.03125 inch less, than the size shown on the drawing. Distances between eyes shall not vary more than 0.125 inch from the dimensions given on the drawing, except at U. bolts.

13a. Manufacturer shall become informed as to the use and purpose of the various castings and the hardware to which they fit and shall cooperate

with the manufacturers of those fittings in order to obtain a satisfactory and practical casting for the purpose intended.

MARKING

14. The Company's identification initials shall be cast on all castings. Such railed working marks shall be kept intact and shall show plainly on all finished castings.

GALVANIZING

15. All material shall be galvanized by the standard hot dip process. Before being galvanized, it shall be thoroughly cleansed, either by sand blast or a lye solution to remove all traces of dirt or grease, followed by a thorough rinsing of hot water. It shall be immersed for from 20 to 30 minutes in a 10 per cent solution of sulphuric acid to remove all rust and scale and then rinsed in clean hot water. Material shall be fully immersed in a molten virgin zinc 98 per cent pure, at a temperature of 700 to 800 degrees Fahrenheit. The zinc shall be in a thoroughly molten state but not hot enough to produce undue dross. The coating shall consist of a continuous coating of pure zinc, zinc iron alloy, or a combination of the two, the coating to be of uniform thickness and so applied that it adheres firmly to the steel. The finished product shall be smooth and after galvanizing shall not be quenched unless approved.

16. After galvanizing, samples shall be subjected to the following tests:

17. The sample to be tested shall be cleaned before testing.

18. The test solution shall consist of commercial copper sulphate crystals dissolved in cold water, about in the proportion of 36 parts by

weight of crystals to 100 parts by weight of water. The solution shall be neutralized by the addition of an excess of chemically pure cupric oxide (Cu.O.), an excess of which is shown by the sediment of this reagent at the bottom of the container. The neutralized solution shall be filtered before using and the filtered solution shall have a specific gravity of 1.186 at 18 degrees Centigrade at the beginning of each test. A new solution shall be used for each series of six immersions. Not more than one sample shall be immersed in the solution at one time.

19. The sample prepared for test shall be immersed in the standard solution, the temperature of which shall be between 17 and 20 degrees Centigrade throughout the test. Samples shall be immersed for one minute, washed and wiped dry, this procedure to be repeated three additional times. Washing shall take place in clean water at a temperature of 17 to 20 degrees Centigrade.

20. If, after test above described, the samples show a bright metallic copper deposit, the lot represented by the sample shall be rejected unless the deposit is on the zinc.

21. Tests for galvanizing shall be made at the manufacturer's facility or at Amtrak's discretion, at an independent laboratory. Samples for galvanizing may be selected at random by the Inspector in such quantities as to represent fairly the shipment.

All work on members shall be done before galvanizing.

PHYSICAL CHARACTERISTICS

22. The galvanized tension test specimens specified below shall conform to the following minimum requirements as to tensile properties:

Tensile strength, lbs. per sq in - - - - - 45,000

Elongation in 2 inches, per cent - - - - - 10.0

23. All tests described below, both on specimens and completed castings, shall be made after galvanizing.

TENSION TESTS

24. All castings, if of sufficient size, shall have cast thereon test lugs of a size proportional to the thickness of the casting, but not exceeding 5/8 by 3/4 inches in cross-section. On castings which are 24 inches or over in length, a test lug shall be cast near each end. These test lugs shall be attached to the casting at such a point that they will not interfere with the assembling of the castings, and may be broken off by the Inspector.

TENSION TEST SPECIMENS

25. Tension test specimens shall be round bars, approximately 7.500 inches long, 0.625 inch diameter at the mid-section which is 2.500 inches long, and 0.750 inch diameter at the two end sections. Specimens whose mean diameter at the smallest section is less than 0.59375 inch will not be accepted for test.

26. A set of three tension test specimens shall be cast from each melt, without chills, using heavy risers of sufficient height to secure sound bars. The specimens shall be suitably marked for identification with the melt. Each set of specimens so cast shall be placed in some one even containing castings to be annealed.

NUMBER OF TESTS

27. After annealing, three tension tests specimens shall be selected by the Inspector as representing the castings in the oven from which these specimens are taken. If the first specimen conforms to the specified requirements,

or, if, in the event of failure of the first specimen, the second and third specimens conform to the requirements, the castings in that oven shall be accepted, except that any casting may be rejected if its test lug shows that it has not been properly annealed. If either the second or third specimen fails to conform to the requirements, the entire contents of that oven shall be rejected. In case one of the retest specimens contains a flaw which results in the failure of the bar to meet the specifications, at the discretion of the Inspector additional test specimens from the same oven may be tested, or test specimens may be cut from castings.

BEND TEST

28. The Inspector shall test a sufficient number of annealed castings in bending to satisfy himself that the castings are of the highest quality, and well annealed.

TEST ON COMPLETE CASTING

29. The Inspector shall select and test to destruction either by tension or bending a sufficient number of the annealed castings, not exceeding six per oven, to satisfy himself as to the strength and malleability of the material, and the appearance of the fracture. Failure of any two from each oven shall constitute grounds for rejection of the entire lot in that oven.

RE-ANNEALING

30. Any castings rejected for insufficient annealing may be re-annealed once. The re-annealed castings shall be inspected and if the remaining test lugs, or castings broken as specimens, show the castings to be thoroughly annealed, they shall be accepted; if not, they shall be finally rejected. If the re-annealed castings are thus accepted they shall be re-galvanized in

accordance with these specifications and then submitted for final tests by the Inspector.

SAMPLE CASTINGS

31. A sample gray casting of each pattern shall be submitted for the approval of the Engineers before manufacture shall begin.

NOTIFICATION

32. The material covered in these specifications shall be inspected and tested under the direction of Amtrak Engineering-Design & Construction and the Contractor shall notify Amtrak and the Engineers when manufacture of the material begins in order to have proper arrangements made for inspection.

INSPECTION

33. The Inspector representing Amtrak shall have free entry, at all times while the contract is being performed, to all parts of the Contractor's works in which material to be furnished under these specifications is in process of manufacture.

34. All physical tests governing the acceptance or rejection of material or finished product, at the discretion of Amtrak, may be made at the place of manufacture with apparatus furnished by the Contractor and in the presence of the Inspector, who shall be furnished copies in duplicate of all test data. Every facility shall be given the Inspector to satisfy himself as to the reliability of the results before the finished product is delivered.

35. If material should be shipped which has not been accepted at point of production, and if upon arrival at destination it does not meet the requirements of these specifications, it will be rejected, and the Contractor, upon request, shall advise Amtrak what disposition is to be made of rejected material. Disposition of such material shall be made at the Contractor's expense.

36. The Inspector shall have the right to reject any or all material and workmanship, which in his opinion does not conform to these specifications. In case Amtrak desires to waive inspection or tests on any part of the material covered by these specifications, the manufacturer shall make such tests as requested and furnish certified copies of results of these tests to Amtrak.

SHIPMENT

37. Castings shall be suitably packed to insure against damage to the protective coating during transit. No material shall be shipped until Amtrak advises the Contractor in writing the time of shipment and the routing desired.

NATIONAL RAILROAD PASSENGER CORPORATION

ELECTRIFIED TERRITORY

SPECIFICATION NO. P-117

FOR

BRONZE CASTINGS

USED IN

CATENARY CONSTRUCTION

OFFICE OF THE CHIEF ENGINEER
NORTHEAST CORRIDOR

<u>Issue No.</u>	<u>Date</u>	<u>Approved</u>	<u>Approved for C.M.P.</u>
1	March 22, 1927	HRS : FWH	
2	April 25, 1927	HRS : FWH	
3	February 6, 1929	HRS : FWH	EHB
4	January 18, 1935	HRS : FWH	JMA
5	March 22, 1935	HRS : FWH	MCC
6	March 20, 1945	: FWH	LBC
7	February 27, 1978	ECL : WPH	HR/BAL

NATIONAL RAILROAD PASSENGER CORPORATION

ELECTRIFIED TERRITORY

SPECIFICATION FOR BRONZE CASTINGS FOR CATENARY CONSTRUCTION

GENERAL

1. These specifications are intended to cover the manufacture, testing and delivery of bronze castings for the National Railroad Passenger Corporation, "AMTRAK".
2. In these specifications the word "AMTRAK" means the National Railroad Passenger Corporation.
3. The word "Engineers" means AMTRAK Engineering-Design & Construction or Approved Engineers.
4. The word "Contractor" means such manufacturing company as shall contract to execute the work described in these specifications.
5. The word "Inspector" means any person or persons whom AMTRAK shall designate as their representative.
6. No changes shall be made in these specifications except by written consent of AMTRAK Engineering-Design & Construction. All questions of interpretation of these specifications shall be referred in writing to AMTRAK Engineering-Design & Construction whose decision shall be final and binding.
7. The contractor shall furnish full information and samples of any material or component parts used in the construction of the material herein specified, if so request by AMTRAK.
8. All tests hereinafter specified shall be made in the presence of the Inspector. No material shall be shipped until passed by the Inspector.

MANUFACTURE

9. For all bronze castings for use in the catenary system except for HC-29A and the BC-26B, the alloy shall conform to the following composition requirements unless specified differently on the standard dimension drawing: This is former specification ASTM B143-1B now alloy 903 of ASTM B584 - modified "G" bronze.

Copper- - - -86.0% - 89.0%	Phosphorus- - - -.05%
Tin- - - - -7.5% - 9.0%	Aluminum- - - -.005%
Lead- - - - -0.30%	Silicon- - - - .005%
Zinc- - - - -3.0% - 5.0%	Sulfur- - - - -.05%
Iron- - - - -0.2%	Nickel- - - - -1.0%
	Antimony- - - - -0.2%

10. The chemical composition for castings HC-29A and BC-26B - aluminum bronze shall conform to the following composition requirements unless specified differently on the standard dimension drawing:

This is Military Specification MIL B-23921 - nickel-aluminum bronze:

Copper-	- - - - -	78.0% Nominal
Tin-	- - - - -	.03%
Zinc-	- - - - -	.20%
Manganese-	- - - - -	3.5%
Iron-	- - - - -	3.0% to 5.0%
Nickel-	- - - - -	4.0% to 5.0%
Aluminum-	- - - - -	8.5% to 9.5%

11. All castings shall have a smooth and even finish. They shall be made in a workmanlike manner, of good caring, tough and free from blow holes or other defects. All gates or other projections shall be removed from bearing surfaces.

12. Castings shall conform closely to pattern and shall be full size. Diameter of cored holes shall not vary more than 1/32 inch from size given on the drawings, and all holes shall be accurately placed. Holes accommodating U-bolts shall not vary in spacing from each other more than 1/32 inch from the dimension shown on the drawings and shall be parallel to each other to permit easy entrance of the U-bolt. Dimensions of the metal around the eyes shall not vary more than 1/16 inch greater nor 1/32 inch less than the size shown on the drawings. Where permitted by AMTRAK, distances between holes in general may vary not more than 1/8 inch from the dimensions given on the drawings.

13. Sockets to receive other hardware shall be carefully formed, shall conform closely to drawings and shall accurately fit, with proper clearance, the parts to be received. Trunnions shall not vary more than 1/32 inch in diameter from the dimensions shown on drawings.

14. The manufacturer shall be informed as to the use and purpose of the various castings and the hardware to which they fit and shall cooperate with the manufacturers of those fittings in order to obtain a satisfactory and practical casting for the purpose intended.

MARKING

15. The manufacturer's identification initials shall be cast on all castings as called for on the drawings. Such raised working marks shall be kept intact and shall show plainly on all finished castings.

PHYSICAL CHARACTERISTICS

16. The alloy shall conform to the following minimum requirements as to tensile properties:

PHYSICAL CHARACTERISTICS - continued

Nickel-aluminum bronze: Specification MIL B-23921

Tensile strength, lbs. per sq. in. - - - - -35,000
Ductility percent - - - - -18
Ultimate tensile strength, lbs, per sq. in. - - -85,000

Modified "6" bronze; Specification ally 903 ASTM-B-584

Tensile strength, lbs. per sq. in. - - - - -40,000
Elongation in 2" percent - - - - -20
Yield strength, lbs. sq. in. - - - - -18,000

ANALYSIS

17. A sample shall be taken from each lot of 5000 pounds or fraction thereof of castings and the chemical composition determined by AMTRAK or its designated representative.

TESTS

18. Two test bars of the form and dimensions shown in figure 1 shall be an integral part of large castings, or cast separately in the case of small castings to represent a lot or melt and shall be molded in a manner similar to the casting which they represent. If the castings are heat-treated, the test bars representing such castings shall be similarly heat-treated.

19. The Contractor and Engineers shall agree whether test bars can be attached to the castings, on the location of the bars on the castings to which bars are to be attached, and on the method of casting unattached bars. Unless otherwise agreed upon, the minimum lot shall be considered as 5000 lbs.

20. Tension test specimens, turned from the test bar shown in figure 1, shall conform to the dimensions shown on Figure 2. The ends shall be a form to fit the holders of the testing machine in such a way that the load shall be axial.

21. Two tension tests shall be made from each lot or melt.

22. If any test specimen shows defective machining, it may be discarded; in which case the Contractor and the Inspector shall agree upon the selection of another specimen in its stead. The lot represented by a sample failing to meet the requirements of these specifications will be rejected.

SAMPLE CASTINGS

23. A sample casting of each pattern shall be submitted for the approval of the Engineers before manufacture shall begin.

NOTIFICATION

24. The material covered in these specifications shall be inspected and tested under the direction of AMTRAK Engineering-Design & Construction and the Contractor shall notify him and the Engineers when the manufacture of the material begins in order to have proper arrangements made for inspection.

INSPECTION

25. The Inspector representing AMTRAK shall have free entry, at all times, while the contract is being performed, to all parts of the Contractor's works in which material to be furnished under these specifications is in process of manufacture.

26. All physical tests governing the acceptance or rejection of material of finished product, at the discretion of AMTRAK may be made at the place of manufacture with apparatus furnished by the Contractor and in the presence of the Inspector, who shall be furnished copies in duplicate of all test data. Every facility shall be given the Inspector to satisfy himself as to the reliability of the results before the finished product is delivered.

27. If material should be shipped which has not been accepted at point of production, and if upon arrival at destination it does not meet the requirements of these specifications, it will be rejected, and the Contractor, upon request, shall advise AMTRAK what disposition is to be made of rejected material. Disposition of such material shall be made at the Contractor's expense.

28. The Inspector shall have the right to reject any or all material and workmanship, which in his opinion does not conform to these specifications. In case AMTRAK or the Engineers desire to waive inspection or tests on any part of the material covered by the specifications, the manufacturer shall make such tests as requested, and furnish certified copies of results of these tests to the Engineer.

29. Samples of finished castings selected at random by the Inspector shall be fitted up in the assembly in which they are to be used in service. They shall be subjected to treatment such as may be expected in service. Holding bolts or rivets shall be tightened up to the maximum tension which they will develop, without producing any cracking of the castings. Samples shall be subjected to bending and hammering tests which shall indicate that the castings are not brittle and are truly meeting the requirements of this specification. Samples, at the discretion of AMTRAK or the Engineers shall be subjected to standard metallurgical examinations to insure that the proper casting process has been followed.

SHIPMENT

30. Castings shall be suitably packed to insure against damage during transit. No material shall be shipped until AMTRAK advises the Contractor in writing the time of shipment and the routing desired.

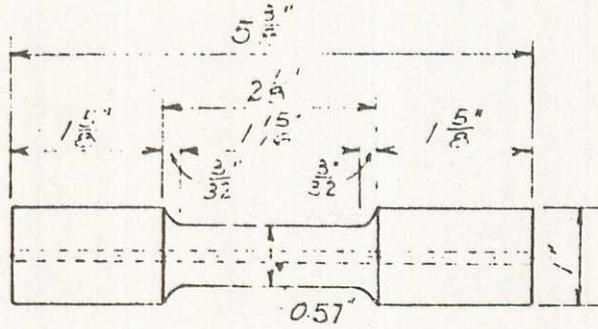


FIGURE 1

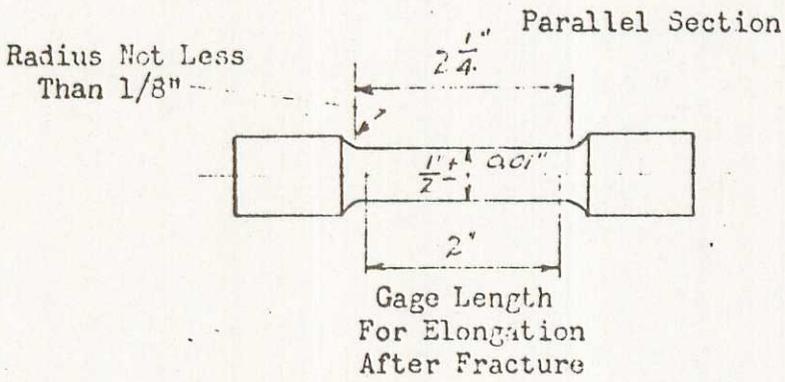


FIGURE 2

NOTE:

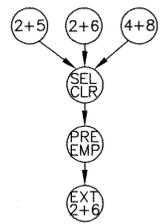
THE GAGE LENGTH, PARALLEL SECTION, AND FILLETS SHALL BE AS SHOWN, BUT THE ENDS MAY BE OF ANY SHAPE TO FIT THE HOLDERS OF THE TESTING MACHINE IN SUCH A WAY THAT THE LOAD SHALL BE AXIAL.

MOVEMENT, SEQUENCE AND TIMING EMERGENCY PRE-EMPTION

PHASE	2+5	2+6	4+8	EASTBOUND PRE-EMPTION	WESTBOUND PRE-EMPTION	EMERGENCY FLASHING
1	G G Y R	G G Y R	R R R R	G Y R	R R R R	Y
2	G G Y R	G G Y R	R R R R	G Y R	R R R R	Y
3,4	R R R R	G G Y R	R R R R	R R R R	G Y R	Y
5,6,7,8	R R R R	R R R R	G G Y R	R R R R	R R R R	R
9,10	H H H H	M F H H	H H H H	OFF	OFF	OFF
11,12	H H H H	H H H H	M F H H	OFF	OFF	OFF
13,14	M F H H	M F H H	H H H H	OFF	OFF	OFF
FAILSAFE LIGHT A	OFF	OFF	OFF	OFF	OFF	OFF
FAILSAFE LIGHT B	OFF	OFF	OFF	OFF	OFF	OFF
FIXED	3.9 2	5.9 2	3.2 2	4 5 6 6	4 5 6 6	

DETECTOR NOTES

DETECTOR 1 CALLS AND EXTENDS PHASE 5, PRESENCE.
 DETECTORS 2 AND 3 CALL AND EXTEND PHASE 4, PRESENCE.
 DETECTOR 4 CALLS AND EXTENDS PHASE 8, PRESENCE.
 DETECTOR 5 VOLUME DENSITY PHASE 6, PRESENCE.
 DETECTOR 6 VOLUME DENSITY PHASE 2, PRESENCE.



NOTE: THIS CHART FOR FUTURE USE.
 SEE SHEET 2 OF SIGNAL PERMIT FOR CURRENT TIMES

WEEKLY PROGRAM CHART

EVENT	DAY	TIME	CYCLE	OFFSET	PROGRAM	REMARKS
1	1-7	20:00	-	-	MAXIMUM	VOL DENS.
2	1-5	06:00	90	4	1	AM PEAK
3	1-5	10:00	100	84	3	OFF PEAK
4	1-5	15:00	90	62	2	PM PEAK
5	1-5	18:00	100	84	3	OFF PEAK
6	6	08:00	100	84	3	OFF PEAK
7	7	13:00	100	84	3	OFF PEAK

MONDAY = DAY 1
 OFFSET IN SECONDS
 OFFSET REFERENCED TO START OF NEMA TS2 FIRST YELLOW

EMERGENCY PRE-EMPTION NOTES:

Controller to be equipped with emergency pre-emption for the eastbound & westbound approaches of Main Street with a fail safe device for each direction of operation.

This fail-safe shall consist of a flashing white flood light, and shall begin flashing when the preemption phase displays preemption green for the emergency vehicle approach. Location of the emergency vehicle detectors are to be field adjusted to achieve maximum operation.

The signals, when activated by an emergency vehicle, shall terminate all green indications, except the green indications for the phase governed by the approaching emergency vehicle, followed by selective clearances dependent upon the phase in which the pre-emption occurs. The "green" indications for the pre-empted phase shall remain "green" for the duration of signal pre-emption and "red" indications displayed for other phases.

The signals when activated by an emergency vehicle shall all time out all yellow and red indications, followed by the green interval of the pre-emption phase governed by the approaching emergency vehicle.

If signals have been actuated by pedestrian pushbutton, and the signal is pre-empted, the pedestrian time shall time out followed by the appropriate selective clearances, before going into emergency pre-emption.

If the signals, when activated by an emergency vehicle, are flashing, all signals shall remain flashing.

Upon completion of the pre-emption phase in returning to normal operation, phase 2+6 interval 1 shall follow.

In emergency pre-emption, no priority shall be established, pre-emption shall be a "first come, first serve" operation.

GENERAL NOTES

Installation, operation and maintenance of this traffic signal shall be in accordance with Pennsylvania Department of Transportation Regulations on Official Traffic Control Devices.

All maintenance necessary for proper visibility of the signals, including trimming trees, is the responsibility of the Permittee.

All signs and pavement markings indicated on this drawing are considered part of the permit and shall be installed and maintained by the Permittee, unless otherwise indicated. Except the longitudinal pavement markings on State highways which will be maintained by the Department.

Post mounted signals shall be installed with the signal heads a minimum of 2 feet behind the face of the curb or edge of the shoulder. Support poles for overhead signals shall also have a minimum horizontal clearance of 2 feet.

The bottom of signal heads and signs erected over the roadway shall not be less than 15 feet nor more than 19 feet above the roadway.

The bottom of post mounted signal heads shall not be less than 8 feet nor more than 15 feet above the sidewalk or pavement grade.

The minimum horizontal distance between signal heads measured at right angles to the approach shall be 8 feet.

Permittee shall obtain a Highway Occupancy Permit for Embankment Removal, Curbing and or Sidewalk, Drainage Structures, changes in Highway Geometry, Pavement Widening, or Installation of additional lanes.

Conduit installed in Bituminous Roadway less than 5 years old, or Concrete Roadway regardless of age, must be Bored or Jacked under the Roadway. Install in accordance with Traffic Signal Standards TC-7800 Series.

This drawing cannot be used as a construction drawing unless the Permittee complies with the provisions of Act 199, Prevention of Damage to Underground Utilities. Prior to construction, consult with utility companies to resolve any problems which may be created due to the location of utilities.

Pavement markings shall be placed in accordance with the Department of Transportation Pavement Marking Handbook.

Permittee is responsible for obtaining approval of the installation of traffic signal devices located outside highway right-of-way.

Traffic signals installed using Liquid Fuels Tax Funds must conform to department specifications as set forth in current Publication 408, Supplements and Standard Drawings.

CONTROLLER NOTES:

- G/Y IF FOLLOWED BY PHASE 2+6.
- G IF FOLLOWED BY PHASE 2+6.
- TIMING FOR THIS PHASE SHALL BE AS SHOWN IN PHASE 2+6. IT MAY TIME OUT IN THIS PHASE OR MAY BE COMPLETED IN PHASE 2+6.
- SELECTIVE CLEARANCE INTERVAL INCLUDES THE NORMAL ALL-RED PHASE INTERVAL
- FOR DURATION OF PRE-EMPTION
- NORMAL YELLOW AND ALL-RED PHASE TIMING SHALL BE UTILIZED

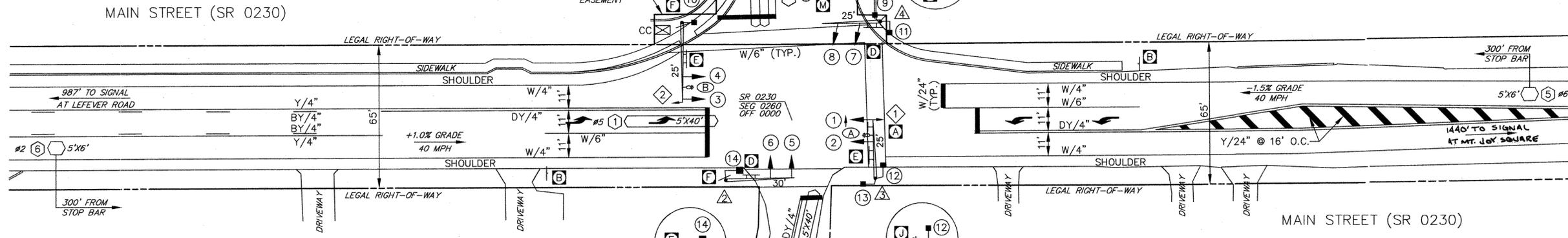
MINIMUM SEC/ACT.	3	10	3
MAX. INT. PASSAGE BEFORE RED. TO REDUCE MIN. GAP MAXIMUM	31	5	3
*PEDESTRIAN	9 19	9 12	
MEMORY	NON LOCK	MIN RECALL	NON LOCK
PROC. 1	6 3.9 2	48 5.9 2	19 3.2 2
PROC. 2	6 3.9 2	50 5.9 2	17 3.2 2
PROC. 3	6 3.9 2	60 5.9 2	17 3.2 2

90 SEC.
 90 SEC.
 100 SEC.

*UPON PEDESTRIAN ACTUATION, OTHERWISE HAND INDICATION AT ALL TIMES

SIGNAL TO DWELL IN PHASE 2+6 UNTIL ACTUATED BY PHASE 4+8.

M - MAN
 H - HAND
 FH - FLASHING HAND



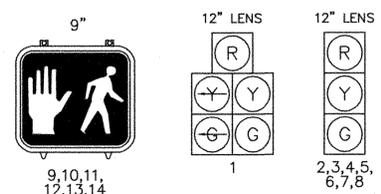
LEGEND

- ▲ — Mast Arm
- — Strain Pole
- — Pedestal
- ① — Vehicular Signal Head
- ② — Pedestrian Signal Head
- ⓐ — Sign
- ④ — Vehicle Detector
- Ⓟ — Pedestrian Push Button
- Ⓜ — Controller Assembly
- W/4" — Solid White Line/Width
- BW/4" — Broken White Line/Width
- Y/4" — Solid Yellow Line/Width
- BY/4" — Broken Yellow Line/Width
- DY/4" — Double Solid Yellow Line/Width
- ⑤ — Junction Box
- — Luminaire
- ⑤ — Emergency Pre-emption Detector
- ⓐ — Emergency Pre-emption Fail Safe

SIGNS

Plan Symbol	Description	Size W x H	Series Designation
A	LEFT TURN YIELD ON GREEN	30"X36"	R10-12
B	LEFT LANE MUST TURN LEFT	30"X30"	R3-7L
C	LANE USE CONTROL SIGN	30"X30"	R3-8(LS-R)
D	Main	42"X16"	D3-4
E	Newcomer	78"X16"	D3-4
F	NO PEDESTRIAN CROSSING	18"X18"	R9-3
G	EDUCATION PUSH BUTTON SIGN	9"X12"	R10-3BR
J	EDUCATION PUSH BUTTON SIGN	9"X12"	R10-3BL
K	KEEP RIGHT	24"X30"	R4-7
M	HAZARD MARKER	18"X18"	W16-1

SIGNAL INDICATIONS



SIGNALS TO BE EQUIPPED WITH BACKPLATES 1-8

SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS _____

SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS AND LOUVERS _____



FILE:

County, LANCASTER

Municipality, MOUNT JOY BOROUGH

Intersection, MAIN STREET (SR 0230) AND NEWCOMER ROAD/SITE ACCESS

Reviewed Paul C. Berley 12/20/06
 Municipal Official Date

Recommended Paul C. Berley 02/15/07
 District Traffic Engineer Date

AMTRAK ENGINEERING
Office of the Deputy Chief Engineer Track

DESIGN REVIEW COMMENTS

Track Monitoring

Scope: If any work that could potentially affect the stability of the track is occurring within 50 feet of a track, or within the influence line of a track, then monitoring points shall be established along the track. The influence line descends from a point one foot horizontally away from the outside end of the tie bottom one unit vertically for every unit and a half horizontally.

Safety: All work close enough to foul a track must only be performed under the direction of qualified railroad personnel. People performing track monitoring are classified as Roadway Workers and must be trained in Roadway Worker Protection.

Points: Each location shall include a point on the top of rail marked with paint or crayon on the field side of the rail and used for vertical measurements, and a point on the tie for horizontal measurements. In wood ties, the point shall be marked with a PK nail or similar surveyor's marker; on concrete or steel ties the point shall be marked with paint.

Point Locations: Reference points shall be established along the track beginning at the point where the work is closest to the track. Points shall continue to be placed at intervals of 50 feet along the track to the point where the work ends or does not meet the conditions outlined above, and then at 50 feet, 100 feet, and 200 feet away from the end point(s). Where more than one track may be affected, points shall be established on each track that could be affected.

Measurement Accuracy: Monitoring points shall be established to within 0.001 feet, and monitoring shall be done to 0.01 feet.

Monitoring: Monitoring shall be performed at the beginning and end of every shift of work. Points shall be measured, the measurements recorded, and the numbers compared with previous measurements. All points shall be measured each time monitoring occurs, except for the points 200 feet away from the end of work; these points shall only be measured if any of the other measurements exceeds an allowable deviation.

Allowable deviations: If track is found to have moved either vertically or horizontally by more than one half of the Amtrak Maintenance limits as specified in Amtrak's MW-1000 for the particular class of track involved, then all work shall cease immediately and the contractor shall immediately notify the designated Amtrak Project Engineer. Work may not resume until the designated Amtrak Project Engineer has inspected the site and approved.

Track Maintenance: Deficiencies in track surface and alignment caused by construction activities shall be corrected solely by Amtrak forces at project expense.

AMTRAK ENGINEERING
Office of the Deputy Chief Engineer Track

TRACK CLASS	MAX. PASSENGER SPEED (MPH)	CROSS LEVEL (INCHES) The Difference in Cross Level Between Any Two Points Less Than		DEVIATION FROM UNIFORM PROFILE (INCHES)		DEVIATION FROM HORIZONTAL ALIGNMENT (INCHES)	DEVIATION FROM HORIZONTAL ALIGNMENT (INCHES)
		10'	62'	31' CHORD	62' CHORD	31' CHORD	62' CHORD
MAINTENANCE LIMITS							
1	15	1	2 1/4	N/A	2 1/4	2 3/4	3 3/4
2	30	1	1 5/8	N/A	2	1 1/2	2 1/4
3	60	1	1 1/2	N/A	1 5/8	7/8	1 1/4
4	80	1	1 1/4	N/A	1 1/2	3/4	1
5	90	1	1 1/8	N/A	1	3/8	1/2
6	110	3/4	1	3/4	3/4	3/8	1/2
7	125	3/4	1	3/4	3/4	3/8	3/8
8	160	3/4	1	1/2	3/4	3/8	3/8
9	200	3/4	1	3/8	1/2	3/8	3/8
1/2 MAINTENANCE LIMITS							
1	15	1/2	1 1/8	N/A	1 1/8	1 3/8	1 7/8
2	30	1/2	13/16	N/A	1	3/4	1 1/8
3	60	1/2	3/4	N/A	13/16	7/16	5/8
4	80	1/2	5/8	N/A	3/4	3/8	1/2
5	90	1/2	9/16	N/A	1/2	3/16	1/4
6	110	3/8	1/2	3/8	3/8	3/16	1/4
7	125	3/8	1/2	3/8	3/8	3/16	3/16
8	160	3/8	1/2	1/4	3/8	3/16	3/16
9	200	3/8	1/2	3/16	1/4	3/16	3/16

**Bridge / Structures Related Effective Policy Letters
For Contractor's Alternate Designs**

In addition to applicable portions of Design Manual Part 4, Pub 408, BC and BD standards, and AASHTO Bridge Specifications all applicable portions of the following design policy (strike-off) letters will apply for alternate designs developed by the contractor. These policy letters cover a variety of issues, concepts, and specifications. Unless specifically permitted by the Alternate Specifications Part A or Part B, the contractor is not permitted to utilize new concepts.

Number	Date	Subject
431-04-01	1/13/04	Quality Control of Design Submissions
431-06-01	1/24/06	Moratorium on Non-Composite Adjacent Prestressed Concrete Box Beam Bridges
431-09-14	12/2/09	Publication 15M, Design Manual Part 4 Change No. 1
431-10-12	8/29/10	Bridge Design Standards, BD-600M Series (Pub. 218M): September 2010 Edition
431-10-13	11/16/10	Bridge Construction Standards, BC-700M Series (Pub. 219M): October 2010 Edition
431-11-03	4/4/11	Publication 218M, BD-628M Modifications to Approach Slab Joints and Waterproofing Details Implementation into Active Projects in Construction
431-11-06	7/13/11	Modification to Publication 15M, Design Manual Part 4 Implementation Measures to Mitigate Corrosion Of Substructure J-Bar Reinforcement
431-11-08	7/29/11	Publication 15M, Design Manual Part 4 Addition of Section B 2.9P and Quality Assurance Form D-519 to Design Manual Part 4 for Construction Loading on Bridges
431-11-09	8/26/11	Publication 15M, Design Manual Part 4 Revision of Appendix J - Approved Commercially Available or Consultant - Developed Software
431-11-10	12/21/11	Summary of New Bridge and Structure Products
431-12-01	1/20/12	Publication 219M, BC-799M - Mechanically Stabilized Earth (MSE) Retaining Walls - Modifications to Drainage Pipe Requirements for 100-Year Design Life and Implementation into Active Projects
431-12-02	2/13/12	Implementation of AAAP Cement Concrete

SECTION 01142A – SUBMISSION DOCUMENTATION REQUIRED FOR AMTRAK REVIEW AND APPROVAL OF PLANS FOR BRIDGE ERECTION, DEMOLITION AND OTHER CRANE/ HOISTING OPERATIONS OVER RAILROAD RIGHT-OF-WAY

PART 1 - GENERAL

1.1 SCOPE

- A. Amtrak requires that a site-specific work plan for accomplishing hoisting operations be prepared for every applicable project, and for each type of lift on a project.
 - 1. The plan shall demonstrate adherence to Amtrak safety rules.
 - 2. The plan shall demonstrate constructibility.
 - 3. The plan shall minimize impact to rail operations.
 - 4. The approved plan will provide the basis for field inspection/ verification of the actual work.
- B. Preparation, review and approval of the Crane/ Hoisting site-specific work plan does not relieve the Contractor from meeting other Amtrak requirements for adequate planning and documentation of proposed work procedures within the Right-of-Way of the railroad..
- C. Current Amtrak safety rules shall be adhered to in every respect.
- D. Use of this specification is as required by Amtrak, as described in Amtrak Engineering Practice EP3014.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. CHIEF ENGINEER: Amtrak Vice President, Chief Engineer
- B. RAILROAD: National Railroad Passenger Corporation (Amtrak), and/or the duly authorized representative
- C. ENGINEERING PRACTICE: Amtrak Engineering Practices establish a system of uniform practices, notices and instructions for the Amtrak Engineering Department, providing current, permanent and temporary, departmental procedures and policies.

1.4 SUBMISSION REQUIREMENTS

- A. Unless otherwise directed in the Contract, the Contractor shall submit five sets of plans and calculations to the authorized representative of the Chief Engineer, Structures, whose name and address will be provided at the project pre-construction meeting.
- B. Submitted calculations and plans shall be signed and sealed by a Professional Engineer, registered in the State in which the work will be performed.

- C. The Contractor shall revise and resubmit plans and calculations as many times as necessary, until a complete and correct site-specific work plan for crane/ hoisting operations has been approved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

- 3.1 THE CONTRACTOR SHALL PROVIDE, AT A MINIMUM, THE FOLLOWING INFORMATION FOR REVIEW AND APPROVAL BY AMTRAK ENGINEERING STRUCTURES:
 - A. Plan view showing location(s) of cranes, operating radii, with delivery and/or disposal locations shown. Provide all necessary dimensions for locating the elements of the plan.
 - B. Plans and computations showing the weight of the pick.
 - C. Crane rating sheets, demonstrating that cranes are adequate for 150% of the calculated pick weight. That is, the cranes shall be capable of picking 150% of the load, while maintaining normal, recommended factors of safety. The adequacy of the crane for the proposed pick shall be determined by using the manufacturer's published crane rating chart and not the maximum crane capacity. Crane and boom nomenclature is to be indicated.
 - D. Calculations demonstrating that slings, shackles, lifting beams, etc. are adequate for 150% of the calculated pick weight.
 - E. Location plan showing obstructions, indicating that the proposed swing is possible. "Walking" of load using two cranes will not be permitted. Rather, multiple picks and repositioning of the crane may be permitted to get the load to the needed location for the final pick, if necessary.
 - F. Data sheet listing types and sizes of slings and other connecting equipment. Include copies of catalog cuts for specialized equipment. Detail attachment methods on the plans.
 - G. A complete procedure, indicating the order of lifts and any repositioning or re-hitching of the crane or cranes.
 - H. Temporary support of any components or intermediate stages, as may be required.
 - I. A time schedule of the various stages, as well as a schedule for the entire lifting process.

END OF SECTION 01142A

SECTION 01520A – REQUIREMENTS FOR TEMPORARY PROTECTION SHIELDS FOR DEMOLITION AND CONSTRUCTION OF OVERHEAD BRIDGES AND OTHER STRUCTURES

PART 1 - GENERAL

1.1 SCOPE

- A. This engineering practice describes items to be included in the design and construction of temporary protection shields for construction overhead and near to Amtrak tracks.
- B. Use of this specification is as required by Amtrak, as described in Amtrak Engineering Practice EP3014.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. CHIEF ENGINEER: Amtrak Vice President, Chief Engineer
- B. RAILROAD: National Railroad Passenger Corporation (Amtrak), and/or the duly authorized representative
- C. ENGINEERING PRACTICE: Amtrak Engineering Practices establish a system of uniform practices, notices and instructions for the Amtrak Engineering Department, providing current, permanent and temporary, departmental procedures and policies.

1.4 SUBMISSION REQUIREMENTS

- A. Unless otherwise directed in the Contract, the Contractor shall submit five sets of plans and calculations to the authorized representative of the Chief Engineer, Structures, whose name and address will be provided at the project pre-construction meeting.
- B. Submitted calculations and plans shall be signed and sealed by a Professional Engineer, registered in the State in which the work will be performed.
- C. The Contractor shall revise and resubmit plans and calculations as many times as necessary, until a complete and correct site-specific work plan for crane/ hoisting operations has been approved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 CONTRACTORS WORKING ON OVERHEAD OR NEARBY DEMOLITION AND/OR CONSTRUCTION ADJACENT TO AMTRAK TRACKS, SHALL CONFORM TO THE FOLLOWING

DESIGN AND CONSTRUCTION REQUIREMENTS FOR TEMPORARY PROTECTION SHIELDING:

- A. The Contractor shall maintain a specified level of protection to railroad facilities, during demolition and construction activities that occur overhead and nearby Amtrak tracks, as shown on the Contract Plans, as detailed in the Contract Specifications, and as described below.
- B. Prior to the start of construction, the Contractor shall submit to Amtrak for review and approval, detailed, site specific plans for temporary protection shields. The plans will be reviewed as to the methods of erection, and as to whether or not the proposed installation will provide the required level of protection. No construction shall proceed until the Contractor has received written approval of the Contractor's complete, site specific plans, from Amtrak.
- C. The Contractor shall design the protection shields to conform to all applicable and governing federal, state and local laws and regulations.
- D. Drawings for the proposed temporary protection shields shall be signed and sealed by a Licensed Professional Engineer. Complete design calculations, clearly referenced to the drawings, and easy to review, shall be provided with submission of drawings.
- E. Protection shields shall be designed for the following, minimum load and size criteria.
 - 1. The horizontal shield design liveload on horizontal surfaces shall be the greater of a minimum of 100 pounds per square foot (psf) [5000 Pascals] or the anticipated liveload to be produced by the Contractor's anticipated operations. When determining the appropriate design live load, the designer shall consider factors such as the physical capacity of proposed debris-catching platforms to retain materials, and the type of equipment the platforms might support. Positive means of demolition and construction controls shall be provided to assure that debris that may collect on the shield will not exceed the design live load. The horizontal protection shield, in plan view, shall cover no less than the area directly over the tracks plus ten feet minimum beyond the centerline of the outermost tracks.
 - 2. The vertical shield shall be designed to carry a minimum 30 psf [1500 Pascals] allowance for wind load. The vertical shield shall extend a minimum of 6'-6" [1950 millimeters] above the top of the adjacent surface, such as curb or sidewalk. Anti-climb wings shall be installed at each end, as necessary, to restrict access to the railroad property.
- F. The vertical and horizontal clearance envelopes required for maintenance of railroad operations, shall be indicated on the site specific work plans. These clearances are subject to review and approval by Amtrak. If applicable, both temporary and permanent envelopes shall be indicated on the plans. The temporary protection shields shall be installed outside the limits of these minimum vertical and horizontal clearances shown on the site specific work plans.
- G. In electrified territory, temporary protection shields shall be bonded and grounded.
- H. Temporary protection shields shall be designed and constructed to prevent dust, debris, concrete, formwork, paint, tools, or anything else from falling onto the railroad property below.
- I. The temporary protection shields shall be attached to the structure in accordance with site specific work plans submitted by the Contractor and approved by Amtrak. Drilling in structural members and welding will generally not be permitted in members that are scheduled to remain in place in the reconstructed structure. For existing members scheduled for demolition or for later reconstruction, any proposed attachment shall be designed with consideration of potential existing, deteriorated conditions.
- J. The Contractor shall provide the Amtrak on-site representative, for review and approval prior to any construction activity in the effected area, a proposed construction schedule for the installation, maintenance and removal of the temporary protection shields.

- K. The temporary protection shields shall be installed prior to the start of any other work over the railroad in the effected areas. No construction shall proceed until the Amtrak on-site representative reviews and approves the Contractor's installed protection. Before proceeding with the work, Amtrak must be satisfied, in its sole judgment, that sufficient protection has been provided to proceed with the work.
- L. The Contractor shall install and remove temporary protection shields only when an Amtrak representative is on-site.
- M. The Contractor shall not install or remove temporary protection shields during train operations.
- N. Temporary protection shields shall remain in place for the duration of construction activities over and nearby the railroad in the effected areas. The Contractor may remove temporary construction only after approved by Amtrak on-site representatives.
- O. Where site specific conditions impose insurmountable restrictions to the design of temporary construction conforming to the limitations listed above, the design of temporary construction shall be developed in close coordination with Amtrak design review personnel. The Chief Engineer, Structures shall provide final approval of temporary construction that does not conform to the above limitations.

END OF SECTION 01520A

SECTION 02261A – REQUIREMENTS FOR TEMPORARY SHEETING AND SHORING TO SUPPORT AMTRAK TRACKS

PART 1 - GENERAL

1.1 SCOPE

- A. This engineering practice describes items to be included in the design and construction of temporary sheeting and shoring construction adjacent and proximate to Amtrak tracks.
- B. Use of this specification is as required by Amtrak, as described in Amtrak Engineering Practice EP3014.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.3 DEFINITIONS

- A. CHIEF ENGINEER: Amtrak Vice President, Chief Engineer
- B. RAILROAD: National Railroad Passenger Corporation (Amtrak), and/or the duly authorized representative
- C. ENGINEERING PRACTICE: Amtrak Engineering Practices establish a system of uniform practices, notices and instructions for the Amtrak Engineering Department, providing current, permanent and temporary, departmental procedures and policies.

1.4 SUBMISSION REQUIREMENTS

- A. Unless otherwise directed in the Contract, the Contractor shall submit five sets of plans and calculations to the authorized representative of the Chief Engineer, Structures, whose name and address will be provided at the project pre-construction meeting.
- B. Submitted calculations and plans shall be signed and sealed by a Professional Engineer, registered in the State in which the work will be performed.
- C. The Contractor shall revise and resubmit plans and calculations as many times as necessary, until a complete and correct site-specific work plan for temporary sheeting and shoring has been approved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 CONTRACTORS INSTALLING TEMPORARY CONSTRUCTION SHEETING AND SHORING TO SUPPORT AMTRAK TRACKS SHALL CONFORM TO THE FOLLOWING:

- A. Footings for all piers, columns, walls, or other facilities shall be located and designed so that any temporary sheeting and shoring for support of adjacent track or tracks during construction, will not be closer than toe of ballast slope. The dimension from gage of rail to toe of ballast, along tangent track, is 7'-5"; see dimensions on Track standard plans for curved track dimensions.
- B. USE OF SHEETING: When support of track or tracks is necessary during construction of the above-mentioned facilities, interlocking steel sheeting, adequately braced and designed to carry Cooper E80 live-load plus 50 percent impact allowance is required. Soldier piles and lagging will be permitted for track support ONLY when required penetration of steel sheet piling cannot be obtained, due to site-specific conditions that make steel sheet piling placement impracticable, in the opinion of the authorized, Amtrak design review engineer.
 - 1. For usual soil conditions and limited excavations, sheeting is required when the near-track excavation extends beneath or nearer to the track than the Theoretical Railroad Embankment Line. The Theoretical Railroad Embankment Line is defined as a line that starts at grade, ten foot from the centerline of the outer track, and extends downward, away from the track, at a slope of 1-1/2 horizontal to one vertical.
 - 2. For special soil conditions, such as soft organic soils and rock conditions, and for unusual excavation conditions, temporary supports for excavations may be necessary even when the limits fall beyond the Theoretical Railroad Embankment Line, requiring site specific analysis by a professional, geotechnical engineer.
 - 3. See Sketch SK-1, "Normal Requirements for Sheet Piling Adjacent to Tracks".
- C. Exploratory trenches, three feet deep and 15 inches wide in the form of an "H", with outside dimensions matching the proposed outside dimensions of sheeting, shall be hand dug, prior to placing and driving the sheeting, in any area where railroad or utility underground installations are known or suspected. These trenches are for exploratory purposes only, and shall be backfilled and immediately compacted, in layers. This work shall be performed only in the presence of a railroad inspector.
- D. Absolute use of track is required while driving sheeting adjacent to running track. Track usage shall be prearranged per standard procedures, through the Amtrak project representative.
- E. Cavities adjacent to sheet piling, created by pile driving, shall be filled with sand, and any disturbed ballast shall be restored and tamped immediately.
- F. Sheet piling cutoffs
 - 1. During construction, sheeting shall be cut off at an elevation no higher than the top of tie.
 - 2. At the completion of construction activities involving the use of sheet piling, sheet piling may be pulled if there will be no adverse impact to the railroad track support bed, as determined by the Amtrak site engineer. This will generally be permitted when both of these conditions are met:
 - a. the sheeting face is at least ten feet distant from the centerline of track, and
 - b. the bottom of the excavation that the sheeting supported prior to backfilling, does not fall within an assumed influence zone under the tracks. The assumed influence

zone is defined as the area, as seen in cross-sectional view, falling beneath the Theoretical Underground Track Disturbance Line. This line is defined as a line that starts at the end and bottom of the ties, and extends from the track outward and downward at a one-to-one (45-degree) slope.

3. Sheet piling that is to be left in-place, shall be cut off below the ground line
 - a. at least eighteen inches below final ground line at the sheeting, and
 - b. no higher than 24 inches below the elevation of the bottom of the nearest ties
 4. See Sketch SK-1, "Normal Requirements for Sheet Piling Adjacent to Tracks".
- G. The excavation adjacent to the track shall be covered, ramped and protected by handrails, barricades and warning lights, as required by applicable safety regulations, and as directed by Amtrak.
- H. Final backfilling of excavation shall conform to project specifications.
- I. The Contractor shall provide Amtrak with a detailed schedule of proposed construction operations, detailing each step of the proposed temporary construction operations in proximity to Amtrak tracks, so that Amtrak may review and approve the proposed operations, and may properly inspect and monitor operations.
- J. Drawings for the proposed temporary sheeting and shoring shall be signed and sealed by a Licensed Professional Engineer. Complete design calculations, clearly referenced to the drawings, and easy to review, shall be provided with submission of drawings.
- K. Where site specific conditions impose insurmountable restrictions to the design of temporary construction conforming to the limitations listed above, the design of temporary construction shall be developed in close coordination with Amtrak design review personnel. The Chief Engineer, Structures shall provide final approval of temporary construction that does not conform to the above limitations.
1. When Amtrak grants approval for sheeting closer than standard minimum clearances, the Contractor shall develop a survey plan, if not already required by the project, for the adjacent tracks, to be conducted prior to, during, and after the temporary sheeting construction operations. If settlement is detected, construction operations shall be suspended until the track has been returned to its initial condition, and stabilized, as determined by the Amtrak project site representative.
2. The Contractor shall stockpile ten (10) tons of approved ballast at the project site, and maintain that amount in ready reserve, to allow for the possible need to restore track profile.
- L. Particular care shall be taken in the planning, design and execution of temporary construction, as relates to railroad slope protection and drainage facilities. Erosion and sediment control best management practices shall be designed and employed, as approved by Amtrak. Any unintended disruption to railroad drainage facilities, caused by the temporary construction, shall be promptly remedied, as directed by the Engineer, solely at the Contractor's cost.
- M. The following Information Sketch is attached:
1. Figure No. SK-1: Normal Requirements for Sheet Piling Adjacent to Track

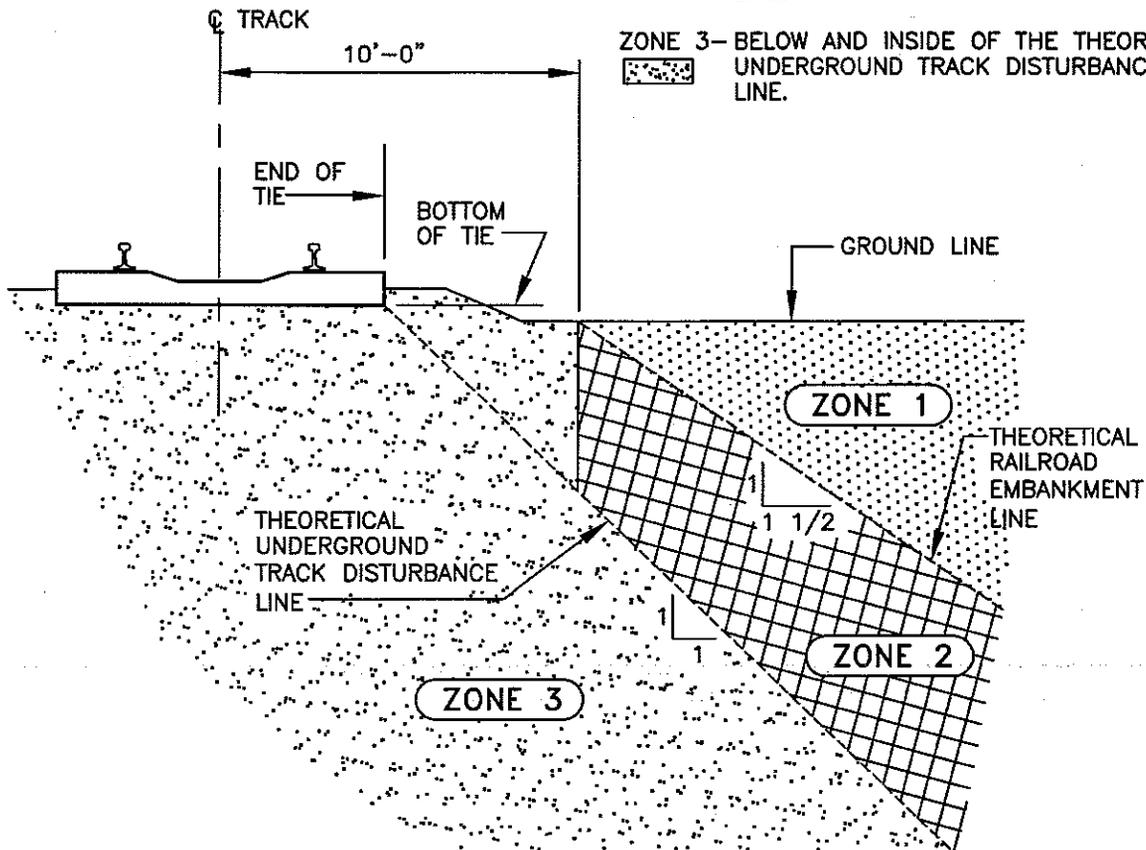
END OF SECTION 02261A

LEGEND

ZONE 1— ABOVE AND OUTSIDE THE THEORETICAL RAILROAD EMBANKMENT LINE.

ZONE 2— FARTHER THAN 10 FEET FROM THE CENTERLINE OF TRACK, BELOW THE THEORETICAL RAILROAD EMBANKMENT LINE AND ABOVE THE THEORETICAL UNDERGROUND TRACK DISTURBANCE LINE.

ZONE 3— BELOW AND INSIDE OF THE THEORETICAL UNDERGROUND TRACK DISTURBANCE LINE.



NORMAL REQUIREMENTS FOR SHEET PILING ADJACENT TO TRACK

- ① EXCAVATIONS WITHIN ZONE 1 — ABOVE AND OUTSIDE OF THE THEORETICAL RAILROAD EMBANKMENT LINE — DO NOT NORMALLY REQUIRE SHEETING TO PROTECT RAILROAD ROAD BED. SHEETING MAY BE REQUIRED FOR OTHER REASONS.
- ② EXCAVATIONS WHOSE BOTTOMS EXTEND INTO ZONE 2 REQUIRE SHEETING, BUT THE SHEETING MAY NORMALLY BE PULLED AFTER THE EXCAVATION HAS BEEN BACKFILLED.
- ③ EXCAVATIONS WHOSE BOTTOMS EXTEND INTO ZONE 3 WILL NORMALLY REQUIRE THE SHEETING TO BE LEFT IN PLACE AND CUT-OFF PER REQUIREMENTS.

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Office of Chief Engineer
STRUCTURES

National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

SKETCH 1

SPEC. 02261A - REV. 1

Designed CJR Drawn JLM Date 6/06/01

File No:	
Design No:	3501
Sheet No.	1 of 1
SK-1	

Steel Escalation Option

The undersigned hereby certifies that he/she is authorized to make a decision, on behalf of the Bidder, regarding application of the provisions of the Standard Special Provision entitled "Price Adjustment for Steel Cost Fluctuations" to the following project:

ECMS Project No. _____ S.R. _____, Section _____ Letting Date _____

SSP SUBSECTION	CATEGORY NAME	OPTION-IN*	OPTION-OUT**
4.a	Guide Rail and Metal Median Barrier	<input type="checkbox"/>	<input type="checkbox"/>
4.b	Reinforcement Bars	<input type="checkbox"/>	<input type="checkbox"/>
4.c	Piles	<input type="checkbox"/>	<input type="checkbox"/>
4.d	Steel Sign Structure(s)	<input type="checkbox"/>	<input type="checkbox"/>
4.e	Fabricated Structural Steel	<input type="checkbox"/>	<input type="checkbox"/>
4.f	Precast Reinforced Concrete Box Culvert(s) / Prestressed Concrete Bridge Beam(s)	<input type="checkbox"/>	<input type="checkbox"/>

* Checking here **elects** the option to apply the provisions of the SSP entitled "Price Adjustment for Steel Cost Fluctuations" to the steel used in applicable materials placed as part of the work items in the indicated category.

** Checking here **declines** the option to apply the provisions of the SSP entitled "Price Adjustment for Steel Cost Fluctuations" to the steel used in applicable materials placed as part of the work items in the indicated category.

CONTRACTOR NAME

X

SIGNATURE

PRINTED NAME

DATE

The apparent low bidder is required to submit this form via fax to (717) 705-1504 by 3:00 pm prevailing local time within 7 calendar days after the bid opening. When the seventh calendar day after the bid opening falls on a day PennDOT offices are closed, submit this form via fax by 3:00 pm prevailing local time on the next business day.

If a properly completed form is not provided by the apparent low bidder within the time specified, the Department will consider the option to apply the price adjustment provisions to the project to be declined (i.e. Option-OUT will be selected for the project). If the form, when provided within the time specified, has been completed such that the Department is unable to ascertain the bidder's intention with regard to the inclusion of any one of the applicable steel product categories, the Department will consider the option to apply the price adjustment provisions to that product category to be declined (i.e. Option-OUT will be selected for the category). No further opportunity to elect steel escalation for the project or an individual steel product category will be made available to the bidder.

ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM REPORT – CONSTRUCTION

Lancaster County, SR 4062, Section, N/A, Eby Chiques RR Bridge over Amtrak ECMS #37064

MITIGATION CATEGORY	RESPONSIBLE PARTY	SOURCE DOCUMENT	MITIGATION COMMITMENT	CONTRACTOR DATE/INITIALS	PENNDOT CONSTRUCTION PROJECT MANAGER DATE/INITIALS
GENERAL NPDES PERMIT					
NPDES Permit Extension	Contractor	NPDES Permit – Page 2 of 11 and Special Provision - REQUIREMENT TO EXTEND NPDES PERMIT AND LICENSED PROFESSIONAL CERTIFICATION	If required, apply for extension 90 days prior to coverage expiration date of August 12, 2014.		
Agency Notification	Contractor	NPDES Permit – Page 11 of 11 and E&S Control Plan	Contact the Lancaster County Conservation District at least seven days before construction is to begin to determine if a pre-construction conference is required.		
NPDES Permit Compliance	Contractor and PennDOT	NPDES Permit	Pursuant to the responsibilities as a co-permittee, ensure compliance with the conditions set forth in the project’s NPDES permit, including any and all inspection, monitoring and reporting requirements.		
NPDES Permit Compliance	PennDOT and Contractor	NPDES Permit – Page 3 of 11 and E&S Control Plan	The permittee and co-permittee(s) must ensure that visual site inspections are conducted weekly, and within 24 hours after each measureable rainfall event throughout the duration of the construction. A written report of each inspection shall be kept, documenting site conditions, and date/title/name of inspector.		

ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM REPORT – CONSTRUCTION

Lancaster County, SR 4062, Section, N/A, Eby Chiques RR Bridge over Amtrak ECMS #37064

MITIGATION CATEGORY	RESPONSIBLE PARTY	SOURCE DOCUMENT	MITIGATION COMMITMENT	CONTRACTOR DATE/INITIALS	PENNDOT CONSTRUCTION PROJECT MANAGER DATE/INITIALS
GENERAL NPDES PERMIT					
NPDES Permit Compliance	Contractor	NPDES Permit – Page 10 of 11 and E&S Control Plan	The staging of earth disturbance activities contained in the approved E&S plan must be followed. All building materials and wastes must be removed from the site and recycled or disposed in accordance with PADEP's Solid Waste Management Regulations.		
NPDES Permit Compliance	PennDOT and Contractor	NPDES Permit – Page 6 of 11 and E&S Control Plan	Implement the construction provisions and sequencing outlined in the approved Erosion and Sediment Control and Post-Construction Stormwater Management Plans.		
NPDES Permit Compliance Permit Compliance	Contractor	NPDES Permit – Page 6 of 11 and Special Provision - REQUIREMENT TO EXTEND NPDES PERMIT AND LICENSED PROFESSIONAL CERTIFICATION	Ensure that a licensed professional has oversight responsibilities for the design and proper installation of BMPs identified in the Post-Construction Stormwater Management Plan prior to the submission of the Notice of Termination (NOT) for this permit. The licensed professional shall certify that the BMPs identified in the plan have been installed in accordance with the approved plan.		
NPDES Compliance Certification	Contractor	NPDES Permit – Page 7 of 11	Within 15 days after the completion of earth disturbance activities, submit to the PennDOT Construction Manager the NPDES Notice of Termination (NOT) form certifying that the work has been completed in accordance with the terms and conditions of the project's NPDES permit and the approved Erosion and Sediment Control and Post-Construction Stormwater Management Plans.		

ENVIRONMENTAL COMMITMENTS AND MITIGATION TRACKING SYSTEM REPORT – CONSTRUCTION

Lancaster County, SR 4062, Section, N/A, Eby Chiques RR Bridge over Amtrak ECMS #37064

Contractor Name: _____

Contractor Responsible Individual: _____

Note: The Contractor is to initialize the report for a given mitigation line-item immediately after the individual line-item has been implemented and/or completed. The Contractor is to coordinate with the Construction Project Manager to review the individual mitigation line items and to receive concurrence for completed line items. This coordination is to be on a regular basis (such as periodic site inspections or status meetings), as determined for the project.

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract,

which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer

shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the

contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at

<http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages.

Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary

to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed,

or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification

or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each

participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each

participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-- Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR
APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL
ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.



AMTRAK
HR - Employee Development
30th & Market Streets - 3 North - Box 1
Philadelphia, PA 19104
Fax Number: 215-349-3731

Contractor Safety & Security Awareness Training Request

This is in response to your request to schedule Amtrak's Contractor/Lessee Safety and Awareness Training. The safety of Amtrak's passengers and all employees working on the property (Amtrak or Contractor) is our highest priority. For your protection, Amtrak requires your employees to comply with all safety regulations ("Specifications Regarding Safety and Protection of the Railroad Traffic and Property").

Amtrak's Project Manager or Engineer assigned to your project will assist you with obtaining a temporary "Permit to Enter upon Property." All permits to enter Amtrak property are obtained by contacting the Director of I&C projects. The qualification card that successful participants will receive will be valid for one year from date of issue. Safety violations will result in the immediate suspension of work within the railroad's property limits. Amtrak requires you to formally accept, by signing the authorization form, the terms and/or applicable training service fees prior to setting the training schedule. The costs are outlined in the attached documents.

Please complete the Training Authorization and return it to the address or fax number on the form. If you have any questions with any aspect of the training services, contact Dawn Bey, Employee Development Specialist, at (215) 349-1553.

NO ONE WILL BE ADMITTED TO A CLASS OR PERMITTED TO PARTICIPATE IN A CLASS WITHOUT FIRST PRESENTING A VALID PHOTO IDENTIFICATION

ALL ATTENDEES MUST BE ABLE TO READ, COMPREHEND AND DEMONSTRATE THEIR UNDERSTANDING OF THE MATERIALS PRESENTED AS WELL AS ALL SAFETY INSTRUCTIONS, BRIEFINGS AND WARNINGS

Thank you.

Jesse Flohr, Manager Employee Development
30th St. Station, 3rd Floor NW
Philadelphia, PA 19104
215-349-3704

Amtrak Employee Development
Revised 6/2011



TRAINING REQUEST FORM
COMPLETE ALL FIELDS
PLEASE CLEARLY PRINT OR TYPE
SEPARATE FORMS MUST BE COMPLETED
FOR ALL SUB-CONTRACTORS

Company Name: _____

Billing Address: _____

City: _____ State: _____ Zip: _____

Contact Person: _____

Contact Person Number: _____

Contact Person Email: _____

Is your work in conjunction with an Amtrak Project? Yes No

Name of Amtrak Project requiring this training: _____

Amtrak Project Manager or Contact: _____

If Applicable: Work Order: _____ Function: _____

Res Center: _____ PO Number: _____

Is another company responsible for the cost of this training? Yes No

If Yes, Company Name: _____

Billing Address: _____

City: _____ State: _____ Zip: _____

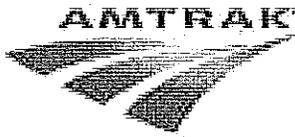
Contact Person: _____

Contact Person Number: _____

Brief Description of the work your company or firm is performing:

Number of personal that require the training: _____

NOTE: If the personnel that you are requesting training for are not all employees of your company or they are sub-contractors, you must provide a separate authorization for each sub-contractor or group.



Amtrak will schedule contractor training classes at the following locations:

Washington DC – Union Station	<input type="checkbox"/>	Groton, CT	<input type="checkbox"/>
Baltimore Penn Station, MD	<input type="checkbox"/>	Providence, RI	<input type="checkbox"/>
Baltimore, MD - Quad Ave	<input type="checkbox"/>	Chicago, IL	<input type="checkbox"/>
Philadelphia, PA – 30 th St. Station	<input type="checkbox"/>	Niles, MI	<input type="checkbox"/>
Lancaster, PA	<input type="checkbox"/>	St. Louis, MO	<input type="checkbox"/>
Princeton Jct., NJ	<input type="checkbox"/>	New Orleans, LA	<input type="checkbox"/>
Newark, NJ – Penn Station	<input type="checkbox"/>	Sanford, FL	<input type="checkbox"/>
New York, NY – Penn Station	<input type="checkbox"/>	Miami, FL	<input type="checkbox"/>
Albany, NY	<input type="checkbox"/>	Seattle, WA	<input type="checkbox"/>
New Haven, CT	<input type="checkbox"/>	Los Angeles, CA	<input type="checkbox"/>
Other <input type="checkbox"/>	_____		

Amtrak may agree to schedule classes at other locations subject to the following conditions:

1. Amtrak reserves the right to refuse training requests for locations other than those listed above unless agreed to in advance.
2. Additional charges as specified below may be charged for classes not conducted at an Amtrak location.
3. Amtrak reserves the right to bill for the minimum charge where attendees fail to appear and do not call to cancel at least 24 hours in advance.

Please list any special concerns, requests, or requirements:

Please acknowledge agreement and approve training cost

(Signature)

(Type or Print Name)

Date

(Contact Number)



CONTRACTOR SAFETY & AWARENESS TRAINING

AMTRAK Contractor Safety Enrollment Coordinator:

Dawn Bey
30th & Market Streets, 3rd Floor NW, Box 1
Philadelphia, PA 19104
(215) 349-1553
contractortraining@amtrak.com

Charges for Contractor Safety & Awareness Training are as follows:

Minimum Class Cost (5 or less Participants) = \$700.00

Participant Class Size	Cost Per Person
6 to 10	\$100.00
11 to 15	\$ 90.00
16 or more	\$ 80.00

REPLACEMENT CARDS WILL BE PROVIDED FOR A FEE OF \$50.00
Contact Dawn Bey @ 215-349-1553

NOTE: There is an additional \$700.00 charge for classes held at the contractor's location unless waiver is agreed to in advance

Return this training request form to:

Amtrak Engineering Employee Development
30th & Market Streets, 3NW, Box 1
Philadelphia, PA 19104
Fax Number (215) 349-3731
Email: contractortraining@amtrak.com

AMTRAK SPECIFICATION - AED-1

**PROCEDURES AND DESIGN CRITERIA TO BE
EMPLOYED BY ELECTRIFICATION CONSULTANTS
ENGAGED IN THE DESIGN OF
ELECTRIFICATION FACILITIES
ON THE
NATIONAL RAILROAD PASSENGER CORPORATION**

PREPARED BY:
AMTRAK - OFFICE OF THE DEPUTY CHIEF ENGINEER - ET
PHILADELPHIA, PA
(REVISED Nov. 2006)

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I. QUALIFIED CONSULTANTS LIST

- A. Amtrak maintains a list of “Qualified Electrification Consultants” for its own convenience and to facilitate the process of selecting firms to perform electrification design on Amtrak property. Consulting firms are included on Amtrak’s “Qualified” list based on the experience and knowledge of their key personnel, their past performance on electrification projects in general, and past performance on specific Amtrak projects.
- B. A Consultant may be removed from Amtrak’s “Qualified” List if it is determined the he no longer meets the requirements for inclusion as specified in paragraph “A” above.
- C. Application for inclusion on Amtrak’s “Qualified Electrification Consultants” list shall be submitted to:

R. G. Verrelle
Director - ET Design & Standards
National Railroad Passenger Corporation 30th Street Station, 4th Floor - South Tower
Philadelphia, PA 19104

Applications shall be the in form of a letter of interest and shall have attached the following information:

- 1. Key Personnel and their qualifications.
 - 2. Past and current electrification projects (other than Amtrak) with the names and telephone numbers of their clients.
 - 3. Past and current Amtrak electrification projects.
- D. A Consultant may be included on the “Qualified” list on a probationary basis pending performance on an Amtrak Electrification Project.
 - E. Consultants must re-apply for inclusion on Amtrak's Qualified List each calendar year. Submissions must be made prior to October 1st of the preceding year in order to be considered.

II. PROCEDURES

- A. Whenever the Term “Engineer” is used in this specification, it shall mean the Deputy Chief Engineer, ET of Amtrak or an authorized representative.
- B. Upon receipt of notice to proceed with design work, the Electrification Consultant shall so inform the Director of Design - Electric Traction of Amtrak, and shall also provide the name of the Consultants Personnel responsible for the project management. Any changes in the Electrification Consultant’s key personnel shall be approved by the Director - ET Design
- C. Consultant’s personnel, before entering Railroad property, shall execute an Amtrak “Permit to Enter Upon Property”, and attend Amtrak’s Contractor’s Safety Class.
- D. Prior to proceeding with the final design, the Consultant shall submit to Amtrak, for review and discussion, preliminary conceptual plans for the proposed electrification modifications. This is especially important in work involving changes to the catenary configuration, sectionalizing,

transmission lines, and signal power lines. The plans shall indicate the preliminary design concepts in sufficient detail for Amtrak design personnel to provide definitive direction in which to proceed with the design.

In conjunction with the conceptual submission, a field meeting shall be held between representatives of the Electrification Consultant and Amtrak's ET Design and Construction Departments to evaluate alternatives and establish an acceptable conceptual plan.

Following approval of the conceptual plans, submissions at the 30%, 60%, 90%, and final level, shall be provided for Amtrak's review and comment per the agreed upon schedule of submissions. Design calculations shall be submitted at all levels of submissions. The Electrification Consultant shall also provide an electrification cost breakdown at the 60% level and upon submission of final plans. Unless otherwise directed, submittals shall be sent to the attention of the Engineer.

- E. It shall be the responsibility of the Consultant to verify the information contained on Amtrak record drawings pertaining to the project work by on-site inspection.
- F. It shall be the responsibility of the Electrification Consultant to perform exploratory trenching to establish all underground Amtrak facilities such as ducts, pipes, and footings in all areas that excavation is required by the design. Hand dug exploratory trenches shall be as described in Section IV of this specification.
- G. Final drawings, specifications and calculations shall be submitted to Amtrak for approval prior to being issued for bidding or construction. Each drawing shall bear the stamp of a Professional Engineer, registered in the state in which the work will be performed.
- H. When it is necessary to revise existing Amtrak bonding and grounding plans, and sectionalizing plans, these Amtrak plans showing the revisions shall be submitted to the railroad upon completion of construction.
- I. Unless otherwise instructed, the Consultant shall utilize the current standard Amtrak structural, catenary, and electrical details and materials in the design of the project.
- J. The project sponsor (if other than Amtrak) shall be responsible for all liaison and coordination between all agencies and utilities that may be involved in the project work.
- K. The Electrification Consultant shall be responsible for review of all shop and manufacturers drawings for all structures, catenary material or electrical equipment designed or specified by him in connection with the project.

III. DESIGN DRAWNGS

The design drawings prepared by the Consultant for the proposed electrification system modifications shall include, but not be limited to the following, and shall be arranged as described below.

- A. The first drawing of the design set shall be a location plan sheet. The drawing shall contain, in addition to a plan of construction limits (scale not less than 1" = 100') the following information:
- 1) General notes - steel, concrete, excavation, etc.
 - 2) List of abbreviations used.
 - 3) Division of work and material supply legend.
 - 4) List of reference drawings.
 - 5) List of design drawings in set.
 - 6) Construction sequence.
- B. The next plan sheet shall be a profile drawing indicating the modifications to existing overhead lines (other than catenary) if required, and the relationship of the proposed construction to existing facilities. This profile drawing shall be drawn to a vertical scale 1" = 20' and a horizontal scale of 1" = 100'.
- C. The next plan sheets shall be wiring plan drawings indicating all existing and new information pertaining to the catenary system, its supporting structures and ancillary conductors. These wiring plan drawings shall be drawn to a scale 1" = 20', 1"=30' or 1"=40' (depending upon project size).
- D. The next plan sheets shall be the catenary profile drawings indicating the new and/or modifications to existing catenary wires and (if required) the relationship of the proposed construction to existing facilities. These profile drawings shall be drawn to a vertical scale 1" = 4' and a horizontal scale of 1" = 40'.
- E. The next group of design drawings shall present erection diagrams for all new permanent and temporary structures and existing modified structures. Erection diagrams shall be drawn to a scale of 1" = 10, and shall be accompanied by a structure loading diagram (on the same drawing) drawn to a scale of 1" = 20, indicating all design loads (vertical, wind, side pull) applied to the structure. Erection diagrams shall also be presented to indicate the total or partial removal of existing structures and steps that may be required to accomplish the removal. Each erection diagram sheet shall contain a bill of material listing assembled items required per structure such as poles, crossbeams, sag braces, cross arms, insulator assemblies, guy anchors and foundation types. All listed items shall be marked and the drawings showing those details shall also be listed. Modified structures must have erection diagrams that have all of the information from the original document transposed onto them. These drawings will supercede the original drawings. The drawings must be drawn so that existing and new material can be differentiated.

- F. Erection diagram sheets shall be followed by:
- 1) Structural steel design detail drawings.
 - 2) Foundation and guy anchor design detail drawings.
 - 3) Hardware and insulator assembly details which shall have bills of material identifying the various assembly components, including the manufacturers' name, and Amtrak AMMS number.
 - 4) Wire sags and tension charts, as required.
 - 5) Miscellaneous details as required.
 - 6) Underground duct relocation plan, profile and detail drawings if required.
 - 7) Electrical design drawings.
 - 8) Master Bill of Material indicating mark number, Amtrak reference drawing number, AMMS number, description, manufacturer, unit of measurement, and ordering totals of the material being used.
- G. On overhead bridge projects, drawings shall be prepared in accordance with Amtrak standard drawings ET1120-C, ET-1446-D, and ET-1447-D. These drawings shall indicate the temporary and permanent bonding and grounding of the bridge and shall contain a plan of the bridge crossing and all necessary details, clearances and elevations required to clearly show all of the work involved. Warning signs shall also be indicated and shall conform to current Amtrak standards as to location, size, and type used. An itemized bill of material (including Amtrak AMMS number) shall be included for all Railroad work.
- H. Existing Amtrak structure bonding and ground plans, sectionalizing plans, and other related drawings shall be revised (where applicable) to indicate modifications and submitted in accordance with Section II of this specification.
- I. Final structural and catenary drawings shall be accompanied by a suggested construction procedure outlining a step-by-step sequence to be followed to accomplish the project. This suggested procedure will be prepared to minimize electrical outages, track occupations, and interruptions to Railroad traffic and to maintain the safety of the workmen and the integrity of the transmission, catenary and signal systems during the proposed construction. All construction activities related to the project shall be integrated into the sequence of construction.
- J. Unless otherwise directed, plan submissions prior to the final plan submittal shall consist of (1) CD ROM containing all pertinent design documents in PDF file format. All submittals are to be sent to the Director – ET Design.
- K. Unless otherwise directed, after final plans are accepted and released for construction and material purchase, submit five (5) half-size sets of plans and (1) CD ROM containing all drawings in AutoCAD format. Submit material list and specifications, in their original file formats. Submittals shall be sent to the Director – ET Design.

IV. STRUCTURAL DESIGN CRITERIA

- A. All structural design shall be in accordance with the current Amtrak specifications for the Design of Catenary Supporting Structures with the following amendments:
- 1) Current AISC specifications shall be used for the design fabrication and the erection of structural steel, except that allowable stresses shall not be increased one-third above stress values given in specifications when produced by wind loading unless specifically approved by Amtrak.
 - 2) Current ACI Building Code Requirements for Reinforced Concrete shall be used for the design and construction of reinforced concrete structural elements of any structure.
 - 3) Soil boring information including location of borings shall be provided on the design drawings, preferably on the foundation drawings if possible. A soil boring shall be taken at each new foundation location of any modified or proposed new structure. When the number of foundations makes it impracticable to provide a boring for every foundation, a proposed boring plan must be submitted to the Engineer for approval. Foundations shall be designed in accordance with allowable soil bearing values of materials encountered.
 - 4) All design drawings shall be done under the supervision of a Professional Engineer, registered in the state where the work will be performed, who shall seal drawings submitted for final approval.
- B. The Consultant is advised that the following criteria is to be included in the design and construction of all permanent and temporary facilities adjacent to Amtrak tracks:
- 1) On electrification projects involving modifications to existing facilities, a minimum of 12'-0" (plus curvature allowance) is to be maintained from centerline of track to face any new pole or guy strand.
 - 2) On new electrification extensions or independent pole transmission lines a clearance of 18'-0" from centerline of track to face of pole or guy is required.
 - 3) New anchors and foundations shall be located and designed so that any temporary sheeting required for their construction will not be closer than toe of slope shown for standard track section (7'-5" is dimension from gage of rail to toe of ballast slope for tangent track; see dimension on Standard Plan No. 70003B for dimensions on curved track).
- Note: Minimum clearances less than those stated above must be approved by the Chief Engineer ET of Amtrak.**
- 4) Exploratory trenches (3) three feet deep and fifteen (15) inches wide in the form of an "H" with outside dimensions matching the outside sheeting dimensions, are to be hand dug to determine the presence of any underground installation. The design drawings shall show an outline of the exploratory trenches. All work must be done in accordance with Amtrak requirements for temporary sheeting and shoring to support Amtrak's facilities.

- 5) The following should be included in the general notes on all drawings for temporary sheeting, shoring and excavation to be performed adjacent to Amtrak's tracks:
 - a) The Contractor (if applicable) is to provide a schedule of each operation and obtain approval of Amtrak so that it may be properly supervised by Amtrak personnel.
 - b) Exploratory trenches are to be hand dug to determine the presence of any underground installation. Before proceeding, these trenches are to be back filled and immediately compacted. This work must be done in the presence of a railroad inspector.
 - c) Absolute use of track is required while driving sheeting adjacent to running track.
 - d) Cavities created by driving of sheet piling shall be filled with sand and any disturbed ballast should be restored and tamped immediately.
 - e) Sheet piling shall be cut off at top of tie during construction and then, after construction, shall be cut off eighteen (18) inches below existing ground line or grade and left in place.
 - f) The excavation should be covered and ramped each night and barricades and warning lights provided as directed by Amtrak.
 - g) Final back filling shall be as required by specifications.
 - h) When support of track or tracks is necessary during construction of above-mentioned facilities, interlocking steel sheeting adequately braced and designed to carry E-80 live load plus 50% impact is required. Soldier piles and lagging will be permitted for supporting adjacent track or tracks only when required penetration of steel sheet piling cannot be obtained or when in the opinion of the Engineer, steel sheet piling would be impracticable to place.
- 6) All drawings for temporary sheeting and shoring shall be prepared and stamped by a Professional Engineer and shall be accompanied by complete design computations when submitted for approval. The need for a Consultant to include details of temporary sheeting on design drawings will be determined when reviewing drawings submitted to Amtrak for structural approval.
- 7) Particular care shall be taken to avoid erosion or filling of Railroad's drainage facilities. Erosion and sediment control in the vicinity of the Railroad shall be as approved by the Engineer and the Railroad. Disrupted Railroad drainage facilities shall be corrected promptly as directed by the Engineer at the Contractor's sole expense.

V. ELECTRICAL DESIGN CRITERIA

- A. Electrical Clearances shall be in accordance with applicable, current Amtrak and AREMA specifications. Any deviation from the established Railroad standards must be approved by Amtrak. Vertical clearances between overhead electrical transmission lines and roadways must also meet state and local municipal requirements.
- B. The catenary gradient should be designed not to exceed the value $1/(5 \times \text{Speed})$ where practicable. As an alternate the catenary gradients specified in Chapter 33 of the AREMA Manual may be considered.

VI. CONSTRUCTION RELATED SERVICES

- A. The A/E shall provide a qualified on-site (E.T.) inspector for the duration of the construction of the project. The E.T. inspector shall be responsible for the following:
 - 1) Responding to Contractor's requests for information (R.F.I.'s).
 - 2) Evaluating Contractor's submittals.
 - 3) Reviewing shop drawings, calculations, and technical requirements.
 - 4) Preparing as-built drawings.
 - 5) Providing technical assistance during construction, testing and turnover.
 - 6) Attending project meetings.
 - 7) Participating in on-site inspections.
 - 8) Preparing revised design documents to clarify or modify drawings during construction.
 - 9) Assisting with preparation and resolution of punch list items.
 - 10) Other Construction Related Services as required.

The Inspector shall keep the Director E.T. Design or his representative apprised of all transactions related to the above Construction Related Services.

VII. RECORD TRACINGS

- A. Upon completion of the construction, the Consultant shall provide Amtrak with "as-built" or record drawings. This work will include the following.
- 1) Revisions to existing Amtrak tracings as required. These tracings include, but are not limited to, erection diagrams, overhead bridge drawings, track maps, bonding and grounding plans, catenary sectionalizing plans, impedance diagrams, and transmission profiles.
 - 2) Four (4) mil Mylar tracings shall be prepared for all new permanent facilities such as catenary structures at overhead bridges. These drawings shall be prepared on appropriate standard Amtrak tracings – four (4) mil Mylar. Permanent drawing numbers shall be obtained from Amtrak.
 - 3) One (1) CD ROM containing all electronic documents (except plans) in their original file format. Plans shall be submitted in AutoCAD format.
 - 4) Unless otherwise directed, final “as-built” documents are to be sent to the following address:

R. G. Verrelle

Director ET Design & Standards

National Railroad Passenger Corporation

30th Street Station, 4th Floor South Tower- Box 41

Philadelphia, Pa 19104

VIII. APPROVALS

_____ 12/5/07
R. G. Verrelle Jr. DATE
Director E.T. Design and Standards


R. J. Verhelle
Deputy Chief Engineer Electric Traction

2/10/06
DATE

CATENARY STRUCTURE LOADING, DESIGN CRITERIA, AND STANDARDS FOR USE ON THE NORTHEAST CORRIDOR AND KEYSTONE BRANCH

National Railroad Passenger Corporation



Purpose:

This document outlines the requirements for the structural design of railroad catenary structures. The intent of the information contained herein is to provide general guidelines for the uniform and consistent design of these structures where practicable.

Contact:

For more information regarding this document, please contact:
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Effective Date: September 17, 2007



Revision Record

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SECTION 1 – GENERAL

A. INTRODUCTION AND SCOPE

1. This chapter prescribes criteria for the design and detailing of railroad catenary (support) structures. The design and construction of new and replacement catenary structures as well as the analysis and modification of existing structures for new loads or loading conditions shall conform to the minimum design requirements specified here-in.
2. Exemptions or exceptions to any provisions contained in this document must be authorized by Amtrak's Director of ET Design & Standards.
3. The basis for design of railroad catenary support structures shall be in accordance with AREMA Manual for Railway Engineering Chapter 33 Part 4, the National Electric Safety Code, Amtrak's AED-1, and as modified here-in.
4. Structures shall be detailed to accept Amtrak's standard catenary hardware.
5. All structures shall be grounded per NESC and NEC code requirements.

B. DESIGN CODES AND REFERENCES *(latest editions)*

- | | | |
|-----|----------|---|
| 1. | AREMA | Manual of Railway Engineering, Chapter 33 |
| 2. | AISC 310 | Hollow Structural Sections Connections Manual |
| 3. | AISC 325 | Steel Construction Manual– 13 th Edition |
| 4. | AISC 326 | Detailing for Steel Construction – 2 nd Edition |
| 5. | AISC 348 | Specification for Structural Joints Using ASTM A325 or A490 Bolts |
| 6. | NEC | National Electric Code |
| 7. | NESC | National Electric Safety Code |
| 8. | IBC | International Building Code |
| 9. | ACI 318 | Building Code Requirement for Structural Concrete |
| 10. | ASCE 7 | Minimum Design Loads for Buildings and Other Structures |
| 11. | AWS D1.1 | American Welding Society: Structural Welding Code – Steel |

END OF SECTION



SECTION 2 – LOADING REQUIREMENTS

A. BASIC LOADS

1. The basic loads applied to new catenary structures shall be in accordance with AREMA Chapter 33 Part 4, Amtrak's AED-1, and as modified by this document. The loads include:
 - (a) Dead weight of wires, wire supports, and supporting structure
 - (b) Curve pull forces and dead end loads
 - (c) Ice loads on the wires only
 - (d) Wind loads on the wires and structure
 - (e) Wire break loads
 - (f) Live loads (from cat walks, ladders, etc - refer to ASCE 7)
 - (g) Other loads as may be specific to the location and structure
2. Unless otherwise specified to be greater, an importance factor (I) of 1.0 shall be used for determining wind pressure on structures and supported facilities per NESC Section 25. Wind loading shall be in accordance with the provisions and requirements stated in the NESC.
3. Five (5) load conditions shall be reviewed:
 - (a) Icing Condition (Or NESC Rule 250 B)
 - Temperature = 0°F
 - 40 mph wind
 - ½ inch radial ice on all wires
 - Maximum lateral pole deflection at contact wire height = 6 inches*
 - (b) Design Condition (Or NESC Rule 250 C)
 - Temperature = 60°F
 - 90 mph wind
 - All structures and their supported facilities shall be designed to withstand the Basic Wind Speed in accordance with ASCE/SEI 7, *Minimum Design Loads for Buildings and Other Structures*, Chapter 6.0 and the National Electric Safety Code, Section 25. Based upon ASCE 7-02, Figures 6-1 and 6-1c, the basic wind speed (3 second gust) for the majority of Amtrak's Northeast Corridor is 90 mph.
 - (c) Operating Condition
 - Temperature = 60°F
 - 60 mph wind
 - Maximum lateral pole deflection at contact wire height = 4 inches*



- This combination is not used to compute member stresses, rather to compute lateral catenary support and wire deflections for the interface with the vehicle/pantograph system.

(d) Wire Break Condition

- Portal structures shall be designed to resist the unbalanced forces in the direction of the line resulting from broken wires. Two such wire break loads of not less than 1,000 pounds each shall be assumed as acting on any pole carrying transmission or signal wires or one wire break load of not less than 2,000 pounds shall be assumed as acting at any catenary attachment point to a steel member of a supporting structure. Both conditions shall be checked individually.
- Wire break loadings need not be considered as acting in conjunction with longitudinal wind forces.
- Special provisions for Cantilever Catenary Structures: Arms and arm/column connections need not be designed to resist wire break conditions. However, columns shall be designed to resist wire break loads applied to the section at the messenger wire height. Large deflection and non-elastic deformation to the arm is to be expected, however, overall structural failure shall be prohibited.

(e) Construction Condition

- The wind pressures calculated under the "Design" load case (b) shall be applied to the entire structure and supporting facilities without ice or wire wind loads. Any support or restraint provided by a wire must subsequently be removed.

**Deflection limitations stated pertain to lateral deflections at contact wire supports as it relates to pantograph registration. Overall structural deflections shall follow the recommendations and limitations stated in AISC.*

4. When modifying an existing structure the design criteria applicable to the period when the structure was originally designed may be used in lieu of requirements outlined in Part 2, Section 3.

B. WIRE DEAD LOADS

1. For the purposes of structure design, wire size and weights noted in Table 2.B-1 (following page) shall be assumed as a minimum unless larger wire sizes or heavier loads are required.



**Table 2.B-1
Wire Sizes and Weights**

Wire	Size	Material	Nominal Diameter (in)	Dead Load Wt lbs/linear foot	
				Bare @ 60°F	½" ice @ 0°F
				Messenger	5/8" 5/8" 7/16" 300 MCM
Trolley	4/0 336.4 MCM 300 MCM	solid bronze bronze silver copper	0.482 0.680 0.574	0.642 1.02 0.908	1.260 1.690 1.575
Auxiliary	4/0	Copper	0.482	0.642	1.260
Hangers – clips 2 wire systems 3 wire systems				0.120 0.080	0.120 0.080
Catenary Feeders	300 MCM 400 MCM 636 MCM 750 MCM 1000 MCM	copper copper ACSR copper copper	0.714 0.728 0.990 0.998 1.152	0.945 1.235 0.874 2.316 3.088	1.70 1.985 1.80 3.25 4.12
Transmission	250 MCM 250 MCM 250 MCM 250 MCM 4/0 477 MCM	copper hollow core (Type A) copper hollow core (Type NH) copper hollow core, hollow tube copper spiral I beam 7 strand copper ACSR (26/7 "Hawk")	0.731 0.818 0.731 0.731 0.522 0.858	0.783 0.803 0.844 0.803 0.653 0.656	1.55 1.62 1.61 1.57 1.29 1.50
Signal Power	1/0	7 strand copper	0.368	0.326	0.866
Static	336.4 MCM 4/0 9/16"	ACSR 7 strand copper Copperweld	0.563 0.522 0.572	0.291 0.653 0.700	0.952 1.29 1.35



C. WIND PRESSURES ON WIRES AND STRUCTURES

1. Basic wind loading equation:

- (a) Wind Pressure (lbs/ft²) = 0.00256*(V²)*(k_z)*(G_{RF})*(I)
- (b) V = Basic Wind Speed for a 3s Wind Gust
- (c) k_z = Velocity Pressure Exposure Coefficient (See Table 2.C-1)
- (d) G_{RF} = Gust Response Factor (See Table 2.C-2)
- (e) I = Importance Factor (1.0)

Table 2.C-1 Velocity Pressure Exposure Coefficient, k _z		
Height(ft)	k _z (Structure)	k _z (Wire)
≤ 33	0.90	1.00
33 to 50	1.00	1.10
50 to 80	1.10	1.20
80 to 115	1.20	1.30
115 to 165	1.30	1.40
165 to 250	1.40	1.50
>250	Use Formulas	Use Formulas

Formulas:

Structure: $k_z = 2.01 \times (0.67 \times h/900)^{(2/9.5)}$
Wire: $k_z = 2.01 \times (h/900)^{(2/9.5)}$

Note: Minimum Value for k_z is 0.85

Table 2.C-2 Gust Response Factor, G _{RF}					
Height	Structure	Wire G _{RF} , Span Length, L (ft)			
h (ft)	G _{RF}	≤ 250	250<L<500	500<L<750	500<L<750
≤ 33	1.02	0.93	0.86	0.79	0.75
33 to 50	0.97	0.88	0.82	0.76	0.72
50 to 80	0.93	0.86	0.80	0.75	0.71
80 to 115	0.89	0.83	0.78	0.73	0.70
115 to 165	0.86	0.82	0.77	0.72	0.69
165 to 250	0.83	0.80	0.75	0.71	0.68
>250	(1)	(1)	(1)	(1)	(1)

Note (1): Use applicable formulae provided in NESIC.

D. LOAD COMBINATIONS AND FACTORS

- 1. Load combinations shall be generated to meet the five (5) load conditions outlined in Section 2.A.3. Load factors need not be applied when using ASD allowable factors (see Section 3.A.1).
- 2. The general load combinations shall be as noted in Table 2.D-1 (following page). Other load combinations may be required by Amtrak for special structures.



Table 2.D-1 Load Combinations		
Load Case	Combination	Description
1A	0 degree F, 1/2" Ice, 40mph Wind Perpendicular to Tracks	Structure DL + Wire DL with 1/2" Ice + Curve Pull @ 0 deg. + Dead-end @ 0 deg. +/- 40mph wind perpendicular to tracks
1B	0 degree F, 1/2" Ice, 40mph Wind Parallel to Tracks	Structure DL + Wire DL with 1/2" Ice + Curve Pull @ 0 deg. + Dead-end @ 0 deg. + 40mph wind parallel to tracks
2A	60 degrees F, Bare Wire, 90mph Wind Perpendicular to Tracks	Structure DL + Bare Wire DL + Curve Pull @ 60 deg. + Dead-end @ 60 deg. +/- 90mph wind perpendicular to tracks
2B	60 degrees F, Bare Wire, 90mph Wind Parallel to Tracks	Structure DL + Bare Wire DL + Curve Pull @ 60 deg. + Dead-end @ 60 deg. +/- 90mph wind parallel to tracks
3A	60 degrees F, Bare Wire, 60mph Wind Perpendicular to Tracks (for deflection only)	Structure DL + Bare Wire DL + Curve Pull @ 60 deg. + Dead-end @ 60 deg. +/- 60mph wind perpendicular to tracks
3B	60 degrees F, Bare Wire, 60mph Wind Parallel to Tracks (for deflection only)	Structure DL + Bare Wire DL + Curve Pull @ 60 deg. + Dead-end @ 60 deg. + 60mph wind parallel to tracks
4A	0 degree F, 40mph Wind Perpendicular to Tracks, wire break	Structure DL + Wire DL + Curve Pull @ 0 deg. + Dead-end @ 0 deg. +/- 40mph wind perpendicular to tracks + 2000 pound wire break load on the beam at a catenary support that generates the worst case stresses
4B	60 degrees F, Bare Wire, 90mph Wind Perpendicular to Tracks, wire break	Structure DL + Bare Wire DL + Curve Pull @ 60 deg. + Dead-end @ 60 deg. +/- 90mph wind perpendicular to tracks + 2000 pound wire break load on the beam at a catenary support that generates the worst case stresses
4C	0 degree F, 40mph Wind Perpendicular to Tracks, wire break	Structure DL + Wire DL + Curve Pull @ 0 deg. + Dead-end @ 0 deg. +/- 40mph wind perpendicular to tracks + (2) 1000 pound wire break loads on the pole at a height to generate the worst case stresses (but must be where one of the crossarms are located)



4D	60 degree F, 90mph Wind Perpendicular to Tracks, wire break	Structure DL + Wire DL + Curve Pull @ 60 deg. + Dead-end @ 60 deg. +/- 90mph wind perpendicular to tracks + (2) 1000 pound wire break loads on the pole at a height to generate the worst case stresses (but must be where one of the crossarms are located)
5A	60 degrees F, No Support, 90mph Wind Perpendicular to Tracks	Structure DL +/- 90mph wind perpendicular to tracks (no wire support)
5B	60 degrees F, No Support, 90mph Wind Parallel to Tracks	Structure DL +/- 90mph wind parallel to tracks (no wire support)

- Based upon the requirements of AREMA, load factors (overload) shall be applied for steel design as noted in Table 2.D-2.

Table 2.D-2 Load Factors (Overload for LRFD design)	
Overload Factor	Description
1.5	Dead Load Structure including supports, signals, etc
1.5	Dead Load wires
1.0	Ice load on wires (1/2" radial)
1.65	Transverse Force due to bearing change of wires
1.65	Dead End Force
2.5	Transverse wind load on structure
1.1	Longitudinal wind load on structure
2.5	Transverse wind load on wires
1.0	Force created by wire breaking
1.6	Live Load (person on fixed ladder or platform)

- Based upon the requirements of AREMA, wind loading shape factors C, shall be applied for steel design as noted in Table 2.D-3 (following page).



Table 2.D-3 Shape Factors, C	
Factor C	Description
1.0	Wires
0.8	Cylindrical Sections
1.2	H Sections
1.8	Lattice Structures
1.4	Flat Surfaces

5. Based upon the requirements of AREMA, wind loading exposure factors, E shall be applied for steel design as noted in Table 2.D-4.

Table 2.D-4 Exposure Factors, E	
Factor E	Description
1.25	Operating Load Condition Factor (Flat exposed areas, high embankments, viaducts)
1.5	Design Load Condition Factor (Flat exposed areas, high embankments, viaducts)
0.8*	Design & Operating Condition Factor (Sheltered areas, deep cuts, deep forests)

* *Transverse (perpendicular to tracks) wind loads only*

6. Where the combination of vertical, transverse, or longitudinal loads may act simultaneously, the structure shall be designed to withstand the simultaneous application of these loads.

END OF SECTION



SECTION 3 – STRUCTURAL DESIGN REQUIREMENTS

A. GENERAL REQUIREMENTS

1. Structural steel analysis and design shall be per AISC Manual of Steel Construction, 13th edition (or latest). Either ASD or LRFD may be used.
 - (a) If ASD is used, use ASD allowable limits with no overload factors.
 - (b) If LRFD is used, use AREMA/NESC overload factors and AISC LRFD reductions.
2. Structural members shall be designed with consideration for additional future loading. Excess capacity to allow for such loading shall be determined using good engineering judgment.
3. Design modifications to existing structures shall be conducted using the original loading criteria. The allowable stresses shall not be greater than the design criteria in place at the time of the original design and construction. All structural members shall be designed with consideration for additional future loading based on good engineering judgment.
4. Allowable stresses shall not be increased one-third above stress values given in specifications when produced by wind loading unless it is approved by Amtrak's Director of ET Design and Standards
5. Structural Erection Diagrams (SED's) shall include a loading diagram. Loading diagrams should show Icing (0 degree, 40mph wind, 1/2" ice) condition along with reactions at foundation(s) and down guy(s) for both loading conditions.
6. Static wires which are permanently attached to the top of the column section are permitted (when required) to be considered a support in the longitudinal direction of the structure. The static wire shall not provide any structural support in the transverse direction.

B. BASIC DESIGN VALUES

1. Design values (taken from AISC) for structural steel design shall be used as shown in Table 3.B-1 (following page).



Table 3.B-1					
Basic Steel Design Values					
Condition		ASD	LRFD	Related Info.	
Tension		$0.6F_y A_g \leq 0.5F_u A_e$	$0.9F_y A_g \leq 0.75F_u A_e$	<i>For A_e, see LRFD Equation D3-1</i>	
Bending	Strong Axis	$L_b \leq L_p$	$0.66F_y S_x$	$0.99F_y S_x$	See Note 1. $L_p = 300r_y / (F_y)^{1/2}$ L_r and strengths when $L_b > L_r$ are given in the AISC Manual
		$L_p < L_b \leq L_r$	<i>Use linear interpolation between L_p & L_r</i>		
		$L_b = L_r$	$0.42F_y S_x$	$0.63F_y S_x$	
	Weak Axis		$0.9F_y S_y$	$1.35F_y S_y$	
Shear (strong axis)		$0.4F_y A_w$	$0.6F_y A_w$	See Note 2.	
Compression		$Kl / r \leq 800 / \sqrt{F_y}$	$0.6F_y A_g \times 0.658^P$	$0.9F_y A_g \times 0.658^P$	$P = F_y (Kl/r)^2 / 286,000$ See Note 3.
		$Kl / r > 800 / \sqrt{F_y}$	$150,000A_g / (Kl/r)^2$	$226,000A_g / (Kl/r)^2$	

Notes:

1. Multiply equations given for $L_b \leq L_p$ by value in parentheses for W14x90 (0.97), W12x65 (0.98), and W6x15 (0.95).
 2. Multiply equations given by 0.9 for W44x230, W40x149, W36x135, W33x118, W30x90, W24x55, W16x26, W12x14 and all C and MC-shapes. In weak axis, equations given can be adapted by using $A_w = 1.8bt_f$
 3. Not applicable to slender shapes. For slender shapes, use QF_y in place of F_y , where $Q = Q_s Q_a$ from Section E7. For C- and MC-shapes, also check Section E4.
2. Design equations (taken from AISC) for structural steel in combined bending and compression shall be used as shown in Table 3.B-2.

Table 3.B-2			
Combined Bending and Compression Stress Design Values			
Condition		Equations	Related Info.
LRFD	$P_u / \Phi_C P_n \geq 0.20$	$(P_u / \Phi_C P_n) + \{(8/9)(M_{u,x} / \Phi_b M_{n,x} + M_{u,y} / \Phi_b M_{n,y})\} \leq 1.0$	See LRFD H1-1a
	$P_u / \Phi_C P_n < 0.20$	$(P_u / 2\Phi_C P_n) + (M_{u,x} / \Phi_b M_{n,x} + M_{u,y} / \Phi_b M_{n,y}) \leq 1.0$	See LRFD H1-1b
ASD	$f_a / F_a > 0.15$	$(f_a / F_a) + \{(C_{mx} f_{bx}) / [(1 - f_a / F_{ex})(F_{bx})] + (C_{my} f_{by}) / [(1 - f_a / F_{ey})]\} \leq 1.0$	See ASD H1-1
		$(f_a / 0.6F_y) + (f_{bx} / F_{bx}) + (f_{by} / F_{by}) \leq 1.0$	See ASD H1-2
	$f_a / F_a \leq 0.15$	$(f_a / F_a) + (f_{bx} / F_{bx}) + (f_{by} / F_{by}) \leq 1.0$	See ASD H1-3



2. Design values for connection design (Values taken from AISC) shall be used as shown in Table 3.B-3.

Table 3.B-3 Basic Connection Design Values				
Condition		ASD	LRFD	Related Info.
Bolts	Tension	$0.38F_uA_b$	$0.56F_uA_b$	---
	Shear (N bolts, per shear plane)	$0.2F_uA_b$	$0.3F_uA_b$	Mult. by 1.25 for X bolts
	Slip Resistance (Class A, STD holes)	$0.14F_uA_b$	$0.21F_uA_b$	Per slip plane (see Note 1)
	Bearing	$0.6F_uL_c t \leq 1.2F_u d_b t$	$0.9F_uL_c t \leq 1.8 F_u d_b t$	See Note 2.
Welds	Shear (all welds except CJP)	$0.3F_{EXX}A_w$	$0.45F_{EXX}A_w$	See Note 3.
	PJP Groove Welds	Tension	$0.32F_{EXX}A_w$	See AISC Section J2.1a.
		Compression	$0.48F_{EXX}A_w \leq 0.6F_y A_{BM}$	$0.72F_{EXX}A_w \leq 0.9F_y A_{BM}$
CJP Groove Welds	Strength equal to base metal		---	
Connected Parts	Tension	$0.6F_y A_g \leq 0.5F_u A_e$	$0.9F_y A_g \leq 0.75F_u A_e$	For A_e , see LRFD Equation D3-1
	Shear	$0.4F_y A_g \leq 0.3F_u A_n$	$0.6F_y A_g \leq 0.45F_u A_n$	---
	Block Shear	$0.3F_y A_{nv} + 0.5U_{bs} F_u A_{nt}$	$0.45F_y A_{nv} + 0.75U_{bs} F_u A_{nt}$	See Note 4.
	Compression	$Kl/r \leq 25$	$0.6F_y A$	$0.9F_y A$
$Kl/r > 25$		Same as for W-shapes with $A_g = A$.		

Notes:

- Slip checked as a serviceability limit state using ASD load combinations for ASD, LRFD load combinations for LRFD. For Class B surfaces, multiply by 1.43. For OVS or SSL holes, multiply by 0.85. For LSL holes, multiply by 0.7.
- For LSL holes parallel to the direction of load, multiply by 0.83.
- For fillet welds, multiply by 1.5 for transverse loading (90-degree load angle). For other load angles, see Section J2 of AISC Manual of Steel Construction.
- For calculation purposes, $F_u A_{nv}$ cannot exceed $F_y A_{gv}$. $U_{bs} = 1$ for a uniform tension stress; 0.5 for non-uniform tension stress.

C. STANDARD COMPONENTS

- Columns
 - Columns shall be made from standard wide-flange or HSS sections.
 - Built-up wide-flange sections with the use of angles can be used in overbuild design cases to strengthen weak-axis bending (improving the L/r_y ratio) due to longitudinal wind loading. They can also be used in cantilever structure cases to strengthen regions where the in-plane wind loads create excessive torsion forces



in the member. Built-up sections shall be limited to the regions of the structure where the previously mentioned design cases dictate they be used.

- (c) Pole steps shall be provided 20'-0" above top of foundation and shall be spaced 1'-3" apart to the top of the column.
- (d) The columns shall be designed with a full moment base plate or direct embedment in a reinforced drilled concrete pier.

2. Catenary Beams

- (a) Catenary cross beam members used in portal frame structures shall be made from standard wide flange sections or HSS sections.
- (b) Cantilever arms shall be made from either WT sections or back to back angle sections.
- (c) Sag braces and struts shall be used where required and should be made of back to back angles.
- (d) Beams shall be shop cambered to negate the effects deflection due to self weight.

3. Signal Bridges

- (a) Signal bridges shall consist of box-girder sections with a non-skid surface provided as the top plate.
- (b) Handrails, ladders, and fall protection shall be designed and provided per applicable Amtrak and safety standards and codes.

4. Foundations

- (a) Design per ACI 318 and the International Building Code Chapter 18.
- (b) In general, foundations shall be of the drilled pier type (caisson). The use of a permanent steel casing (pipe steel) with a minimum 3/8" skin thickness and a yield strength of 35,000 psi is required for all catenary column foundations. Typical foundations shall be 48" diameter, having a depth ranging from 15'-0" to 30'-0", as required.
- (c) Exploratory trenches are to be hand dug in accordance with the approved construction drawings to determine the presence of any underground installation before proceeding. These trenches are to be backfilled and immediately compacted (See Section IV of Amtrak's AED-1 for more information).
- (d) Locate a 3' deep x 15" wide exploratory trenches on the design drawings. The extent of each trench shall be in the form of an "H" whose outside dimensions match the extent of the outside face of the foundation dimensions.
- (e) The permanent steel casing shall extend from the bottom of the excavated hole to 0'-6" above proposed grade. Temporary forms (Neat Forms preferred) shall



be used which extend from a minimum of 0'-6" below grade to the finished top of concrete. Normally, the top of concrete shall be even with the top of high rail.

- (f) In foundations where solid bedrock is encountered, the use of a reduced pile diameter (rock socket) is permissible. In these conditions the reinforcing steel in the rock socket portion of the pile shall extend into the larger section such that a full tension lap splice occurs. Shear at the socket/caisson interface must be checked.
- (g) Finished concrete shall slope away from the steel with a 1% to 2% slope.
- (h) Pier foundations shall contain reinforcing steel to withstand flexural bending forces created by active earth pressures. Rebar shall be deformed (uncoated) unless directed otherwise.
- (i) Piers shall contain confinement reinforcing. Typically, confinement steel consists of #4 ties with a maximum spacing of 1'-0" below grade, and 0'-6" above grade. Two (2) additional #4 ties shall be placed at the top and bottom of the foundation at a maximum spacing of 4". Continuous hoops (spiraled) cages are preferred. When a continuous hoop is not used, separate hoops shall have extra ties and hoops to ensure ease of placement. Tacks welds are allowed to be used near the outer ends of the cage to assist in the rigidity of the cage, however the designer must consider the effects of embrittlement when using this method.
- (j) For cast-in-place caissons, provide 3" clear cover to all reinforcing bars.
- (k) Pile head deflection and slope shall be considered as it pertains to the overall structure deflection. See Section 2.A.3 for structure deflection limitations.
- (l) In lieu of using foundation software (i.e. L-Pile) to determine the effects of a foundation on an embankment, the depth of foundations shall be increased per AREMA Chapter 33 Section 4.2.8.2.1. The required increase shall also be determined by calculations.
- (l) Ineffective soil depth shall be taken as a minimum of 2'-0" unless soil boring information is provided which shows otherwise.
- (m) Foundation design shall be done using the worst case loading condition (service loads) with a 1.5 safety factor (overturning) for caissons.
- (n) Design of anchor rods shall be in accordance with the ACI-318, Building Code Requirements for Reinforced Concrete (latest edition). The minimum embedment depth for anchor rods is 6'-0".

5. Guy Anchors and Assemblies

- (a) Guy anchors shall be designed using the worst case loading (service loads) with a 1.75 safety factor (sliding and uplift).
- (b) Type A-1, A-2, B-1, B-2, and caisson type guy anchors are preferred.
- (c) All components which come into contact with the earth or concrete shall be galvanized.



- (d) Guy anchors shall be placed in a vertically dug hole which is approximately the same dimensions as the anchor. In typical soil conditions, the minimum anchor embedment depth is 10'-0". In unstable conditions, areas of weak soil, high water tables, and/or areas susceptible to erosion a more detailed analysis must take place to determine the required embedment depth.

6. Cross Arms

- (a) 132-kV Transmission Arms are generally single 4x4x1/2" single steel angles for suspension assemblies and double 4x4x1/2" angles for dead-end assemblies and shall be bolted to the pole. 7/8" diameter steel sag rod shall be provided for all arms and shall be clamped to the pole.
- (b) Signal Power Feeder Arms are generally single 4x4x1/2" single steel angles for suspension assemblies and double 4x4x1/2" angles for dead-end assemblies and shall be clamped to the pole. 7/8" diameter steel sag rod is not required.
- (c) Cross Track Feeder Arms are generally double 4x4x1/2" angles, with struts, clamped to the pole.
- (d) Catenary Power Feeder Arms are generally double 4x4x1/2" angles. 7/8" diameter steel sag rod shall be provided for all arms and shall be clamped to the pole.
- (e) Double dead-ends shall always be provided for long-term flexibility unless directed otherwise.
- (f) All parts shall be galvanized.

7. Overhead Bridges

- (a) Wherever possible catenary connections to overhead bridges should be avoided. If required, they should consist of a 4" diameter galvanized steel pipe clamped by u-bolts to dropper brackets which are welded or bolted to the bridge. Prior approval from Amtrak's Engineering Department must be granted prior to attaching any catenary to an overhead bridge.

8. Miscellaneous Steel

- (a) Ladders for plain poles shall be provided when required. Anti-climb gates shall be provided on all ladders and shall extend fifteen-feet above the top of foundation or grade, whichever is higher.
- (b) Railings shall meet all current safety regulations.

D. MATERIALS

- 1. The steel material requirements of AREMA Chapter 15 Section 1.2 apply to railroad catenary structures as modified here-in. All other steel structures shall comply with AISC requirements except as modified here-in.



2. Fabrication of steel structures shall be in accordance with AISC as modified here-in. Third party fabrication shops shall be AISC certified or have demonstrated experience with the fabrication of catenary structures.
3. Galvanized steel is the preferred material for exposed applications.
4. The recommended steel material specifications are listed in Table 3.D-1.

Table 3.D-1 Steel Material Specifications	
Shape/Item	Material Specification
W- Shapes	ASTM A992 Grade 50 Hot Dip Galvanized
Hollow Structural Shapes	ASTM A500 Grade B Hot Dip Galvanized
Shapes and plates not embedded in concrete	ASTM A36 Hot Dip Galvanized
Shapes and plates embedded in concrete	ASTM A36 Hot Dip Galvanized
Welding Electrodes	E70xx low hydrogen (tensile strength $F_{EXX} = 70$ ksi)
High Strength Bolts	ASTM A325 Type 1 galvanized
Standard Hardened Washers	ASTM F436 Type 1 Hot Dip Galvanized
Heavy Hex Nuts	ASTM A563 Grade DH galvanized
Anchor Bolts or Rods	ASTM A449, Hot Dip Galvanized
Hardware	AISI C-1035 for clevises and turnbuckles. Turnbuckles shall be manufactured per ASTM F1145. AISI C-1030 for eye nuts and steel eye bolts. AISI C-1018 grade 2 for sleeve nuts. Cotter pins shall be stainless steel or bronze. All shall be Hot Dip Galvanized

5. Concrete shall be 4000psi at 28 days with a minimum w/c ratio of 0.45 minimum 5½% air content (if required).
6. Reinforcing steel shall be grade 60.

E. STEEL DESIGN DETAILS

1. Minimum plate thickness and member thickness is $\frac{3}{8}$ inch.
2. Anchor Rods and Base Plates
 - (a) Holes in base plates for anchor rods shall be oversized. Recommended oversize is 5/16" but shall not exceed AISC Code of Standard Practice.
 - (b) Minimum diameter of anchor rods is 1¼ inch. The recommended diameter is 2 inches.
 - (c) Each anchor bolt shall include two heavy hex nuts and a leveling nut.
 - (d) Provide plate washers where oversize holes are provided.



- (e) Welding on anchor rods will only be allowed in the bottom 12 inches.
- (f) The minimum embedment length of anchor rods is 6'-0".
- (g) Anchor rods shall be threaded at the top end a distance sufficient to provide for leveling or raking of the structure
- (h) The minimum thickness of base plates is 1". For cantilever structures, the minimum thickness is 1½". The recommended baseplate thickness is 2".

F. MISCELLANEOUS

1. All steel structures shall be grounded.
2. Galvanized coating thickness for structural members shall not be less than 2.3 oz/sf.
3. Provisions for the attachment of a static wire shall be provided on the top of all columns.
4. The catenary structure number shall be permanently marked on the inbound and outbound faces of all columns at four feet above groundline using reflective paint or signs.
5. Cadwelded grounding is an acceptable alternative to the grounding pad/lug.
6. The location of structures shall not violate the minimum railroad clearance requirements per MW1000.

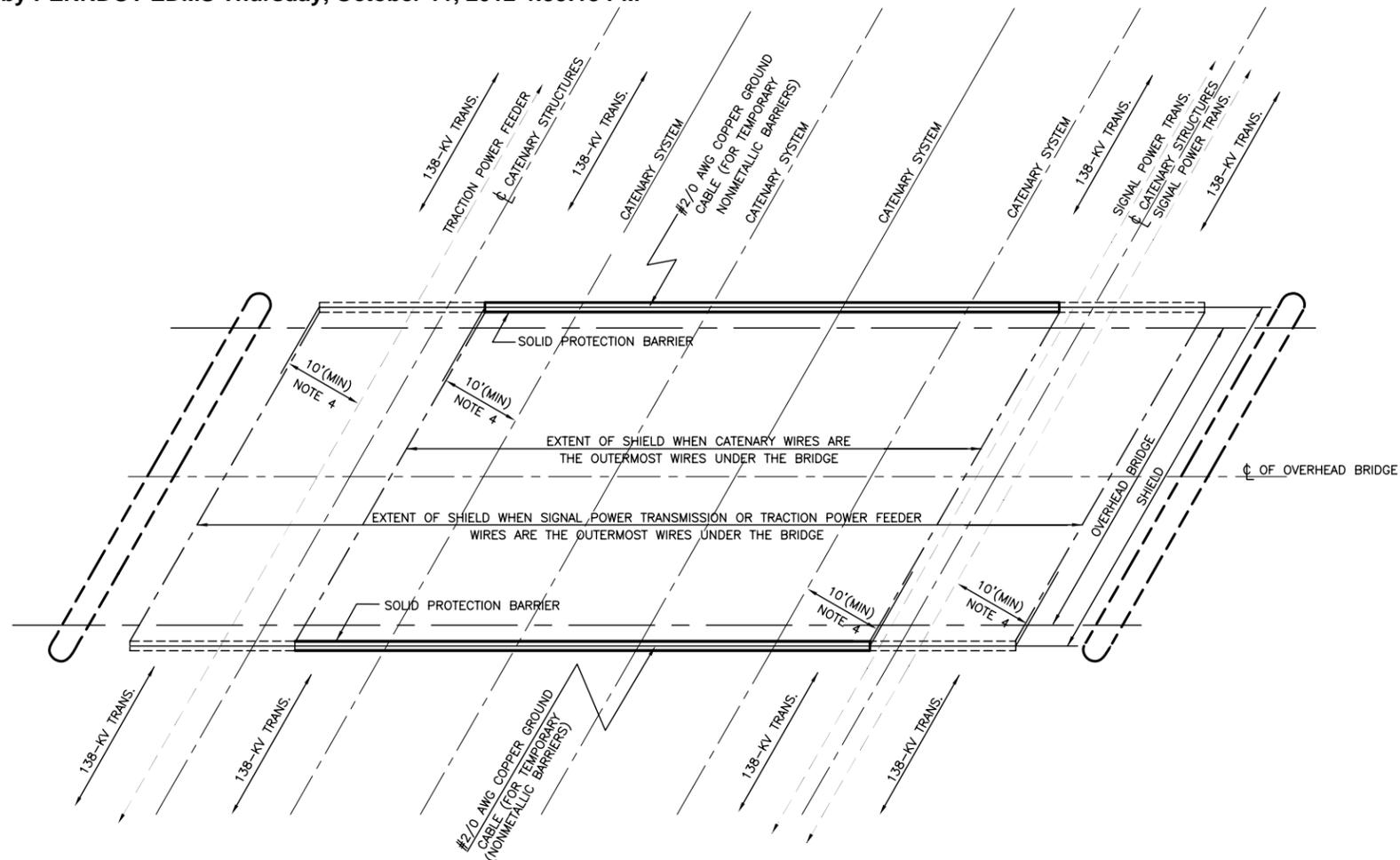
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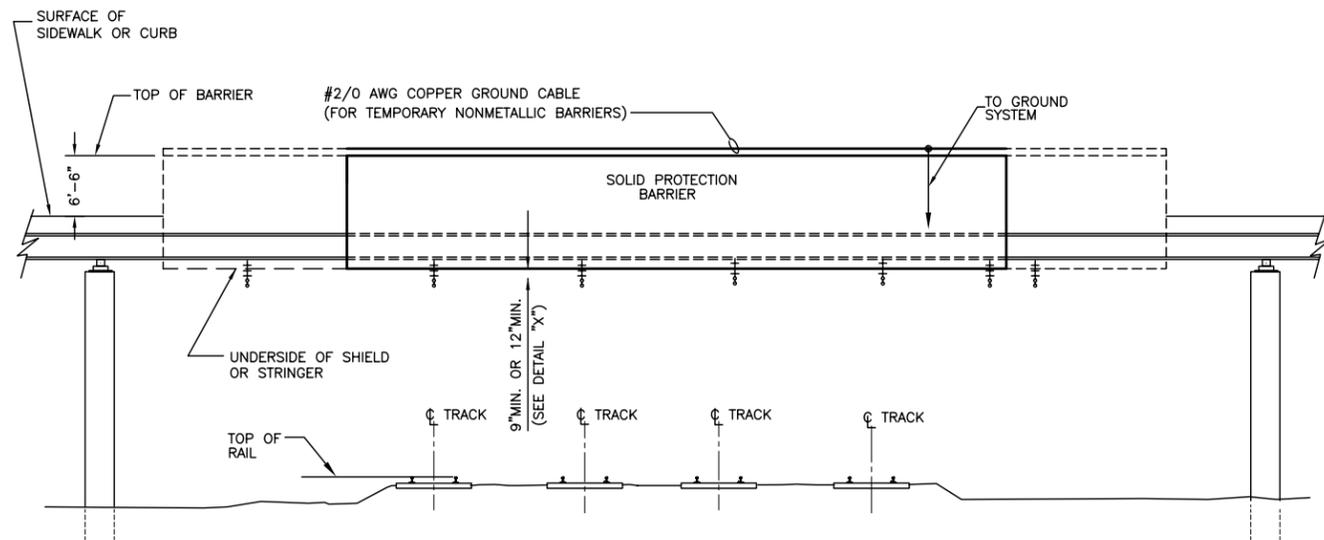
Appendix A

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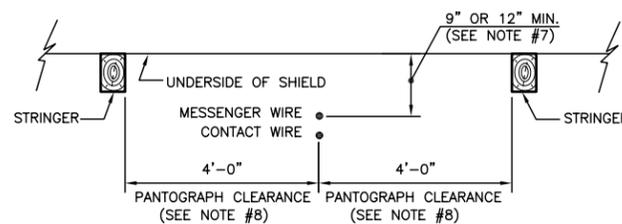
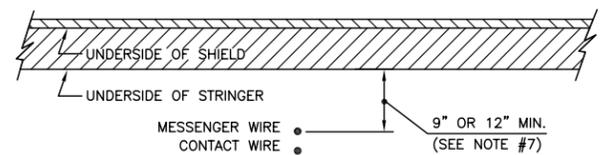
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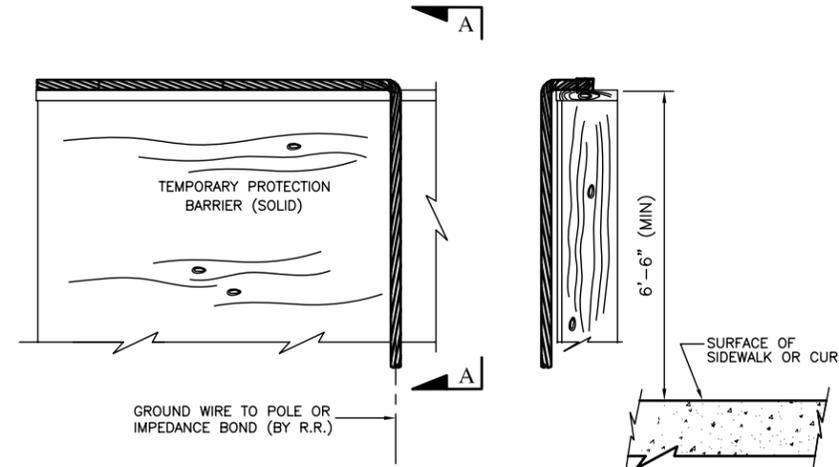
PLAN
SCALE: 1"=10'-0"



ELEVATION
SCALE: 1"=10'-0"



DETAIL "X"
STRINGERS TRANSVERSE TO THE BRIDGE
NO SCALE



DETAIL "Y"
APPLICATION OF GROUND CABLE
TO TEMPORARY PROTECTION BARRIER
NO SCALE

GENERAL NOTES:

- TEMPORARY PROTECTION SHIELDS SHALL BE USED, WITH CERTAIN EXCEPTIONS, DURING DEMOLITION OF EXISTING BRIDGES OR ERECTION OF NEW BRIDGES IN ORDER THAT WORK ON THE BRIDGE STRUCTURE CAN PROCEED OVER THE ELECTRIFICATION FACILITIES WITHOUT REQUIRING DEENERGIZATION OF THE WIRES. ELECTRIFICATION FACILITIES SHALL BE DEENERGIZED DURING THE TIME THE STRUCTURAL FRAME AND THE TEMPORARY PROTECTION SHIELD ARE BEING ERECTED OVER OR NEAR THE WIRES. THE ABOVE WORK SHALL BE DONE UNDER THE DIRECTION OF A QUALIFIED RAILROAD EMPLOYEE.

IN CASES WHERE THERE IS INSUFFICIENT ELECTRICAL CLEARANCE BETWEEN THE WIRES AND THE BRIDGE STRUCTURE FOR ERECTION OF A SHIELD, ALL WORK OVER THE WIRES SHALL BE PERFORMED WITH THE WIRES DEENERGIZED AND UNDER THE PROTECTION OF A QUALIFIED RAILROAD EMPLOYEE.

IN CASES WHERE PRESTRESSED BEAMS ARE USED OR WHERE METALLIC FORMS BECOME A PART OF THE PERMANENT BRIDGE STRUCTURE, ERECTION MAY BE ABLE TO PROCEED WITHOUT A SHIELD, IN WHICH CASE ALL WORK OVER THE WIRES DURING ERECTION SHALL BE DONE WITH THE WIRES DEENERGIZED AND UNDER THE PROTECTION OF A QUALIFIED RAILROAD EMPLOYEE.

THE TEMPORARY BARRIER SHALL BE INSTALLED WHETHER OR NOT A TEMPORARY SHIELD IS USED.
- DETAILS OF ANY PROPOSED SHIELD AND BARRIER SHALL BE SUBMITTED TO THE RAILROAD FOR APPROVAL, AND WORK ON ANY SHIELD OR BARRIER SHALL NOT BE STARTED BEFORE SUCH APPROVAL IS OBTAINED.
- THE TEMPORARY PROTECTION SHIELDS SHALL BE OF SOLID CONSTRUCTION (TONGUE AND GROOVE OR EQUAL) AND SHALL BE PROVIDED WITH A SOLID PROTECTION BARRIER HAVING A MINIMUM HEIGHT OF 6'-6" ABOVE THE SURFACE OF THE SIDEWALK OR CURB OF THE BRIDGE TO PROTECT WORKMEN AGAINST CONTACT WITH RAILROAD WIRES PASSING UNDER THE BRIDGE AND TO PREVENT DAMAGE TO THE WIRES.
- THE TEMPORARY PROTECTION SHIELD AND BARRIER SHALL EXTEND NOT LESS THAN 10 FEET BEYOND THE OUTERMOST RAILROAD WIRE PASSING UNDER THE BRIDGE MEASURED IN A HORIZONTAL PLANE AND NORMAL TO THE WIRE, AND SHALL PREVENT MATERIALS, AND DEBRIS, FROM FALLING ON OR CONTACTING THE WIRES.
- THE PROTECTION SHIELD SHALL BE DESIGNED FOR A MINIMUM LIVE LOAD OF 100 LBS. PER SQUARE FOOT. IF THE SHIELD IS TO SERVE AS A FORM OR IS TO CARRY ANY PART OF THE OVERHEAD STRUCTURE DURING ERECTION, IT SHALL BE DESIGNED FOR THE SUPERIMPOSED LOADS. IF THE SHIELD IS TO BE USED FOR PROTECTION DURING DEMOLITION OF AN OVERHEAD STRUCTURE, IT SHALL BE DESIGNED FOR A MINIMUM LIVE LOAD OF 100 LBS. PER SQUARE FOOT, OR A CONCENTRATED LIVE LOAD AT ANY POINT OF NOT LESS THAN 2,000 POUNDS.
- NONMETALLIC TEMPORARY PROTECTION BARRIERS SHALL BE PROVIDED WITH 2/0 AWG SIZE COPPER GROUND CABLE CONNECTED TO THE RAILROAD GROUND SYSTEM PER DETAIL "Y", THIS DRAWING. METALLIC BARRIERS SHALL BE BONDED AND GROUNDED BY A METHOD AND WITH MATERIALS APPROVED BY THE ELECTRIC TRACTION DEPARTMENT. THE RAILROAD SHALL INSTALL ALL GROUNDING MATERIALS.
- TEMPORARY PROTECTION SHIELDS OF TIMBER CONSTRUCTION SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 12 INCHES TO THE RAILROAD WIRES. THE CORRESPONDING CLEARANCE TO STEEL CONSTRUCTION SHALL BE 9 INCHES.
- WHERE STRINGERS TRANSVERSE TO THE BRIDGE ARE USED, THE MINIMUM HORIZONTAL CLEARANCE BETWEEN STRINGERS AND RAILROAD WIRES SHALL BE 4 FEET AS SHOWN IN DETAIL "X".
- TEMPORARY PROTECTION BARRIERS SHALL REMAIN IN PLACE AT LEAST UNTIL PERMANENT PROTECTION BARRIERS AND GROUNDING ARE COMPLETED.
- WHERE REQUIRED BY LOCAL CONDITIONS, THE ELECTRICAL CLEARANCES SHOWN ON THIS DRAWING MAY BE INCREASED BY THE ELECTRIC TRACTION DEPARTMENT.
- ANY MODIFICATION OF THE ELECTRICAL REQUIREMENTS SHOWN ON THIS DRAWING SHALL BE SUBMITTED TO THE ELECTRIC TRACTION DEPARTMENT FOR APPROVAL.

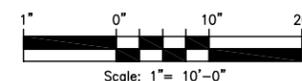
No.	Revisions	Date	By



OFFICE OF
V.P., Chief Engineer
Engineering

National Railroad Passenger Corporation
30TH Street Station-Philadelphia, Pennsylvania 19104

Approved	Date
Chief Engineer Electric Traction - R. J. Verhelle	1/18/00
/S/	
Director Electric Traction Design - M. D. Insogna	1/18/00
/S/	



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E. T. STANDARD
ELECTRIFIED TERRITORY O.H. BRIDGES
TEMPORARY PROTECTION SHIELD & BARRIERS

Designed: DPT Drawn: BJT Checked: MDI Date: 01-13-00

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