Created by PENNDOT EDMS Tuesday, October 16, 2012 12:58:36 PM

Time Now: 30Aug12
Start: 30Aug12
Finish: 06Oct15
Run: 10Jul12

Project:SR0080-540 (5A)
Project Description: SR 0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
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Summary
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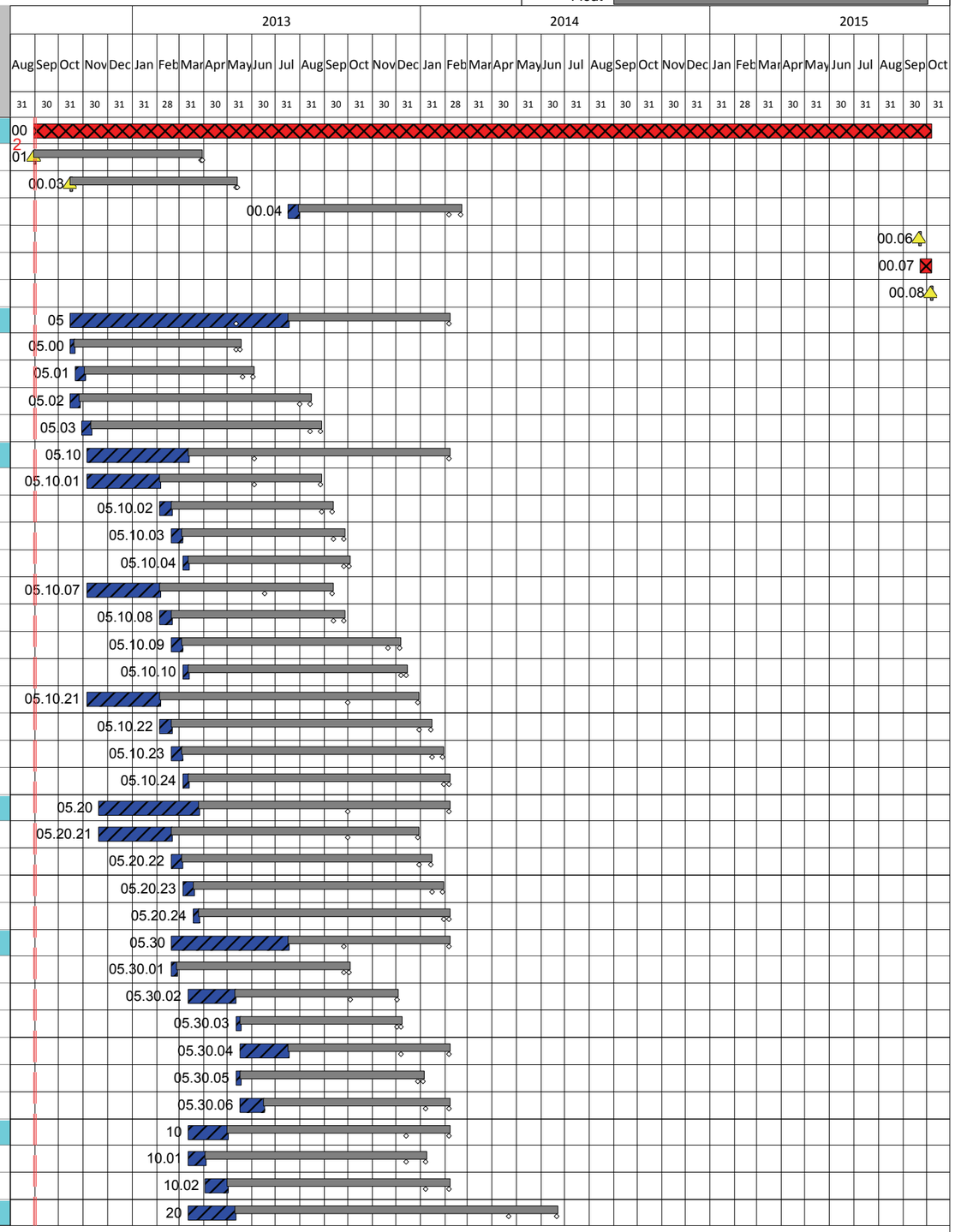
Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
00	Contract Administration	1133d	30Aug12	06Oct15	0	Calendar Days
00.01	Contract Letting	0	30Aug12	30Aug12	142d	PENNDOT 5-DAY
00.03	NTP Awarded	0	15Oct12	15Oct12	143d	PENNDOT 5-DAY
00.04	Mobilization	10d	17Jul13	30Jul13	137d	PENNDOT 5-DAY
00.06	Substantial Completion Walkthrough	0	21Sep15	21Sep15	0	PENNDOT 5-DAY
00.07	Punchlist / Demobilization / Cleanup	10d	22Sep15	05Oct15	0	PENNDOT 5-DAY
00.08	Final Completion	0	06Oct15	06Oct15	0	PENNDOT 5-DAY
05	Design Engineering	275d	15Oct12	16Jul13	138d	Calendar Days
05.00	Prepare/Submit Design Firm ID and Qual Submission	5d	15Oct12	19Oct12	143d	5-DAY
05.01	Review/Approve Design Firm ID and Qual Submission	10d	22Oct12	02Nov12	143d	PENNDOT 5-DAY
05.02	Prepare/Submit Quality Plan Submission	10d	15Oct12	26Oct12	198d	5-DAY
05.03	Review/Approve Quality Plan Submission	10d	29Oct12	09Nov12	198d	PENNDOT 5-DAY
05.10	Roadway Submissions	128d	05Nov12	12Mar13	143d	Calendar Days
05.10.01	Prepare/Submit Preliminary E&S PCP & PSMP	60d	05Nov12	04Feb13	143d	5-DAY
05.10.02	Review/Approve Preliminary E&S PCP & PSMP	10d	05Feb13	19Feb13	143d	PENNDOT 5-DAY
05.10.03	Prepare/Submit Final E&S PCP & PSMP	10d	20Feb13	05Mar13	143d	5-DAY
05.10.04	Review/Approve Final E&S PCP & PSMP	5d	06Mar13	12Mar13	143d	PENNDOT 5-DAY
05.10.07	Prepare/Submit Preliminary Roadway Plan Submission	60d	05Nov12	04Feb13	153d	5-DAY
05.10.08	Review/Approve Preliminary Roadway Plan Submission	10d	05Feb13	19Feb13	153d	PENNDOT 5-DAY
05.10.09	Prepare/Submit Final Roadway Plan Submission	10d	20Feb13	05Mar13	190d	5-DAY
05.10.10	Review/Approve Final Roadway Plan Submission	5d	06Mar13	12Mar13	190d	PENNDOT 5-DAY
05.10.21	Prepare/Submit Preliminary Signing & Pavement Marking Plan Submission	60d	05Nov12	04Feb13	225d	5-DAY
05.10.22	Review/Approve Preliminary Signing & Pavement Marking Plan Submission	10d	05Feb13	19Feb13	225d	PENNDOT 5-DAY
05.10.23	Prepare/Submit Final Signing & Pavement Marking Plan Submission	10d	20Feb13	05Mar13	225d	5-DAY
05.10.24	Review/Approve Final Signing & Pavement Marking Plan Submission	5d	06Mar13	12Mar13	225d	PENNDOT 5-DAY
05.20	Maintenance & Protection of Traffic Submissions	127d	20Nov12	26Mar13	215d	Calendar Days
05.20.21	Prepare/Submit Preliminary MPT Plan Submission	60d	20Nov12	19Feb13	215d	5-DAY
05.20.22	Review/Approve Preliminary MPT Plan Submission	10d	20Feb13	05Mar13	215d	PENNDOT 5-DAY
05.20.23	Prepare/Submit Final MPT Plan Submission	10d	06Mar13	19Mar13	215d	5-DAY
05.20.24	Review/Approve Final MPT Plan Submission	5d	20Mar13	26Mar13	215d	PENNDOT 5-DAY
05.30	Permits	147d	20Feb13	16Jul13	138d	Calendar Days
05.30.01	Prepare/Submit NPDES Permit Application (Submit only after Approval of E&S PCP & PSMP)	5d	20Feb13	26Feb13	153d	5-DAY
05.30.02	Obtain NPDES Permit	60d	13Mar13	11May13	204d	Calendar Days
05.30.03	Prepare/Submit Joint Permit Application	5d	13May13	17May13	138d	5-DAY
05.30.04	Obtain PADEP Joint Permit	60d	18May13	16Jul13	203d	Calendar Days
05.30.05	Prepare/Submit Waste/Borrow Area Submission	5d	13May13	17May13	156d	5-DAY
05.30.06	Review/Approve Waste/Borrow Area Submission	30d	18May13	16Jun13	233d	Calendar Days
10	Construction Engineering	49d	13Mar13	30Apr13	190d	Calendar Days
10.01	Prepare/Submit Concrete Q.C. Plan	15d	13Mar13	02Apr13	190d	5-DAY
10.02	Review/Approve Concrete Q.C. Plan	20d	03Apr13	30Apr13	190d	PENNDOT 5-DAY
20	Fabrication/Procurement	60d	13Mar13	11May13	405d	Calendar Days



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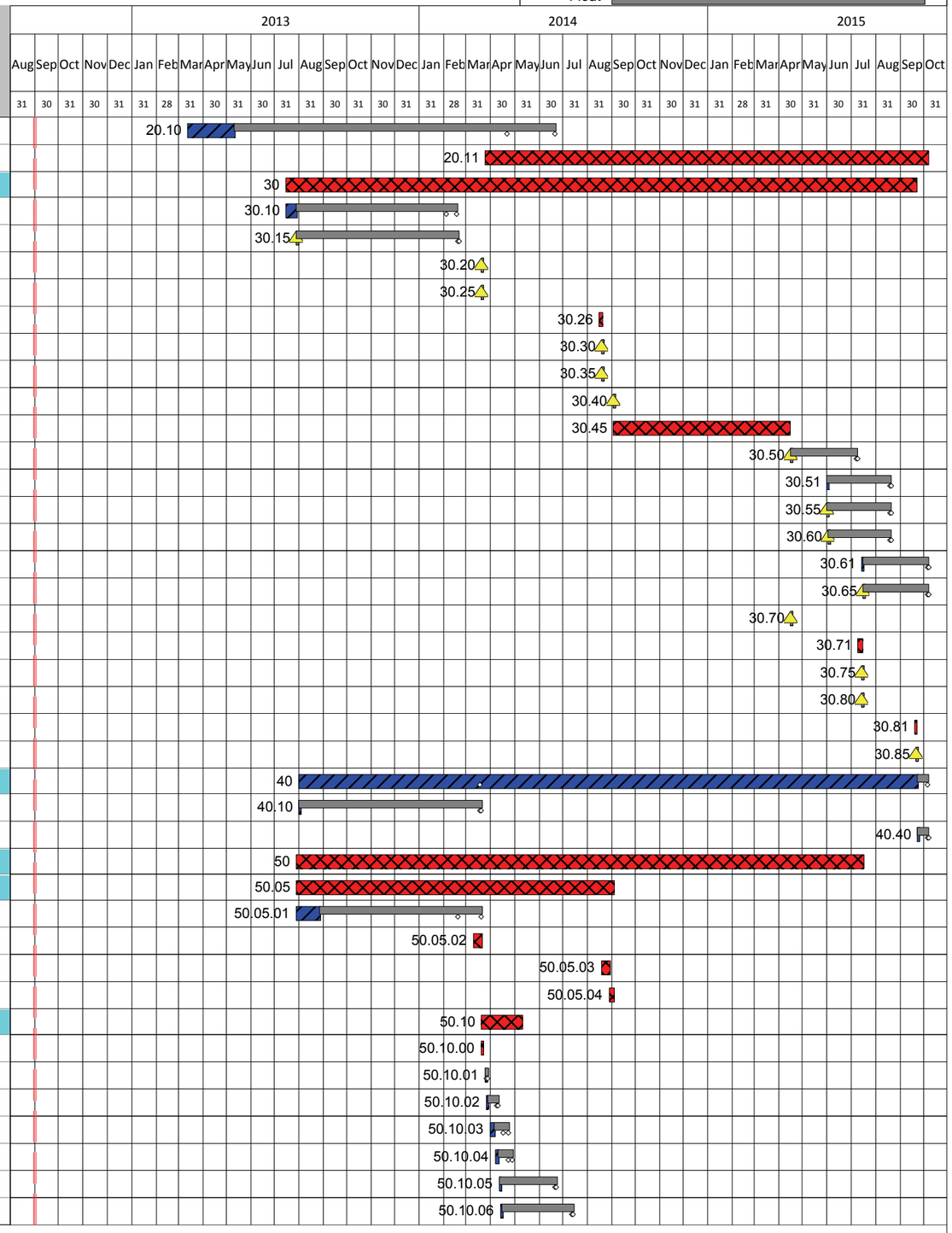
20.10	Procurement/Delivery of Reinforcing Baskets	60d	13Mar13	11May13	405d	Calendar Days
20.11	Rubbelize Excavated Existing Pavement Slabs	436.75d	24Mar14	06Oct15	2d	Calendar Days
30	Maintenance and Protection of Traffic	799d	15Jul13	21Sep15	0	Calendar Days
30.10	Advanced Notification MPT	14d	15Jul13	28Jul13	204d	Calendar Days
30.15	Phase 1 - Start (TEMPORARY/PREPARATORY)	0	29Jul13	29Jul13	204d	Calendar Days
30.20	Phase 1 - Complete	0	19Mar14	19Mar14	0	Calendar Days
30.25	Phase 2 - Start (WB RECONSTRUCTION)	0	20Mar14	20Mar14	0	Calendar Days
30.26	Line Striping	3d	16Aug14	18Aug14	0	Calendar Days
30.30	Phase 2 - Complete (WB RECONSTRUCTION)	0	18Aug14	18Aug14	0	Calendar Days
30.35	Phase 3 - Start (EB GUIDERAIL RECONFIGURE FOR CORRECT FLOW)	0	19Aug14	19Aug14	0	Calendar Days
30.40	Phase 3 - Complete (EB GUIDERAIL RECONFIGURE FOR CORRECT FLOW)	0	02Sep14	02Sep14	0	Calendar Days
30.45	Winter Shutdown	224d	03Sep14	14Apr15	0	Calendar Days
30.50	Phase 4 - Start (WB PHASED CONSTRUCTION STAGE A)	0	15Apr15	15Apr15	83d	Calendar Days
30.51	Line Striping	1d	31May15	31May15	80d	Calendar Days
30.55	Phase 4 - Complete (WB PHASED CONSTRUCTION STAGE A)	0	31May15	31May15	80d	Calendar Days
30.60	Phase 5 - Start (WB PHASED CONSTRUCTION STAGE B)	0	01Jun15	01Jun15	80d	Calendar Days
30.61	Line Striping	1d	15Jul15	15Jul15	83d	Calendar Days
30.65	Phase 5 - Complete (WB PHASED CONSTRUCTION STAGE B)	0	15Jul15	15Jul15	83d	Calendar Days
30.70	Phase 6 - Start (EB PHASED CONSTRUCTION STAGE A)	0	15Apr15	15Apr15	0	Calendar Days
30.71	Line Striping	5d	10Jul15	14Jul15	1d	Calendar Days
30.75	Phase 6 - Complete (EB PHASED CONSTRUCTION STAGE A)	0	14Jul15	14Jul15	1d	Calendar Days
30.80	Phase 7 - Start (EB PHASED CONSTRUCTION STAGE B)	0	15Jul15	15Jul15	1d	Calendar Days
30.81	Line Striping	3d	19Sep15	21Sep15	0	Calendar Days
30.85	Phase 7 - Complete (EB PHASED CONSTRUCTION STAGE B)	0	21Sep15	21Sep15	0	Calendar Days
40	E&S Controls	784d	31Jul13	22Sep15	10d	Calendar Days
40.10	Construct E&S Controls	2d	31Jul13	01Aug13	155d	5-DAY
40.40	Remove all E&S Controls	1d	22Sep15	22Sep15	10d	5-DAY
50	WB Construction	717d	29Jul13	15Jul15	0	Calendar Days
50.05	Temporary	401d	29Jul13	02Sep14	0	Calendar Days
50.05.01	Construct Temporary Median Crossovers, Emergency Access, Acceleration Lanes	30d	29Jul13	27Aug13	204d	Calendar Days
50.05.02	Reconfigure EB Guiderail for COUNTER FLOW	10d	10Mar14	19Mar14	0	Calendar Days
50.05.03	Reconfigure EB Guiderail for CORRECT FLOW	10d	19Aug14	28Aug14	0	Calendar Days
50.05.04	Remove Crossovers/Restore Medians	5d	29Aug14	02Sep14	0	Calendar Days
50.10	Station (141+16.40 to 159+49.54)	51d	20Mar14	09May14	0	Calendar Days
50.10.00	Sawcut Existing Roadway (141+16.40 to 159+49.54+00)	2d	20Mar14	21Mar14	0	5-DAY
50.10.01	Excavate Existing Pavement Pavement Slabs (141+16.40 to 159+49.54+00)	2d	24Mar14	25Mar14	2d	5-DAY
50.10.02	Undercut Existing Subgrade (141+16.40 to 159+49.54+00)	2d	26Mar14	27Mar14	9d	5-DAY
50.10.03	Construct Subgrade/Embankment (141+16.40 to 159+49.54+00)	5d	31Mar14	04Apr14	12d	5-DAY
50.10.04	Construct Subbase/Drainage (141+16.40 to 159+49.54+00)	4d	07Apr14	10Apr14	12d	5-DAY
50.10.05	Place Base Course (141+16.40 to 159+49.54+00)	2d	11Apr14	12Apr14	70d	BASE/BINDER 10-0
50.10.06	Place Binder/Wearing (141+16.40 to 159+49.54+00)	2d	13Apr14	14Apr14	89d	WEARING 10-0



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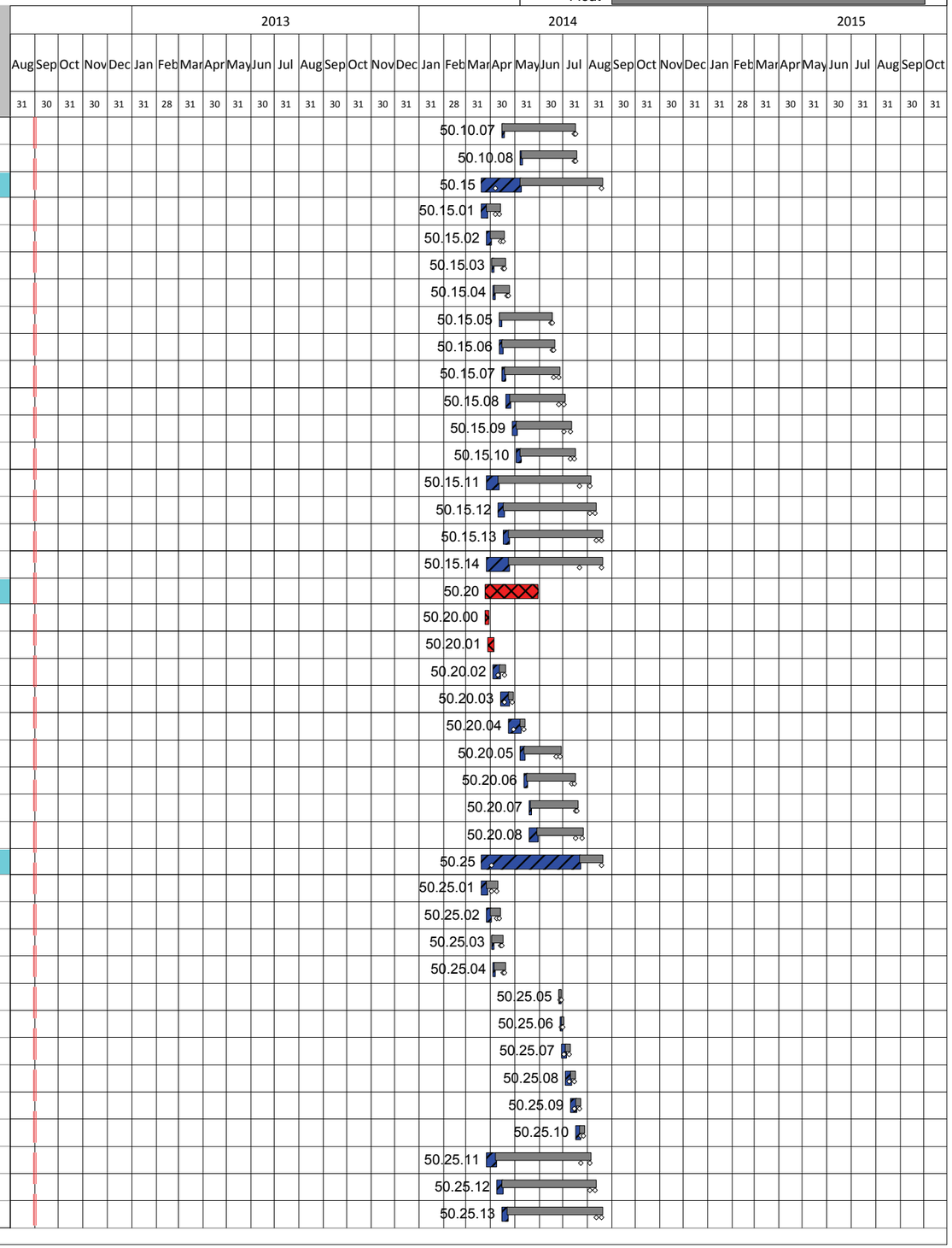
50.10.07	Backup Shoulder/Landscape/Seed (141+16.40 to 159+49.54+00)	1d	15Apr14	15Apr14	69d	SEEDING
50.10.08	Install Guiderail (141+16.40 to 159+49.54+00)	2d	08May14	09May14	47d	5-DAY
50.15	S-32751 (STA 159+49.54 to 160+68.19)	49d	20Mar14	07May14	12d	Calendar Days
50.15.01	Demo Portions of Existing Structure (S-32751)	5d	20Mar14	26Mar14	12d	5-DAY
50.15.02	Excavate Behind Abutments (S-32751)	3d	27Mar14	31Mar14	12d	5-DAY
50.15.03	Apply Waterproofing (S-32751)	2d	01Apr14	02Apr14	12d	5-DAY
50.15.04	Install Structure Foundation Drain/Backfill (S-32751)	2d	03Apr14	04Apr14	12d	5-DAY
50.15.05	F/R/P Sleeper Slabs (S-32751)	1d	11Apr14	11Apr14	45d	5-DAY
50.15.06	Cure Sleeper Slabs (S-32751)	3d	12Apr14	14Apr14	66d	Cure
50.15.07	F/R/P Bridge Approach Slabs (S-32751)	4d	15Apr14	18Apr14	47d	5-DAY
50.15.08	Cure Approach Slabs (S-32751)	7d	19Apr14	25Apr14	68d	Cure
50.15.09	F/R/P Safety Wings (S-32751)	5d	28Apr14	02May14	47d	5-DAY
50.15.10	Cure/Strip/Parge Safety Wings (S-32751)	5d	03May14	07May14	69d	Cure
50.15.11	Sawcut/Demo Bridge Deck/Dams (S-32751)	10d	27Mar14	09Apr14	81d	5-DAY
50.15.12	F/I/P Bridge Deck/Dams (S-32751)	5d	10Apr14	16Apr14	81d	5-DAY
50.15.13	Cure Bridge Deck Patching (S-32751)	7d	17Apr14	23Apr14	117d	Cure
50.15.14	Demo/Repair Concrete Bridge Beams/Substructure (S-32751)	20d	27Mar14	23Apr14	81d	5-DAY
50.20	Station (160+68.19 to 212+71.26) (S-32751)	66d	24Mar14	28May14	0	Calendar Days
50.20.00	Sawcut Existing Roadway (160+68.19 to 212+71.26)	4d	24Mar14	27Mar14	0	5-DAY
50.20.01	Excavate Existing Pavement Pavement Slabs (160+68.19 to 212+71.26)	5d	28Mar14	03Apr14	0	5-DAY
50.20.02	Undercut Existing Subgrade (160+68.19 to 212+71.26)	6d	04Apr14	11Apr14	4d	5-DAY
50.20.03	Construct Subgrade/Embankment (160+68.19 to 212+71.26)	7d	14Apr14	22Apr14	4d	5-DAY
50.20.04	Construct Subbase/Drainage (160+68.19 to 212+71.26)	11d	23Apr14	07May14	4d	5-DAY
50.20.05	Place Base Course (160+68.19 to 212+71.26)	5d	08May14	12May14	45d	BASE/BINDER 10-0
50.20.06	Place Binder/Wearing (160+68.19 to 212+71.26)	4d	13May14	16May14	59d	WEARING 10-0
50.20.07	Backup Shoulder/Landscape/Seed (160+68.19 to 212+71.26)	3d	19May14	21May14	47d	SEEDING
50.20.08	Install Guiderail (160+68.19 to 212+71.26)	6d	20May14	28May14	41d	5-DAY
50.25	S-32750 (STA 212+71.26 to 213+32.94)	125d	20Mar14	22Jul14	1d	Calendar Days
50.25.01	Demo Portions of Existing Structure (S-32750)	5d	20Mar14	26Mar14	9d	5-DAY
50.25.02	Excavate Behind Abutments (S-32750)	3d	27Mar14	31Mar14	9d	5-DAY
50.25.03	Apply Waterproofing (S-32750)	2d	01Apr14	02Apr14	9d	5-DAY
50.25.04	Install Structure Foundation Drain/Backfill (S-32750)	2d	03Apr14	04Apr14	9d	5-DAY
50.25.05	F/R/P Sleeper Slabs (S-32750)	1d	26Jun14	26Jun14	1d	5-DAY
50.25.06	Cure Sleeper Slabs (S-32750)	3d	27Jun14	29Jun14	2d	Cure
50.25.07	F/R/P Bridge Approach Slabs (S-32750)	4d	30Jun14	03Jul14	2d	5-DAY
50.25.08	Cure Approach Slabs (S-32750)	7d	04Jul14	10Jul14	5d	Cure
50.25.09	F/R/P Safety Wings (S-32750)	5d	11Jul14	17Jul14	3d	5-DAY
50.25.10	Cure/Strip/Parge Safety Wings (S-32750)	5d	18Jul14	22Jul14	5d	Cure
50.25.11	Sawcut/Demo Bridge Deck/Dams (S-32750)	8d	27Mar14	07Apr14	83d	5-DAY
50.25.12	F/I/P Bridge Deck/Dams (S-32750)	5d	08Apr14	14Apr14	83d	5-DAY
50.25.13	Cure Bridge Deck Patching (S-32750)	7d	15Apr14	21Apr14	119d	Cure



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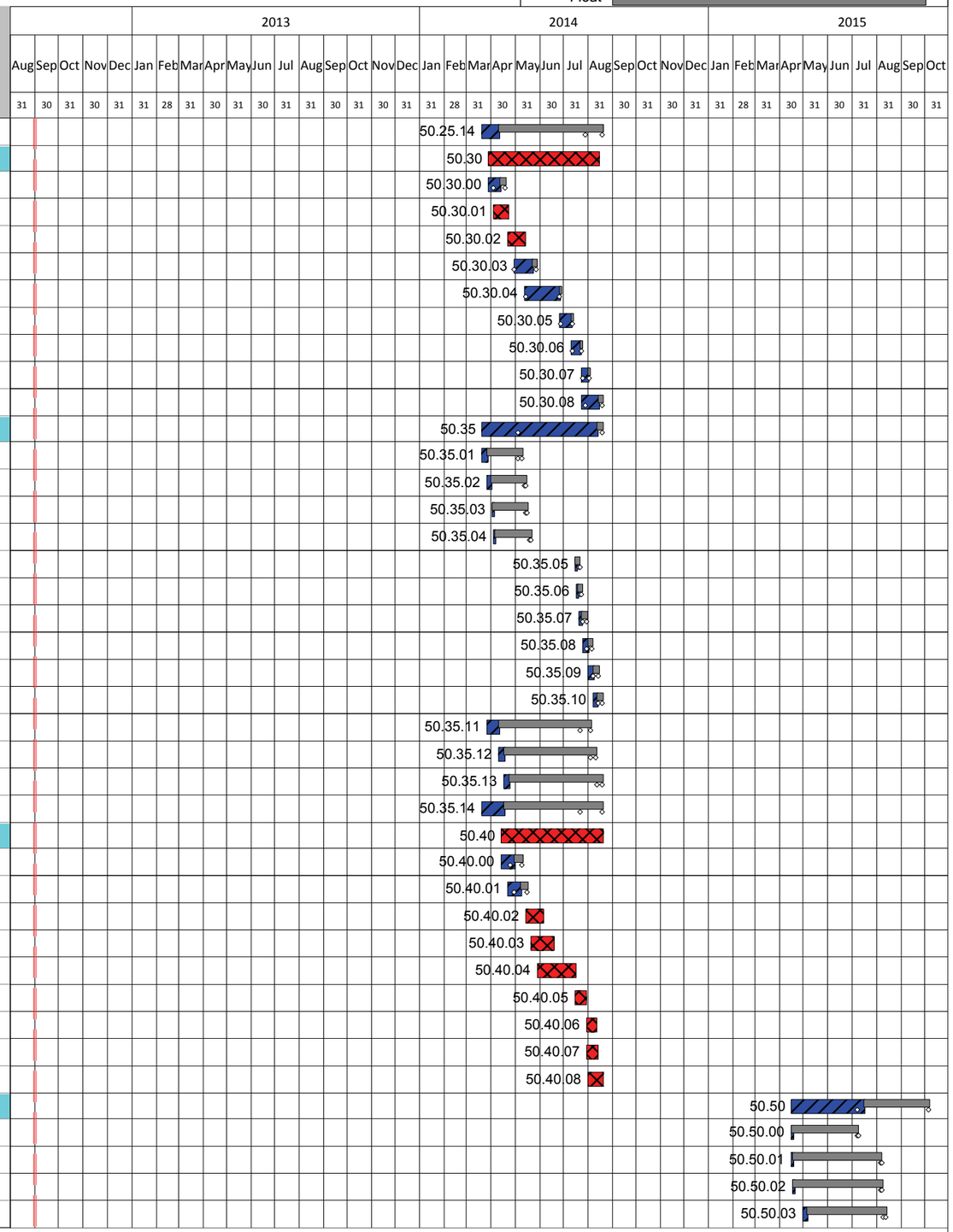
50.25.14	Demo/Repair Concrete Bridge Beams/Substructure (S-32750)	15d	20Mar14	09Apr14	91d	5-DAY
50.30	Station (213+32.94 to 364+82.42)	140d	28Mar14	14Aug14	0	Calendar Days
50.30.00	Sawcut Existing Roadway (213+32.94 to 364+82.42)	11d	28Mar14	11Apr14	4d	5-DAY
50.30.01	Excavate Existing Pavement Pavement Slabs (213+32.94 to 364+82.42)	12d	04Apr14	21Apr14	0	5-DAY
50.30.02	Undercut Existing Subgrade (213+32.94 to 364+82.42)	16d	22Apr14	13May14	0	5-DAY
50.30.03	Construct Subgrade/Embankment (213+32.94 to 364+82.42)	19d	29Apr14	23May14	1d	5-DAY
50.30.04	Construct Subbase/Drainage (213+32.94 to 364+82.42)	31d	13May14	25Jun14	1d	5-DAY
50.30.05	Place Base Course (213+32.94 to 364+82.42)	14d	26Jun14	10Jul14	2d	BASE/BINDER 10-0
50.30.06	Place Binder/Wearing (213+32.94 to 364+82.42)	12d	11Jul14	22Jul14	2d	WEARING 10-0
50.30.07	Backup Shoulder/Landscape/Seed (213+32.94 to 364+82.42)	8d	23Jul14	31Jul14	2d	SEEDING
50.30.08	Install Guiderail (213+32.94 to 364+82.42)	16d	24Jul14	14Aug14	2d	5-DAY
50.35	S-32749 (STA 364+82.42 to 365+89.31)	146d	20Mar14	12Aug14	3d	Calendar Days
50.35.01	Demo Portions of Existing Structure (S-32749)	5d	20Mar14	26Mar14	32d	5-DAY
50.35.02	Excavate Behind Abutments (S-32749)	3d	27Mar14	31Mar14	32d	5-DAY
50.35.03	Apply Waterproofing (S-32749)	2d	01Apr14	02Apr14	32d	5-DAY
50.35.04	Install Structure Foundation Drain/Backfill (S-32749)	2d	03Apr14	04Apr14	32d	5-DAY
50.35.05	F/R/P Sleeper Slabs (S-32749)	1d	16Jul14	16Jul14	3d	5-DAY
50.35.06	Cure Sleeper Slabs (S-32749)	3d	17Jul14	19Jul14	5d	Cure
50.35.07	F/R/P Bridge Approach Slabs (S-32749)	4d	21Jul14	24Jul14	4d	5-DAY
50.35.08	Cure Approach Slabs (S-32749)	7d	25Jul14	31Jul14	6d	Cure
50.35.09	F/R/P Safety Wings (S-32749)	5d	01Aug14	07Aug14	4d	5-DAY
50.35.10	Cure/Strip/Parge Safety Wings (S-32749)	5d	08Aug14	12Aug14	6d	Cure
50.35.11	Sawcut/Demo Bridge Deck/Dams (S-32749)	10d	27Mar14	09Apr14	81d	5-DAY
50.35.12	F/I/P Bridge Deck/Dams (S-32749)	5d	10Apr14	16Apr14	81d	5-DAY
50.35.13	Cure Bridge Deck Patching (S-32749)	7d	17Apr14	23Apr14	117d	Cure
50.35.14	Demo/Repair Concrete Bridge Beams/Substructure (S-32749)	20d	20Mar14	16Apr14	86d	5-DAY
50.40	Station (365+89.31 to 525+00)	127d	14Apr14	18Aug14	0	Calendar Days
50.40.00	Sawcut Existing Roadway (365+89.31 to 525+00)	12d	14Apr14	29Apr14	8d	5-DAY
50.40.01	Excavate Existing Pavement Pavement Slabs (365+89.31 to 525+00)	13d	22Apr14	08May14	6d	5-DAY
50.40.02	Undercut Existing Subgrade (365+89.31 to 525+00)	16d	14May14	05Jun14	0	5-DAY
50.40.03	Construct Subgrade/Embankment (365+89.31 to 525+00)	20d	21May14	18Jun14	0	5-DAY
50.40.04	Construct Subbase/Drainage (365+89.31 to 525+00)	33d	29May14	15Jul14	0	5-DAY
50.40.05	Place Base Course (365+89.31 to 525+00)	14d	16Jul14	29Jul14	0	BASE/BINDER 10-0
50.40.06	Place Binder/Wearing (365+89.31 to 525+00)	12d	30Jul14	10Aug14	0	WEARING 10-0
50.40.07	Backup Shoulder/Landscape/Seed (365+89.31 to 525+00)	9d	31Jul14	12Aug14	0	5-DAY
50.40.08	Install Guiderail (365+89.31 to 525+00)	12d	01Aug14	18Aug14	0	5-DAY
50.50	Station (525+00 to 533+02.83) (PHASED CONSTRUCTION)	92d	15Apr15	15Jul15	57d	Calendar Days
50.50.00	Sawcut Existing Roadway (525+00 to 533+02.83) (STAGE A)	1d	15Apr15	15Apr15	57d	5-DAY
50.50.01	Excavate Existing Pavement Pavement Slabs (525+00 to 533+02.83) (STAGE A)	1d	16Apr15	16Apr15	78d	5-DAY
50.50.02	Undercut Existing Subgrade (525+00 to 533+02.83) (STAGE A)	1d	17Apr15	17Apr15	78d	5-DAY
50.50.03	Construct Subgrade/Embankment (525+00 to 533+02.83) (STAGE A)	3d	30Apr15	04May15	70d	5-DAY



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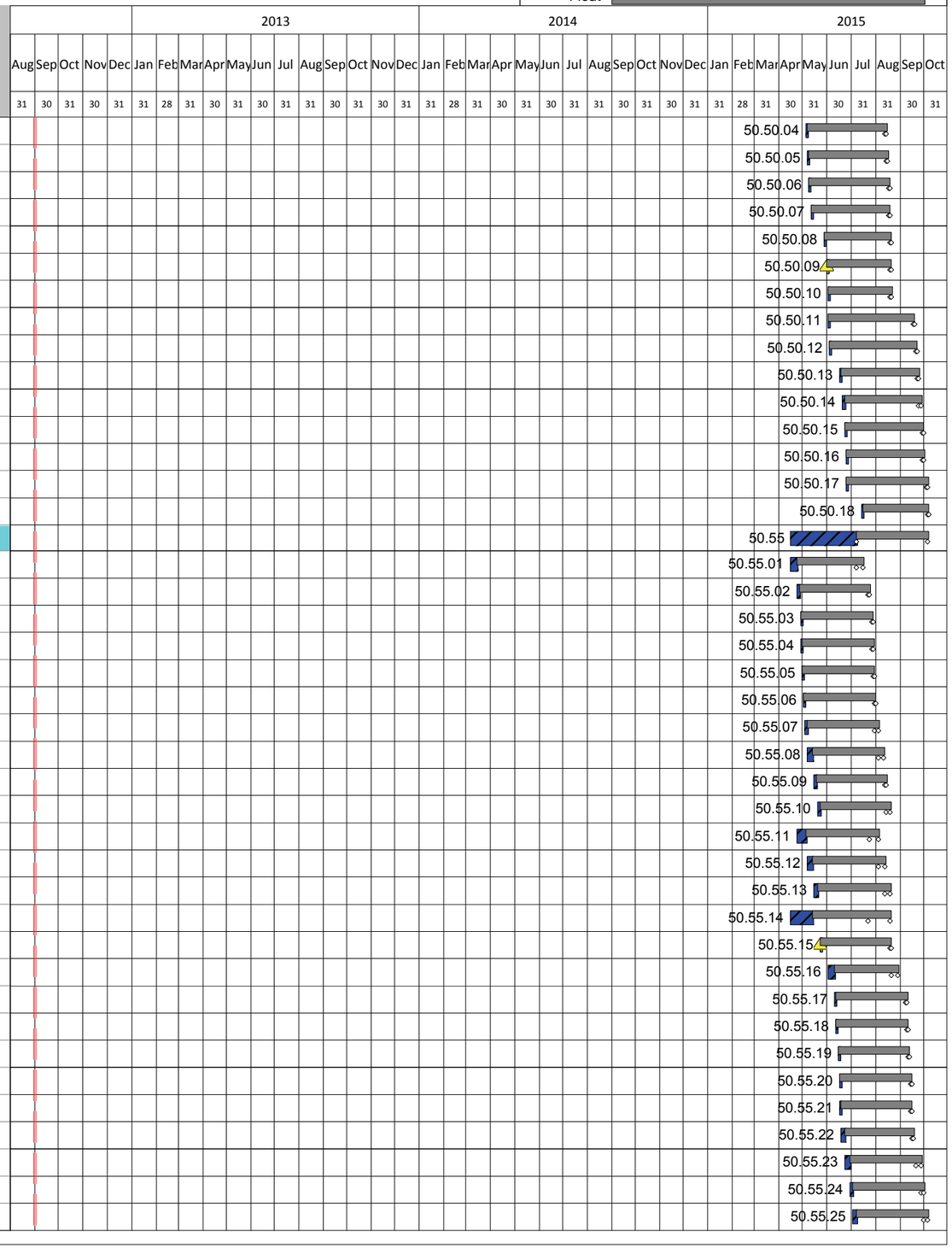
50.50.04	Construct Subbase/Drainage (525+00 to 533+02.83) (STAGE A)	2d	05May15	06May15	70d	5-DAY
50.50.05	Place Base Course (525+00 to 533+02.83) (STAGE A)	1d	07May15	07May15	83d	BASE/BINDER 10-0
50.50.06	Place Binder/Wearing (525+00 to 533+02.83) (STAGE A)	1d	08May15	08May15	98d	WEARING 10-0
50.50.07	Backup Shoulder/Landscape/Seed (525+00 to 533+02.83) (STAGE A)	1d	11May15	11May15	69d	5-DAY
50.50.08	Install Guiderail (525+00 to 533+02.83) (STAGE A)	1d	27May15	27May15	59d	5-DAY
50.50.09	STAGE A COMPLETE	0	31May15	31May15	80d	Calendar Days
50.50.10	Sawcut Existing Roadway (525+00 to 533+02.83) (STAGE B)	1d	01Jun15	01Jun15	57d	5-DAY
50.50.11	Excavate Existing Pavement Pavement Slabs (525+00 to 533+02.83) (STAGE B)	1d	02Jun15	02Jun15	76d	5-DAY
50.50.12	Undercut existing Subgrade (525+00 to 533+02.83) (STAGE B)	1d	03Jun15	03Jun15	76d	5-DAY
50.50.13	Construct Subgrade/Embankment (525+00 to 533+02.83) (STAGE B)	3d	16Jun15	18Jun15	68d	5-DAY
50.50.14	Construct Subbase/Drainage (525+00 to 533+02.83) (STAGE B)	2d	19Jun15	22Jun15	68d	5-DAY
50.50.15	Place Base Course (525+00 to 533+02.83) (STAGE B)	1d	23Jun15	23Jun15	81d	BASE/BINDER 10-0
50.50.16	Place Binder/Wearing (525+00 to 533+02.83) (STAGE B)	1d	24Jun15	24Jun15	95d	WEARING 10-0
50.50.17	Backup Shoulder/Landscape/Seed (525+00 to 533+02.83) (STAGE B)	1d	25Jun15	25Jun15	70d	5-DAY
50.50.18	Install Guiderail (525+00 to 533+02.83) (STAGE B)	1d	15Jul15	15Jul15	58d	5-DAY
50.55	S-32748 (STA533+02.83 to 536+54.35)	84d	16Apr15	08Jul15	57d	Calendar Days
50.55.01	Demo Portions of Existing Structure (STAGE A) (S-32748)	6d	16Apr15	23Apr15	57d	5-DAY
50.55.02	Excavate Behind Abutments (STAGE A) (S-32748)	2d	24Apr15	27Apr15	62d	5-DAY
50.55.03	Apply Waterproofing (STAGE A) (S-32748)	1d	28Apr15	28Apr15	62d	5-DAY
50.55.04	Install Structure Foundation Drain/Backfill (STAGE A) (S-32748)	1d	29Apr15	29Apr15	62d	5-DAY
50.55.05	F/R/P Sleeper Slabs (STAGE A) (S-32748)	1d	30Apr15	30Apr15	62d	5-DAY
50.55.06	Cure Sleeper Slabs (STAGE A) (S-32748)	1d	01May15	01May15	90d	Cure
50.55.07	F/R/P Bridge Approach Slabs (STAGE A) (S-32748)	3d	04May15	06May15	62d	5-DAY
50.55.08	Cure Approach Slabs (STAGE A) (S-32748)	7d	07May15	13May15	90d	Cure
50.55.09	F/R/P Safety Wings (STAGE A) (S-32748)	3d	14May15	18May15	62d	5-DAY
50.55.10	Cure/Strip/Parge Safety Wings (STAGE A) (S-32748)	5d	19May15	23May15	88d	Cure
50.55.11	Sawcut/Demo Bridge Deck/Dams (STAGE A) (S-32748)	8d	24Apr15	05May15	63d	5-DAY
50.55.12	F/I/P Bridge Deck/Dams (STAGE A) (S-32748)	6d	06May15	13May15	63d	5-DAY
50.55.13	Cure Bridge Deck Patching (STAGE A) (S-32748)	7d	14May15	20May15	91d	Cure
50.55.14	Demo/Repair Concrete Bridge Beams/Substructure (STAGE A) (S-32748)	20d	16Apr15	13May15	68d	5-DAY
50.55.15	STAGE A COMPLETE (S-32748)	0	23May15	23May15	88d	Calendar Days
50.55.16	Demo Portions of Existing Structure (STAGE B) (S-32748)	6d	02Jun15	09Jun15	57d	5-DAY
50.55.17	Excavate Behind Abutments (STAGE B) (S-32748)	2d	10Jun15	11Jun15	62d	5-DAY
50.55.18	Apply Waterproofing (STAGE B) (S-32748)	1d	12Jun15	12Jun15	62d	5-DAY
50.55.19	Install Structure Foundation Drain/Backfill (STAGE B) (S-32748)	1d	15Jun15	15Jun15	62d	5-DAY
50.55.20	F/R/P Sleeper Slabs (STAGE B) (S-32748)	1d	16Jun15	16Jun15	62d	5-DAY
50.55.21	Cure Sleeper Slabs (STAGE B) (S-32748)	1d	17Jun15	17Jun15	90d	Cure
50.55.22	F/R/P Bridge Approach Slabs (STAGE B) (S-32748)	3d	18Jun15	22Jun15	62d	5-DAY
50.55.23	Cure Approach Slabs (STAGE B) (S-32748)	7d	23Jun15	29Jun15	90d	Cure
50.55.24	F/R/P Safety Wings (STAGE B) (S-32748)	3d	30Jun15	02Jul15	62d	5-DAY
50.55.25	Cure/Strip/Parge Safety Wings (STAGE B) (S-32748)	5d	03Jul15	07Jul15	90d	Cure



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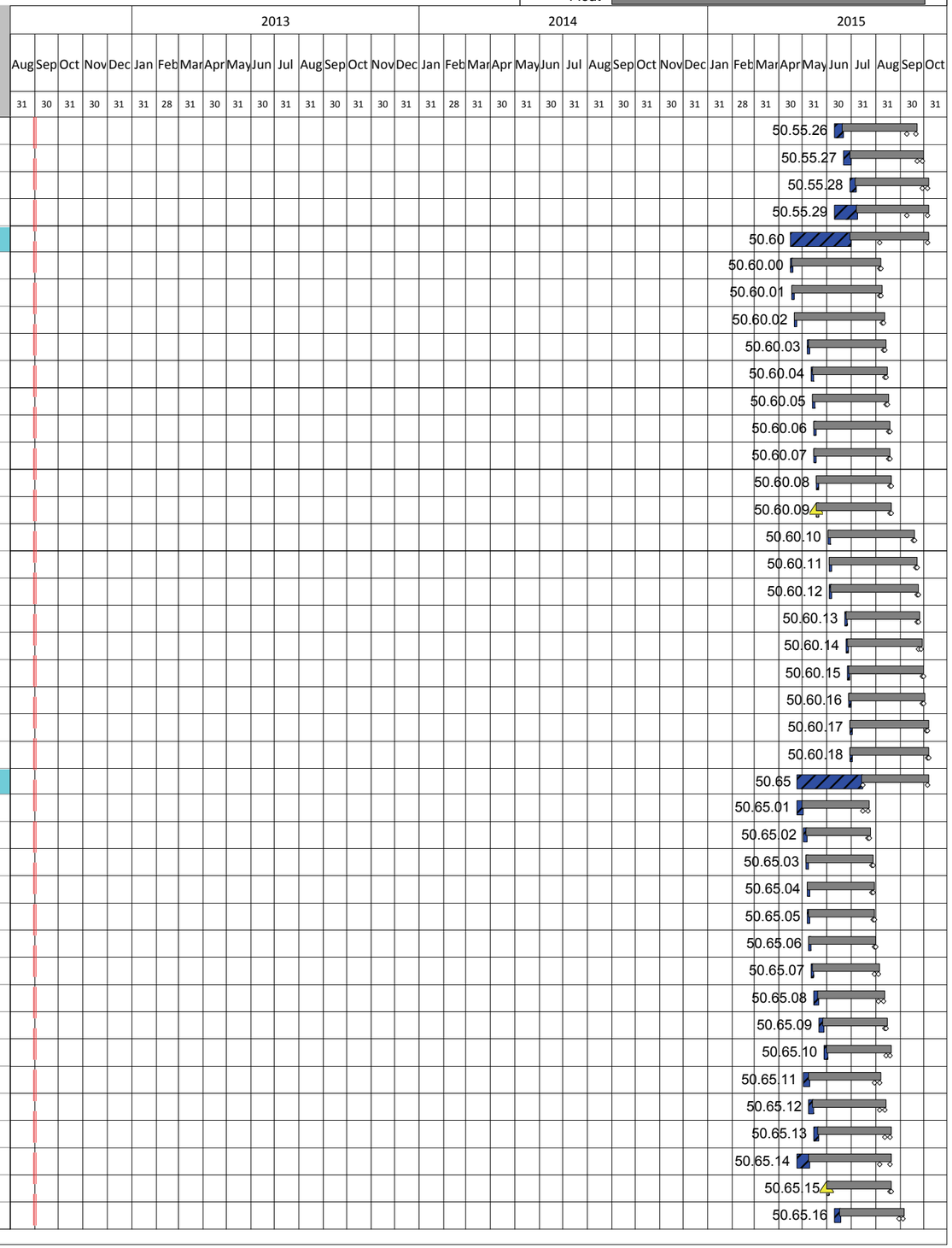
Project:SR0080-540 (5A)
Project Description: SR 0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
50.55.26	Sawcut/Demo Bridge Deck/Dams (STAGE B) (S-32748)	8d	10Jun15	19Jun15	64d	5-DAY
50.55.27	F/I/P Bridge Deck/Dams (STAGE B) (S-32748)	6d	22Jun15	29Jun15	64d	5-DAY
50.55.28	Cure Bridge Deck Patching (STAGE B) (S-32748)	7d	30Jun15	06Jul15	92d	Cure
50.55.29	Demo/Repair Concrete Bridge Beams/Substructure (STAGE B) (S-32748)	20d	10Jun15	08Jul15	63d	5-DAY
50.60	Station (536+54.35 to 543+61.14) (PHASED CONSTRUCTION)	76d	16Apr15	30Jun15	64d	Calendar Days
50.60.00	Sawcut Existing Roadway (536+54.35 to 543+61.14) (STAGE A)	1d	16Apr15	16Apr15	78d	5-DAY
50.60.01	Excavate Existing Pavement Pavement Slabs (536+54.35 to 543+61.14) (STAGE A)	1d	17Apr15	17Apr15	78d	5-DAY
50.60.02	Undercut Existing Subgrade (536+54.35 to 543+61.14) (STAGE A)	1d	20Apr15	20Apr15	78d	5-DAY
50.60.03	Construct Subgrade/Embankment (536+54.35 to 543+61.14) (STAGE A)	2d	07May15	08May15	66d	5-DAY
50.60.04	Construct Subbase/Drainage (536+54.35 to 543+61.14) (STAGE A)	2d	11May15	12May15	66d	5-DAY
50.60.05	Place Base Course (536+54.35 to 543+61.14) (STAGE A)	1d	13May15	13May15	78d	BASE/BINDER 10-0
50.60.06	Place Binder/Wearing (536+54.35 to 543+61.14) (STAGE A)	1d	14May15	14May15	92d	WEARING 10-0
50.60.07	Backup Shoulder/Landscape/Seed (536+54.35 to 543+61.14) (STAGE A)	1d	15May15	15May15	65d	5-DAY
50.60.08	Install Guiderail (536+54.35 to 543+61.14) (STAGE A)	1d	18May15	18May15	65d	5-DAY
50.60.09	STAGE A COMPLETE	0	18May15	18May15	93d	Calendar Days
50.60.10	Sawcut Existing Roadway (536+54.35 to 543+61.14) (STAGE B)	1d	02Jun15	02Jun15	76d	5-DAY
50.60.11	Excavate Existing Pavement Pavement Slabs (536+54.35 to 543+61.14) (STAGE B)	1d	03Jun15	03Jun15	76d	5-DAY
50.60.12	Undercut existing Subgrade (536+54.35 to 543+61.14) (STAGE B)	1d	04Jun15	04Jun15	76d	5-DAY
50.60.13	Construct Subgrade/Embankment (536+54.35 to 543+61.14) (STAGE B)	2d	23Jun15	24Jun15	64d	5-DAY
50.60.14	Construct Subbase/Drainage (536+54.35 to 543+61.14) (STAGE B)	2d	25Jun15	26Jun15	64d	5-DAY
50.60.15	Place Base Course (536+54.35 to 543+61.14) (STAGE B)	1d	27Jun15	27Jun15	77d	BASE/BINDER 10-0
50.60.16	Place Binder/Wearing (536+54.35 to 543+61.14) (STAGE B)	1d	28Jun15	28Jun15	91d	WEARING 10-0
50.60.17	Backup Shoulder/Landscape/Seed (536+54.35 to 543+61.14) (STAGE B)	1d	29Jun15	29Jun15	68d	5-DAY
50.60.18	Install Guiderail (536+54.35 to 543+61.14) (STAGE B)	1d	30Jun15	30Jun15	68d	5-DAY
50.65	S-32747 (STA 543+61.14 to 545+33.37)	82d	24Apr15	14Jul15	57d	Calendar Days
50.65.01	Demo Portions of Existing Structure (STAGE A) (S-32747)	5d	24Apr15	30Apr15	57d	5-DAY
50.65.02	Excavate Behind Abutments (STAGE A) (S-32747)	2d	01May15	04May15	57d	5-DAY
50.65.03	Apply Waterproofing (STAGE A) (S-32747)	1d	05May15	05May15	57d	5-DAY
50.65.04	Install Structure Foundation Drain/Backfill (STAGE A) (S-32747)	1d	06May15	06May15	57d	5-DAY
50.65.05	F/R/P Sleeper Slabs (STAGE A) (S-32747)	1d	07May15	07May15	57d	5-DAY
50.65.06	Cure Sleeper Slabs (STAGE A) (S-32747)	1d	08May15	08May15	83d	Cure
50.65.07	F/R/P Bridge Approach Slabs (STAGE A) (S-32747)	3d	11May15	13May15	57d	5-DAY
50.65.08	Cure Approach Slabs (STAGE A) (S-32747)	7d	14May15	20May15	83d	Cure
50.65.09	F/R/P Safety Wings (STAGE A) (S-32747)	3d	21May15	26May15	57d	5-DAY
50.65.10	Cure/Strip/Parge Safety Wings (STAGE A) (S-32747)	5d	27May15	31May15	80d	Cure
50.65.11	Sawcut/Demo Bridge Deck/Dams (STAGE A) (S-32747)	5d	01May15	07May15	63d	5-DAY
50.65.12	F/I/P Bridge Deck/Dams (STAGE A) (S-32747)	4d	08May15	13May15	63d	5-DAY
50.65.13	Cure Bridge Deck Patching (STAGE A) (S-32747)	7d	14May15	20May15	91d	Cure
50.65.14	Demo/Repair Concrete Bridge Beams/Substructure (STAGE A) (S-32747)	10d	24Apr15	07May15	72d	5-DAY
50.65.15	STAGE A COMPLETE (S-32747)	0	31May15	31May15	80d	Calendar Days
50.65.16	Demo Portions of Existing Structure (STAGE B) (S-32747)	5d	10Jun15	16Jun15	57d	5-DAY



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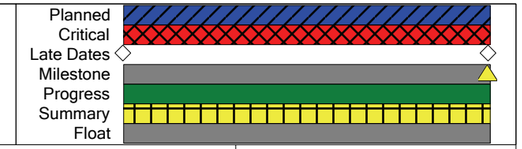
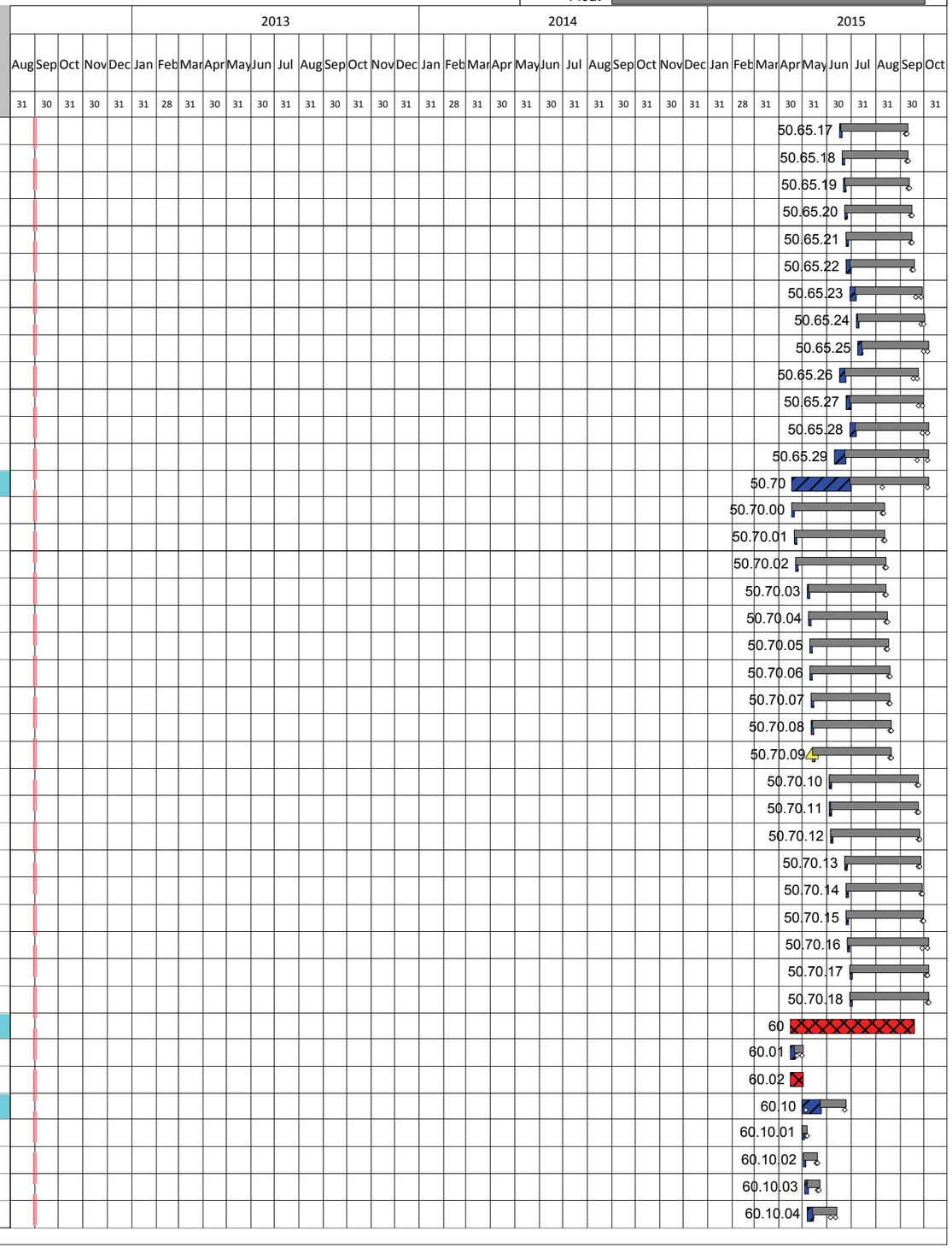


Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
50.65.17	Excavate Behind Abutments (STAGE B) (S-32747)	2d	17Jun15	18Jun15	57d	5-DAY
50.65.18	Apply Waterproofing (STAGE B) (S-32747)	1d	19Jun15	19Jun15	57d	5-DAY
50.65.19	Install Structure Foundation Drain/Backfill (STAGE B) (S-32747)	1d	22Jun15	22Jun15	57d	5-DAY
50.65.20	F/R/P Sleeper Slabs (STAGE B) (S-32747)	1d	23Jun15	23Jun15	57d	5-DAY
50.65.21	Cure Sleeper Slabs (STAGE B) (S-32747)	1d	24Jun15	24Jun15	83d	Cure
50.65.22	F/R/P Bridge Approach Slabs (STAGE B) (S-32747)	3d	25Jun15	29Jun15	57d	5-DAY
50.65.23	Cure Approach Slabs (STAGE B) (S-32747)	7d	30Jun15	06Jul15	83d	Cure
50.65.24	F/R/P Safety Wings (STAGE B) (S-32747)	3d	07Jul15	09Jul15	58d	5-DAY
50.65.25	Cure/Strip/Parge Safety Wings (STAGE B) (S-32747)	5d	10Jul15	14Jul15	83d	Cure
50.65.26	Sawcut/Demo Bridge Deck/Dams (STAGE B) (S-32747)	5d	17Jun15	23Jun15	64d	5-DAY
50.65.27	F/I/P Bridge Deck/Dams (STAGE B) (S-32747)	4d	24Jun15	29Jun15	64d	5-DAY
50.65.28	Cure Bridge Deck Patching (STAGE B) (S-32747)	7d	30Jun15	06Jul15	92d	Cure
50.65.29	Demo/Repair Concrete Bridge Beams/Substructure (STAGE B) (S-32747)	10d	10Jun15	23Jun15	73d	5-DAY
50.70	Station (545+33.37 to 547+90) (PHASED CONSTRUCTION)	75d	17Apr15	30Jun15	66d	Calendar Days
50.70.00	Sawcut Existing Roadway (545+33.37 to 547+90) (STAGE A)	1d	17Apr15	17Apr15	79d	5-DAY
50.70.01	Excavate Existing Pavement Pavement Slabs (545+33.37 to 547+90) (STAGE A)	1d	20Apr15	20Apr15	79d	5-DAY
50.70.02	Undercut Existing Subgrade (545+33.37 to 547+90) (STAGE A)	1d	21Apr15	21Apr15	79d	5-DAY
50.70.03	Construct Subgrade/Embankment (545+33.37 to 547+90) (STAGE A)	1d	07May15	07May15	68d	5-DAY
50.70.04	Construct Subbase/Drainage (545+33.37 to 547+90) (STAGE A)	1d	08May15	08May15	68d	5-DAY
50.70.05	Place Base Course (545+33.37 to 547+90) (STAGE A)	1d	09May15	09May15	81d	BASE/BINDER 10-0
50.70.06	Place Binder/Wearing (545+33.37 to 547+90) (STAGE A)	1d	10May15	10May15	96d	WEARING 10-0
50.70.07	Backup Shoulder/Landscape/Seed (545+33.37 to 547+90) (STAGE A)	1d	11May15	11May15	69d	5-DAY
50.70.08	Install Guiderail (545+33.37 to 547+90) (STAGE A)	1d	12May15	12May15	69d	5-DAY
50.70.09	STAGE A COMPLETE	0	12May15	12May15	99d	Calendar Days
50.70.10	Sawcut Existing Roadway (545+33.37 to 547+90) (STAGE B)	1d	03Jun15	03Jun15	77d	5-DAY
50.70.11	Excavate Existing Pavement Pavement Slabs (545+33.37 to 547+90) (STAGE B)	1d	04Jun15	04Jun15	77d	5-DAY
50.70.12	Undercut existing Subgrade (545+33.37 to 547+90) (STAGE B)	1d	05Jun15	05Jun15	77d	5-DAY
50.70.13	Construct Subgrade/Embankment (545+33.37 to 547+90) (STAGE B)	1d	23Jun15	23Jun15	66d	5-DAY
50.70.14	Construct Subbase/Drainage (545+33.37 to 547+90) (STAGE B)	1d	24Jun15	24Jun15	66d	5-DAY
50.70.15	Place Base Course (545+33.37 to 547+90) (STAGE B)	1d	25Jun15	25Jun15	79d	BASE/BINDER 10-0
50.70.16	Place Binder/Wearing (545+33.37 to 547+90) (STAGE B)	1d	26Jun15	26Jun15	93d	WEARING 10-0
50.70.17	Backup Shoulder/Landscape/Seed (545+33.37 to 547+90) (STAGE B)	1d	29Jun15	29Jun15	68d	5-DAY
50.70.18	Install Guiderail (545+33.37 to 547+90) (STAGE B)	1d	30Jun15	30Jun15	68d	5-DAY
60	EB Overlay	157d	15Apr15	18Sep15	0	Calendar Days
60.01	Place Asphalt for Crossover Tie-Ins	5d	15Apr15	20Apr15	8d	BASE/BINDER 10-0
60.02	Place Temporary Barrier	15d	15Apr15	29Apr15	0	Calendar Days
60.10	Station (848+46 to 871+09 LT)	23d	30Apr15	22May15	3d	Calendar Days
60.10.01	Remove Guiderail (848+46 to 871+09 LT)	1d	30Apr15	30Apr15	3d	5-DAY
60.10.02	Mill Existing Asphalt (848+46 to 871+09 LT)	1d	01May15	01May15	11d	5-DAY
60.10.03	Perform Concrete Patching (848+46 to 871+09 LT)	3d	04May15	06May15	11d	5-DAY
60.10.04	Cure Concrete Patches (848+46 to 871+09 LT)	7d	07May15	13May15	29d	Cure



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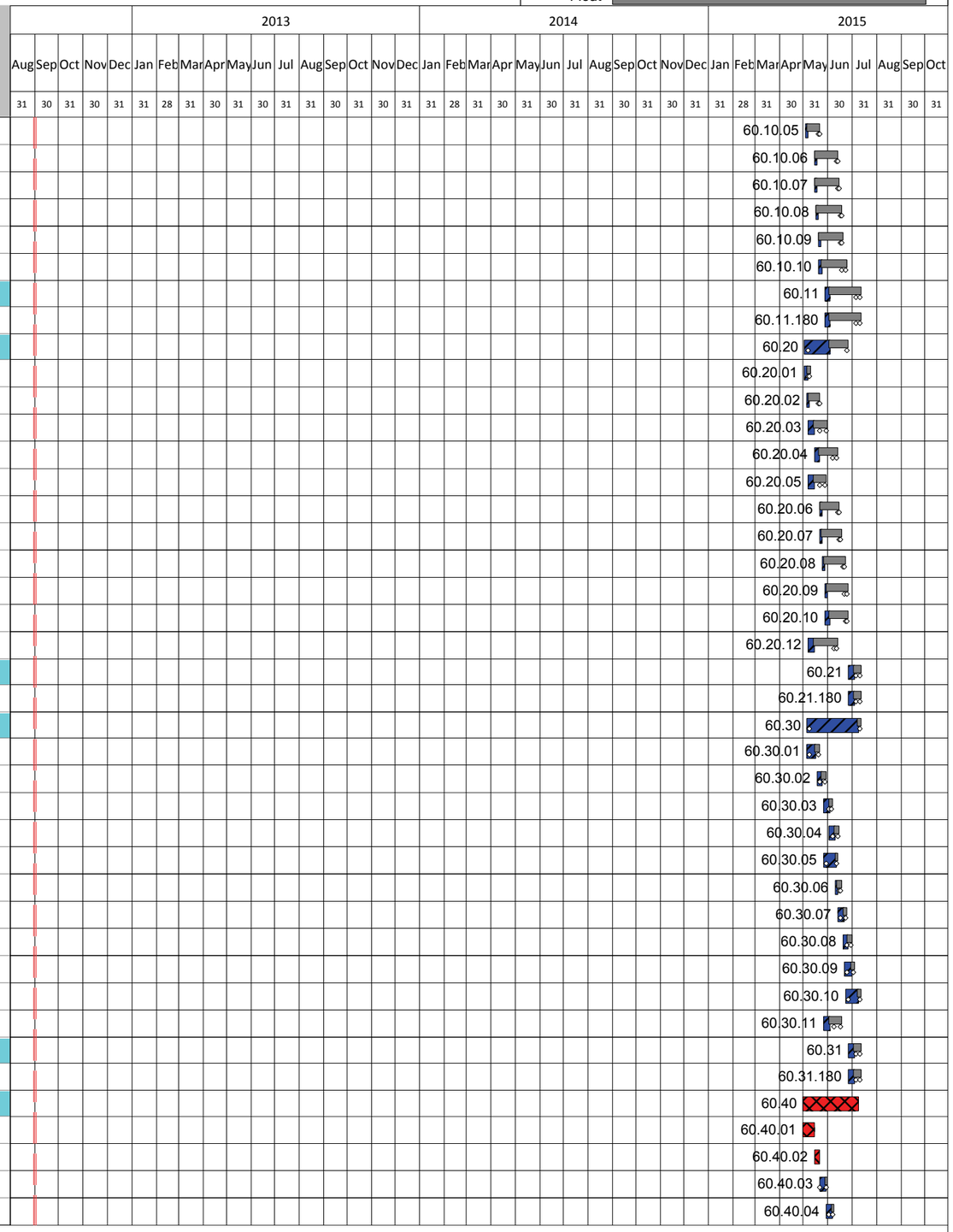
Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
60.10.05	Saw/Seal Existing Concrete Pavement (848+46 to 871+09 LT)	2d	04May15	05May15	11d	5-DAY
60.10.06	Place Asphalt Leveling Course (848+46 to 871+09 LT)	1d	14May15	14May15	28d	WEARING 10-0
60.10.07	Place Binder (848+46 to 871+09 LT)	1d	15May15	15May15	24d	BASE/BINDER 10-0
60.10.08	Place Wearing (848+46 to 871+09 LT)	1d	16May15	16May15	30d	WEARING 10-0
60.10.09	Backup Shoulders/Landscape/Seed (848+46 to 871+09 LT)	1d	19May15	19May15	22d	SEEDING
60.10.10	Install Guiderail/PIAD (848+46 to 871+09 LT)	3d	20May15	22May15	20d	5-DAY
60.11	S-16402 (STA 871+09.16 to 872+28.66 LT)	7d	27May15	02Jun15	27d	Calendar Days
60.11.180	Epoxy Surfacing of Bridge Deck	5d	27May15	02Jun15	27d	5-DAY
60.20	Station (872+28.66 to 922+62.01 LT)	32d	01May15	01Jun15	3d	Calendar Days
60.20.01	Remove Guiderail (872+28.66 to 922+62.01 LT)	2d	01May15	04May15	3d	5-DAY
60.20.02	Mill Existing Asphalt (872+28.66 to 922+62.01 LT)	2d	05May15	06May15	10d	5-DAY
60.20.03	Perform Concrete Patching (872+28.66 to 922+62.01 LT)	5d	07May15	13May15	11d	5-DAY
60.20.04	Cure Concrete Patches (872+28.66 to 922+62.01 LT)	7d	14May15	20May15	23d	Cure
60.20.05	Saw/Seal Existing Concrete Pavement (872+28.66 to 922+62.01 LT)	5d	07May15	13May15	10d	5-DAY
60.20.06	Place Asphalt Leveling Course (872+28.66 to 922+62.01 LT)	1d	21May15	21May15	22d	WEARING 10-0
60.20.07	Place Binder (872+28.66 to 922+62.01 LT)	2d	22May15	23May15	19d	BASE/BINDER 10-0
60.20.08	Place Wearing (872+28.66 to 922+62.01 LT)	2d	24May15	26May15	26d	WEARING 10-0
60.20.09	Backup Shoulders/Landscape/Seed (872+28.66 to 922+62.01 LT)	3d	27May15	29May15	21d	SEEDING
60.20.10	Install Guiderail/PIAD (872+28.66 to 922+62.01 LT)	3d	28May15	01Jun15	18d	5-DAY
60.20.12	Construct/Grade Median Cross Overs (872+28.66 to 922+62.01 LT)	5d	07May15	13May15	21d	5-DAY
60.21	S-25885 (STA 922+62.01 to 923+23.51 LT)	7d	26Jun15	02Jul15	5d	Calendar Days
60.21.180	Epoxy Surfacing of Bridge Deck	5d	26Jun15	02Jul15	5d	5-DAY
60.30	Station (923+23.51 to 1075+59.03 LT)	64d	05May15	07Jul15	3d	Calendar Days
60.30.01	Remove Guiderail (923+23.51 to 1075+59.03 LT)	9d	05May15	15May15	3d	5-DAY
60.30.02	Mill Existing Asphalt (923+23.51 to 1075+59.03 LT)	5d	18May15	22May15	3d	5-DAY
60.30.03	Perform Concrete Patching (923+23.51 to 1075+59.03 LT)	5d	26May15	01Jun15	4d	5-DAY
60.30.04	Cure Concrete Patches (923+23.51 to 1075+59.03 LT)	7d	02Jun15	08Jun15	5d	Cure
60.30.05	Saw/Seal Existing Concrete Pavement (923+23.51 to 1075+59.03 LT)	11d	26May15	09Jun15	3d	5-DAY
60.30.06	Place Asphalt Leveling Course (923+23.51 to 1075+59.03 LT)	3d	10Jun15	12Jun15	4d	WEARING 10-0
60.30.07	Place Binder (923+23.51 to 1075+59.03 LT)	6d	13Jun15	19Jun15	3d	BASE/BINDER 10-0
60.30.08	Place Wearing (923+23.51 to 1075+59.03 LT)	6d	20Jun15	25Jun15	4d	WEARING 10-0
60.30.09	Backup Shoulders/Landscape/Seed (923+23.51 to 1075+59.03 LT)	7d	22Jun15	29Jun15	3d	SEEDING
60.30.10	Install Guiderail/PIAD (923+23.51 to 1075+59.03 LT)	10d	23Jun15	07Jul15	3d	5-DAY
60.30.11	Construct/Grade Launch Pads (923+23.51 to 1075+59.03 LT)	6d	26May15	02Jun15	10d	5-DAY
60.31	S-16404 (STA 1075+59.0275 to 1076+66.65 LT)	7d	26Jun15	02Jul15	5d	Calendar Days
60.31.180	Epoxy Surfacing of Bridge Deck	5d	26Jun15	02Jul15	5d	5-DAY
60.40	Station (1076+66.65 to 1240+97.25 LT)	70d	30Apr15	08Jul15	0	Calendar Days
60.40.01	Remove Guiderail (1076+66.65 to 1240+97.25 LT)	10d	30Apr15	13May15	0	5-DAY
60.40.02	Mill Existing Asphalt (1076+66.65 to 1240+97.25 LT)	5d	14May15	20May15	0	5-DAY
60.40.03	Perform Concrete Patching (1076+66.65 to 1240+97.25 LT)	5d	21May15	28May15	1d	5-DAY
60.40.04	Cure Concrete Patches (1076+66.65 to 1240+97.25 LT)	7d	29May15	04Jun15	3d	Cure



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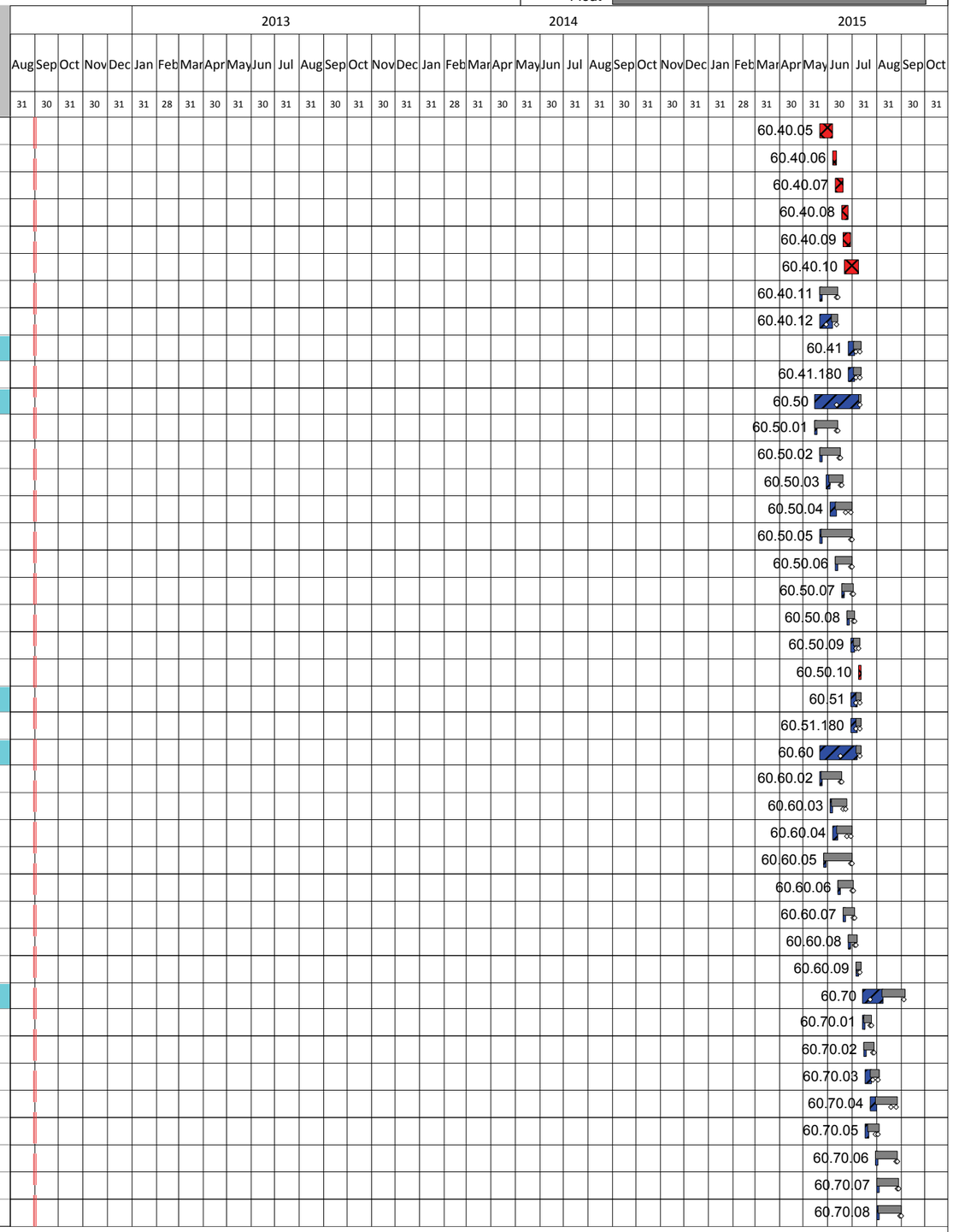
Time Now: 30Aug12
Start: 30Aug12
Finish: 06Oct15
Run: 10Jul12

Project:SR0080-540 (5A)
Project Description: SR 0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
60.40.05	Saw/Seal Existing Concrete Pavement (1076+66.65 to 1240+97.25 LT)	11d	21May15	05Jun15	0	5-DAY
60.40.06	Place Asphalt Leveling Course (1076+66.65 to 1240+97.25 LT)	4d	06Jun15	09Jun15	2d	WEARING 10-0
60.40.07	Place Binder (1076+66.65 to 1240+97.25 LT)	7d	10Jun15	17Jun15	2d	BASE/BINDER 10-0
60.40.08	Place Wearing (1076+66.65 to 1240+97.25 LT)	7d	18Jun15	24Jun15	2d	WEARING 10-0
60.40.09	Backup Shoulders/Landscape/Seed (1076+66.65 to 1240+97.25 LT)	8d	19Jun15	27Jun15	2d	SEEDING
60.40.10	Install Guiderail/PIAD (1076+66.65 to 1240+97.25 LT)	12d	22Jun15	08Jul15	1d	5-DAY
60.40.11	Construct/Grade Launch Pads (1076+66.65 to 1240+97.25 LT)	0	21May15	21May15	15d	5-DAY
60.40.12	Construct/Grade Median Cross Overs (1076+66.65 to 1240+97.25 LT)	10d	21May15	04Jun15	5d	5-DAY
60.41	S-16406 (STA 1240+97.25 to 1244+47.75 LT)	7d	26Jun15	02Jul15	5d	Calendar Days
60.41.180	Epoxy Surfacing of Bridge Deck	5d	26Jun15	02Jul15	5d	5-DAY
60.50	Station (1244+47.75 to 1252+47.19 LT)	57d	14May15	09Jul15	1d	Calendar Days
60.50.01	Remove Guiderail (1244+47.75 to 1252+47.19 LT)	1d	14May15	14May15	20d	5-DAY
60.50.02	Mill Existing Asphalt (1244+47.75 to 1252+47.19 LT)	1d	21May15	21May15	16d	5-DAY
60.50.03	Perform Concrete Patching (1244+47.75 to 1252+47.19 LT)	3d	29May15	02Jun15	12d	5-DAY
60.50.04	Cure Concrete Patches (1244+47.75 to 1252+47.19 LT)	7d	03Jun15	09Jun15	20d	Cure
60.50.05	Saw/Seal Existing Concrete Pavement (1244+47.75 to 1252+47.19 LT)	1d	22May15	22May15	25d	5-DAY
60.50.06	Place Asphalt Leveling Course (1244+47.75 to 1252+47.19 LT)	1d	10Jun15	10Jun15	20d	WEARING 10-0
60.50.07	Place Binder (1244+47.75 to 1252+47.19 LT)	1d	18Jun15	18Jun15	11d	BASE/BINDER 10-0
60.50.08	Place Wearing (1244+47.75 to 1252+47.19 LT)	1d	25Jun15	25Jun15	7d	WEARING 10-0
60.50.09	Backup Shoulders/Landscape/Seed (1244+47.75 to 1252+47.19 LT)	4d	29Jun15	02Jul15	4d	SEEDING
60.50.10	Install Guiderail/PIAD (1244+47.75 to 1252+47.19 LT)	1d	09Jul15	09Jul15	1d	5-DAY
60.51	S-16405 (STA 1252+47.19 to 1254+28.69 LT)	8d	29Jun15	06Jul15	4d	Calendar Days
60.51.180	Epoxy Surfacing of Bridge Deck	5d	29Jun15	06Jul15	4d	5-DAY
60.60	Station (1254+28.69 to 1254+61.00 LT)	46d	22May15	06Jul15	4d	Calendar Days
60.60.02	Mill Existing Asphalt (1254+28.69 to 1254+61.00 LT)	1d	22May15	22May15	16d	5-DAY
60.60.03	Perform Concrete Patching (1254+28.69 to 1254+61.00 LT)	3d	03Jun15	05Jun15	12d	5-DAY
60.60.04	Cure Concrete Patches (1254+28.69 to 1254+61.00 LT)	7d	06Jun15	12Jun15	18d	Cure
60.60.05	Saw/Seal Existing Concrete Pavement (1254+28.69 to 1254+61.00 LT)	1d	26May15	26May15	25d	5-DAY
60.60.06	Place Asphalt Leveling Course (1254+28.69 to 1254+61.00 LT)	1d	13Jun15	13Jun15	18d	WEARING 10-0
60.60.07	Place Binder (1254+28.69 to 1254+61.00 LT)	1d	19Jun15	19Jun15	11d	BASE/BINDER 10-0
60.60.08	Place Wearing (1254+28.69 to 1254+61.00 LT)	1d	26Jun15	26Jun15	7d	WEARING 10-0
60.60.09	Backup Shoulders/Landscape/Seed (1254+28.69 to 1254+61.00 LT)	1d	06Jul15	06Jul15	4d	SEEDING
60.70	Station (848+46 to 871+09 RT)	24d	15Jul15	07Aug15	7d	Calendar Days
60.70.01	Remove Guiderail (848+46 to 871+09 RT)	1d	15Jul15	15Jul15	7d	5-DAY
60.70.02	Mill Existing Asphalt (848+46 to 871+09 RT)	1d	16Jul15	16Jul15	7d	5-DAY
60.70.03	Perform Concrete Patching (848+46 to 871+09 RT)	5d	17Jul15	23Jul15	7d	5-DAY
60.70.04	Cure Concrete Patches (848+46 to 871+09 RT)	7d	24Jul15	30Jul15	26d	Cure
60.70.05	Saw/Seal Existing Concrete Pavement (848+46 to 871+09 RT)	3d	17Jul15	21Jul15	9d	5-DAY
60.70.06	Place Asphalt Leveling Course (848+46 to 871+09 RT)	1d	31Jul15	31Jul15	26d	WEARING 10-0
60.70.07	Place Binder (848+46 to 871+09 RT)	1d	01Aug15	01Aug15	22d	BASE/BINDER 10-0
60.70.08	Place Wearing (848+46 to 871+09 RT)	1d	02Aug15	02Aug15	29d	WEARING 10-0



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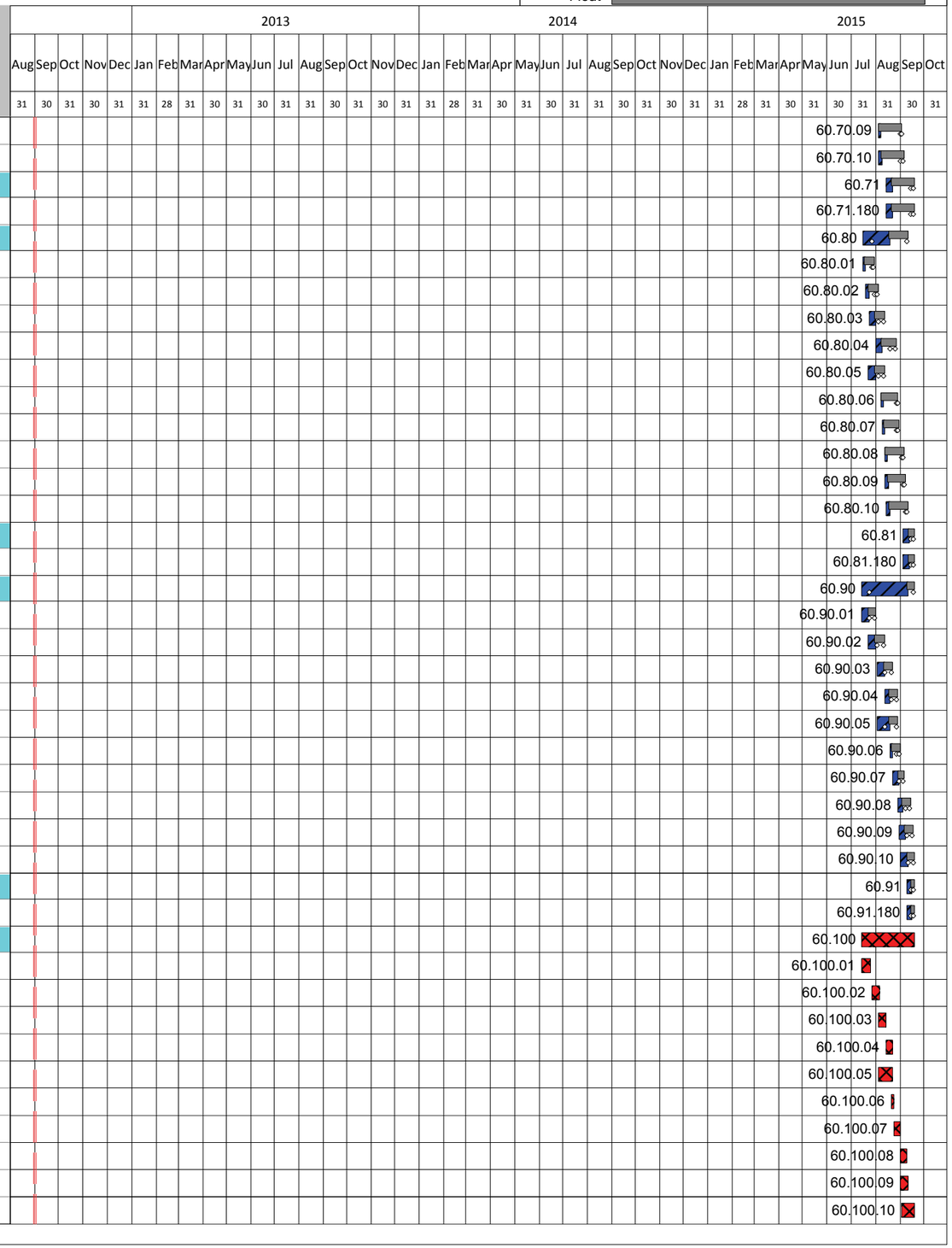
60.70.09	Backup Shoulders/Landscape/Seed (848+46 to 871+09 RT)	1d	04Aug15	04Aug15	24d	SEEDING
60.70.10	Install Guiderail/PIAD (848+46 to 871+09 RT)	3d	05Aug15	07Aug15	20d	5-DAY
60.71	S-16402 (STA 871+09.16 to 872+28.66 RT)	7d	14Aug15	20Aug15	20d	Calendar Days
60.71.180	Epoxy Surfacing of Bridge Deck	5d	14Aug15	20Aug15	20d	5-DAY
60.80	Station (872+28.66 to 922+62.01 RT)	34d	16Jul15	18Aug15	7d	Calendar Days
60.80.01	Remove Guiderail (872+28.66 to 922+62.01 RT)	2d	16Jul15	17Jul15	8d	5-DAY
60.80.02	Mill Existing Asphalt (872+28.66 to 922+62.01 RT)	3d	20Jul15	22Jul15	8d	5-DAY
60.80.03	Perform Concrete Patching (872+28.66 to 922+62.01 RT)	6d	24Jul15	31Jul15	7d	5-DAY
60.80.04	Cure Concrete Patches (872+28.66 to 922+62.01 RT)	7d	01Aug15	07Aug15	19d	Cure
60.80.05	Saw/Seal Existing Concrete Pavement (872+28.66 to 922+62.01 RT)	6d	23Jul15	30Jul15	8d	5-DAY
60.80.06	Place Asphalt Leveling Course (872+28.66 to 922+62.01 RT)	1d	08Aug15	08Aug15	19d	WEARING 10-0
60.80.07	Place Binder (872+28.66 to 922+62.01 RT)	2d	10Aug15	11Aug15	16d	BASE/BINDER 10-0
60.80.08	Place Wearing (872+28.66 to 922+62.01 RT)	2d	12Aug15	13Aug15	22d	WEARING 10-0
60.80.09	Backup Shoulders/Landscape/Seed (872+28.66 to 922+62.01 RT)	3d	13Aug15	15Aug15	19d	SEEDING
60.80.10	Install Guiderail/PIAD (872+28.66 to 922+62.01 RT)	3d	14Aug15	18Aug15	16d	5-DAY
60.81	S-25885 (STA 922+62.01 to 923+23.51 RT)	8d	04Sep15	11Sep15	5d	Calendar Days
60.81.180	Epoxy Surfacing of Bridge Deck	5d	04Sep15	11Sep15	5d	5-DAY
60.90	Station (923+23.51 to 1075+59.03 RT)	57d	15Jul15	09Sep15	7d	Calendar Days
60.90.01	Remove Guiderail (923+23.51 to 1075+59.03 RT)	6d	15Jul15	22Jul15	7d	5-DAY
60.90.02	Mill Existing Asphalt (923+23.51 to 1075+59.03 RT)	7d	23Jul15	31Jul15	7d	5-DAY
60.90.03	Perform Concrete Patching (923+23.51 to 1075+59.03 RT)	7d	03Aug15	11Aug15	7d	5-DAY
60.90.04	Cure Concrete Patches (923+23.51 to 1075+59.03 RT)	7d	12Aug15	18Aug15	9d	Cure
60.90.05	Saw/Seal Existing Concrete Pavement (923+23.51 to 1075+59.03 RT)	12d	03Aug15	18Aug15	7d	5-DAY
60.90.06	Place Asphalt Leveling Course (923+23.51 to 1075+59.03 RT)	3d	19Aug15	21Aug15	9d	WEARING 10-0
60.90.07	Place Binder (923+23.51 to 1075+59.03 RT)	6d	22Aug15	28Aug15	7d	BASE/BINDER 10-0
60.90.08	Place Wearing (923+23.51 to 1075+59.03 RT)	6d	29Aug15	03Sep15	9d	WEARING 10-0
60.90.09	Backup Shoulders/Landscape/Seed (923+23.51 to 1075+59.03 RT)	7d	31Aug15	06Sep15	9d	SEEDING
60.90.10	Install Guiderail (923+23.51 to 1075+59.03 RT)	6d	01Sep15	09Sep15	7d	5-DAY
60.91	S-16404 (STA 1075+59.0275 to 1076+66.65 RT)	7d	09Sep15	15Sep15	3d	Calendar Days
60.91.180	Epoxy Surfacing of Bridge Deck	5d	09Sep15	15Sep15	3d	5-DAY
60.100	Station (1076+66.65 to 1240+97.25 RT)	65d	15Jul15	17Sep15	0	Calendar Days
60.100.01	Remove Guiderail (1076+66.65 to 1240+97.25 RT)	8d	15Jul15	24Jul15	1d	5-DAY
60.100.02	Mill Existing Asphalt (1076+66.65 to 1240+97.25 RT)	7d	27Jul15	04Aug15	1d	5-DAY
60.100.03	Perform Concrete Patching (1076+66.65 to 1240+97.25 RT)	7d	05Aug15	13Aug15	1d	5-DAY
60.100.04	Cure Concrete Patches (1076+66.65 to 1240+97.25 RT)	7d	14Aug15	20Aug15	1d	Cure
60.100.05	Saw/Seal Existing Concrete Pavement (1076+66.65 to 1240+97.25 RT)	12d	05Aug15	20Aug15	1d	5-DAY
60.100.06	Place Asphalt Leveling Course (1076+66.65 to 1240+97.25 RT)	2d	21Aug15	22Aug15	1d	WEARING 10-0
60.100.07	Place Binder (1076+66.65 to 1240+97.25 RT)	7d	24Aug15	31Aug15	0	BASE/BINDER 10-0
60.100.08	Place Wearing (1076+66.65 to 1240+97.25 RT)	7d	01Sep15	08Sep15	0	WEARING 10-0
60.100.09	Backup Shoulders/Landscape/Seed (1076+66.65 to 1240+97.25 RT)	8d	02Sep15	10Sep15	0	SEEDING
60.100.10	Install Guiderail/PIAD (1076+66.65 to 1240+97.25 RT)	10d	03Sep15	17Sep15	0	5-DAY



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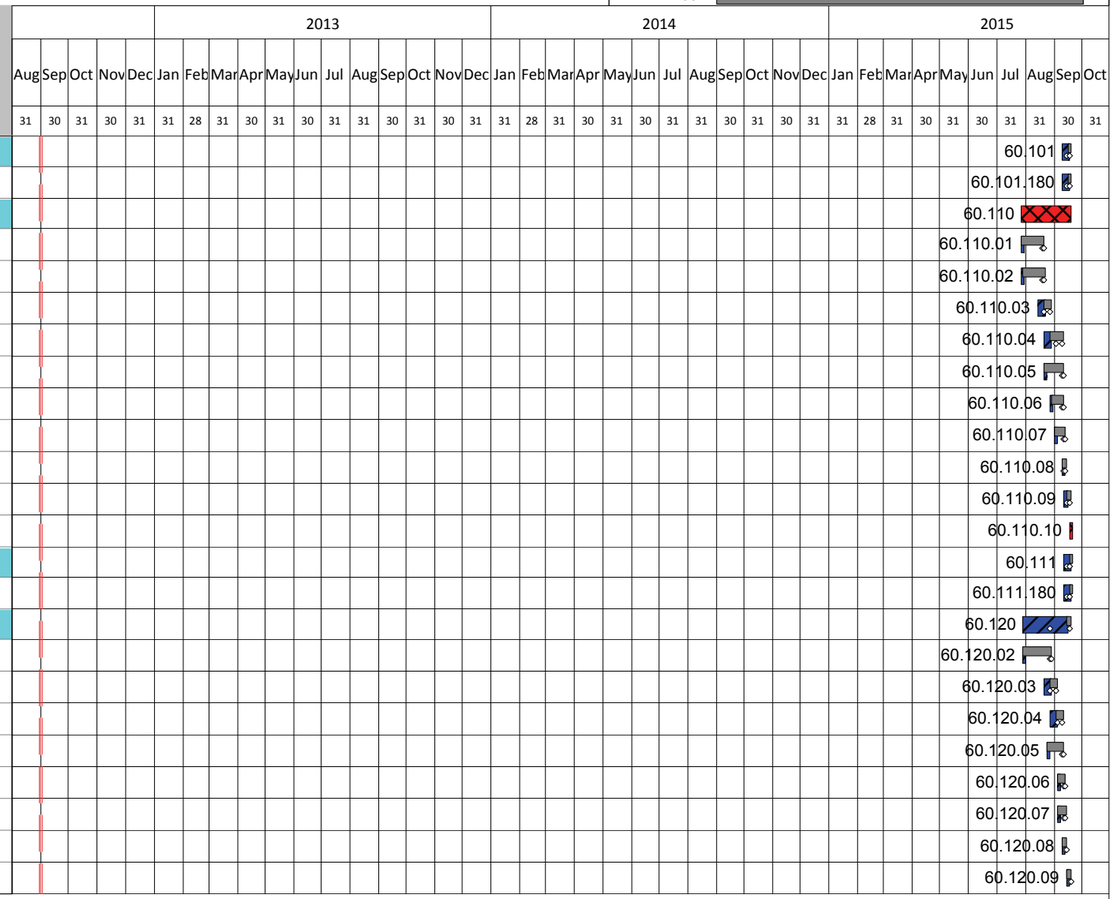
Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
60.101	S-16406 (STA 1240+97.25 to 1244+47.75 RT)	7d	10Sep15	16Sep15	2d	Calendar Days
60.101.180	Epoxy Surfacing of Bridge Deck	5d	10Sep15	16Sep15	2d	5-DAY
60.110	Station (1244+47.75 to 1252+47.19 RT)	54d	27Jul15	18Sep15	0	Calendar Days
60.110.01	Remove Guiderail (1244+47.75 to 1252+47.19 RT)	1d	27Jul15	27Jul15	17d	5-DAY
60.110.02	Mill Existing Asphalt (1244+47.75 to 1252+47.19 RT)	1d	28Jul15	28Jul15	17d	5-DAY
60.110.03	Perform Concrete Patching (1244+47.75 to 1252+47.19 RT)	5d	14Aug15	20Aug15	5d	5-DAY
60.110.04	Cure Concrete Patches (1244+47.75 to 1252+47.19 RT)	7d	21Aug15	27Aug15	13d	Cure
60.110.05	Saw/Seal Existing Concrete Pavement (1244+47.75 to 1252+47.19 RT)	1d	21Aug15	21Aug15	12d	5-DAY
60.110.06	Place Asphalt Leveling Course (1244+47.75 to 1252+47.19 RT)	1d	28Aug15	28Aug15	12d	WEARING 10-0
60.110.07	Place Binder (1244+47.75 to 1252+47.19 RT)	1d	01Sep15	01Sep15	8d	BASE/BINDER 10-0
60.110.08	Place Wearing (1244+47.75 to 1252+47.19 RT)	1d	09Sep15	09Sep15	3d	WEARING 10-0
60.110.09	Backup Shoulders/Landscape/Seed (1244+47.75 to 1252+47.19 RT)	4d	11Sep15	14Sep15	3d	SEEDING
60.110.10	Install Guiderail (1244+47.75 to 1252+47.19 RT)	1d	18Sep15	18Sep15	0	5-DAY
60.111	S-16405 (STA 1252+47.19 to 1254+28.69 RT)	7d	11Sep15	17Sep15	1d	Calendar Days
60.111.180	Epoxy Surfacing of Bridge Deck	5d	11Sep15	17Sep15	1d	5-DAY
60.120	Station (1254+28.69 to 1254+61.00 RT)	49d	29Jul15	15Sep15	3d	Calendar Days
60.120.02	Mill Existing Asphalt (1254+28.69 to 1254+61.00 RT)	1d	29Jul15	29Jul15	21d	5-DAY
60.120.03	Perform Concrete Patching (1254+28.69 to 1254+61.00 RT)	5d	21Aug15	27Aug15	5d	5-DAY
60.120.04	Cure Concrete Patches (1254+28.69 to 1254+61.00 RT)	7d	28Aug15	03Sep15	7d	Cure
60.120.05	Saw/Seal Existing Concrete Pavement (1254+28.69 to 1254+61.00 RT)	1d	24Aug15	24Aug15	12d	5-DAY
60.120.06	Place Asphalt Leveling Course (1254+28.69 to 1254+61.00 RT)	1d	04Sep15	04Sep15	6d	WEARING 10-0
60.120.07	Place Binder (1254+28.69 to 1254+61.00 RT)	1d	05Sep15	05Sep15	5d	BASE/BINDER 10-0
60.120.08	Place Wearing (1254+28.69 to 1254+61.00 RT)	1d	10Sep15	10Sep15	3d	WEARING 10-0
60.120.09	Backup Shoulders/Landscape/Seed (1254+28.69 to 1254+61.00 RT)	1d	15Sep15	15Sep15	3d	SEEDING



PENNDOT FORM EDD-VI

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: _____

*** FORM MUST BE MAINTAINED FOR A MINIMUM 5 YEARS IN THE PROJECT FILE***

PENNDOT EDD-VII

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: _____

*** FORM MUST BE MAINTAINED FOR A MINIMUM 5 YEARS IN PROJECT FILE ***

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 or 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.**

ENVIRONMENTAL DUE DILIGENCE (EDD) PHASE 1
VISUAL INSPECTION FORM

DATE: 5/10/12

SR/SEC: 0080/540 COUNTY: Jefferson

SEGMENTS: 0881 -0961

ECMS
Project#: 94915 - 0080 Westbound Reconstruction

ACTIVITY: Westbound reconstruction, Eastbound overlay, Westbound Bridge PM.

Location: Washington Township, Jefferson County

Visual Site Inspection (EDD-PHASE 1):

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

Comments: Attach additional pages of information as necessary.

Findings

Check one:

XX 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: DJ Layman

PRINTED NAME: David J. Layman

TITLE: Design Project Manager

ORGANIZATION: Design - District 10

*** ORIGINAL FORM MUST BE RETURNED TO DISTRICT ENVIRONMENTAL UNIT TO BE MAINTAINED ON FILE FOR A MINIMUM 5 YEARS***

General Decision Number: PA120004 06/01/2012 PA4

Superseded General Decision Number: PA20100004

State: Pennsylvania

Construction Types: Heavy and Highway

Counties: Allegheny, Armstrong, Beaver, Bedford, Blair, Butler, Cambria, Cameron, Centre, Clarion, Clearfield, Clinton, Crawford, Elk, Erie, Fayette, Forest, Franklin, Fulton, Greene, Huntingdon, Indiana, Jefferson, Lawrence, McKean, Mercer, Mifflin, Potter, Somerset, Venango, Warren, Washington and Westmoreland 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	03/16/2012
4	04/13/2012
5	04/20/2012
6	05/04/2012
7	05/11/2012
8	06/01/2012

BOIL0013-005 01/01/2011

CENTRE, FRANKLIN, POTTER, CLINTON, FULTON, HUNTINDON AND MIFFLIN COUNTIES

	Rates	Fringes
BOILERMAKER	$ 37.35	30.02

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* BOIL0154-004 06/01/2012

ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, BUTLER, CAMBRIA, CAMERON, CLARION, CLEARFIELD, CRAWFORD, ELK, FAYETTE, FOREST, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON AND WESTMORELAND COUNTIES

	Rates	Fringes
BOILERMAKER	$ 36.17	24.99

BOIL0744-003 07/01/2008

ERIE COUNTY

	Rates	Fringes

BOILERMAKER.....$ 35.34 18.48

BRPA0009-023 06/02/2011

BEAVER COUNTY

	Rates	Fringes
BRICKLAYER.....	$ 27.95	16.00

BRPA0009-024 06/01/2011

WASHINGTON (Cross Creek, Hanover, Jefferson, Mt Pleasant, Nottingham, Peters, Robinson, Smith, Union Twps) COUNTY

	Rates	Fringes
BRICKLAYER.....	$ 29.77	16.03

BRPA0009-025 06/01/2011

BUTLER, LAWRENCE, AND MERCER COUNTIES

	Rates	Fringes
BRICKLAYER.....	$ 27.95	15.88

BRPA0009-032 06/01/2011

FAYETTE (Jefferson & Washington Twps), GREENE (Except Cumberland, Dunkirk, Greene, Monongahelia Twps), INDIANA, AND WESTMORELAND (Rostraver Twp) COUNTIES

	Rates	Fringes
BRICKLAYER.....	$ 29.55	15.59

BRPA0009-033 06/01/2011

ARMSTRONG, CLARION (Brady, Madison, Perry, Tobe, Porter, Redbank Twps), FAYETTE (Except Jefferson & Washington Twps), GREENE (Cumberland, Dunkirk, Greene, Monongahelia Twps), INDIANA, AND WESTMORELAND (Except Rostrave Twp) COUNTIES

	Rates	Fringes
BRICKLAYER.....	$ 29.45	15.69

BRPA0009-034 05/01/2011

ERIE COUNTY

	Rates	Fringes
BRICKLAYER.....	$ 25.65	15.11

CARP2235-005 01/01/2012

	Rates	Fringes
PILEDRIVERMAN		
Piledriverman (welder)	$ 31.15	13.60
Piledriverman	$ 30.85	13.60

CARP2235-006 01/01/2007

	Rates	Fringes
Diver	$ 40.40	10.77
Tender	$ 26.93	10.77

CARP2274-001 01/01/2012

	Rates	Fringes
CARPENTER (ALLEGHENY, ARMSTRONG, BEAVER, BUTLER, ERIE, FAYETTE, GREENE, LAWRENCE, MERCER, WASHINGTON, AND WESTMORELAND COUNTIES)		
Carpenter (Welders)	$ 29.69	14.40
Carpenters	$ 28.99	14.40
CARPENTER (BEDFORD, BLAIR, CAMBRIA, CAMERON, CENTRE, CLARION, CLINTON, CLEARFIELD, CRAWFORD, ELK, FOREST, FRANKLIN, FULTON, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, MIFFLIN, POTTER, SOMERSET, VENANGO, AND WARREN COUNTIES)		
Carpenters (Welders)	$ 29.45	14.40
Carpenters	$ 28.74	14.40

ELEC0005-006 12/23/2011

ALLEGHENY, ARMSTRONG, BEDFORD, BLAIR, BUTLER CAMBRIA, CAMERON, CENTRE (Remainder), CLARION, CLEARFIELD, ELK, FAYETTE, FULTON, GREENE, HUNTINGDON, INDIANA, JEFFERSON, MCKEAN, SOMERSET, VENANGO, WASHINGTON, AND WESTMORELAND COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 35.76	20.75

ELEC0056-004 06/01/2011

ERIE, FOREST AND WARREN COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 27.00	19.37

ELEC0126-005 11/28/2011

ALLEGHENY, ARMSTRONG, BEAVER, BEDFORD, BLAIR, CAMBRIA, CENTRE, CLARION, CLEARFIELD, FAYETTE, FULTON, GREENE, HUNTINGDON,

INDIANA, JEFFERSON, SOMERSET, WASHINGTON AND WESTMORELAND

	Rates	Fringes
Line Construction:		
Groundman	$ 23.87	26%+7.50
Lineman	$ 39.78	26%+7.50
Truck Driver	$ 23.09	26%+5.55
Truck driver	$ 25.86	26%+7.50
Winch Truck Operator	$ 24.96	26%+5.55
Winch truck operator	$ 27.85	26%+7.50

ELEC0126-007 11/28/2011

FRANKLIN AND MIFFLIN COUNTIES

	Rates	Fringes
Line Construction:		
Groundman	$ 22.45	26%+7.50
Lineman	$ 37.42	26%+7.50
Truck Driver	$ 21.36	26%+5.55
Truck driver	$ 24.32	26%+7.50
Winch Truck Operator	$ 23.10	26%+5.55
Winch truck operator	$ 26.19	26%+7.50

ELEC0143-007 06/01/2011

FRANKLIN and MIFFLIN COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 27.70	17.60

ELEC0712-003 12/27/2010

CRAWFORD, BEAVER, LAWRENCE AND MERCER COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 27.50	3%+18.68

ELEC0812-008 06/01/2011

CLINTON COUNTY

	Rates	Fringes
ELECTRICIAN	$ 27.54	16.67

ELEC0812-009 06/01/2011

POTTER COUNTY

	Rates	Fringes
ELECTRICIAN	$ 28.55	16.70

ELEC0812-011 06/01/2011

CENTRE COUNTY (Burnside, Curtin, Liberty, Howard, Marion,
Walker, Miles, Haines Townships)

	Rates	Fringes
ELECTRICIAN	$ 27.54	16.67

ELEC1319-004 09/05/2011

BUTLER, CAMERON, CLINTON, CRAWFORD, ELK, ERIE, FOREST,
LAWRENCE, MCKEAN, MERCER, VENANGO, WARREN AND POTTER COUNTIES

	Rates	Fringes
Line Construction:		
Groundmen	$ 28.46	10.13
Heavy Equipment Operator	$ 45.45	14.40
Linemen	$ 45.91	18.45
Truck Drivers	$ 29.84	10.24

ENGI0066-016 01/01/2012

	Rates	Fringes
Power equipment operators: (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CENTRE, CLARION, CLEARFIELD, CRAWFORD, ERIE, ELK, FAYETTE, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND COUNTIES)		
GROUP 1	$ 28.08	16.39
GROUP 2	$ 27.82	16.39
GROUP 3	$ 24.17	16.39
GROUP 4	$ 23.71	16.39
GROUP 5	$ 23.46	16.39
Power equipment operators: (BEDFORD, CAMERON, CLINTON, FOREST, FRANKLIN, FULTON, HUNTINGDON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 27.79	16.39
GROUP 2	$ 27.51	16.39
GROUP 3	$ 23.87	16.39
GROUP 4	$ 23.38	16.39
GROUP 5	$ 23.17	16.39

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1 - Asphalt Paving Machine (Spreader), Autograde (C.M.I. and similar); Backfiller, Compactor with Blade, Backhoe - 360 and 180 degree Swing; Cableway; Caisson Drill (similar to Hugh Williams), Central Mix Plant; Cooling Plant; Concrete Paving Mixer, Concrete Pump (self-

propelled); Cranes; Cranes (boom or mast over 101ft.$.50 per each additional 50 feet inclusive of jib), Cranes (Tower Stationary- Climbing Tower Crane); Derrick; Derrick Boat; Dozer(greater than 25,000 lbs.); Dragline; Dredge; Dredge Hydraulic; Elevating Grader; Franki Pile Machine; Gradall (remote control or otherwise),Grader (power-fine grade); Hllift (4 cy. and over); Hoist 2 Drums or more (in one unit); Hydraulic Boom Truck with pivotal cab (single motor-Pitman or similar), (Boom and Mast over 101 feet will be paid an additional 50 feet inclusive of jib if used;) Kocal; Mechanic, Locomotive (std. Gauge); Metro-chip Harvester or similar; Milling Machine (Roto Mill or similar); Mix Mobile; Mix Mobile (with Self Loading Attachment), Mucking Machine (tunnel); Pile Driver Machine; Pipe Extrusion Machine; Prespliter Drill (self contained); Refrigeration Plant (soil Stablization) Rough Terrain Crane (25 ton over) (Boom and Mast over 101 feet will be paid an additional 50 feet inclusive of jib if used); Rough Terrain Crane (under 25 ton), Scrapers; Shovel-Power; Slip form Paver (C.M.I. and similar); Trenching Machine (30,000 lbs. and over), Trenching Machine (under 30,000 lb.), Tunnell Machine (Mark XXI Jarva or similar), Vermeer Saw, Whirley, Mechanic, Compactor with blade

GROUP 2: Asphalt plant operator; auger (tractor mtd.); auger (truck mtd.); belt loader (euclid or similar); boring machine; cable placer or layer; Directional drill over 3,000 lbs thrust; concrete batch plant (electronically synchronized); concrete belt placer (C.M.I. and similar); concrete finishing machine and spreader, concrete mixer (over 1 cy.) concrete pump (stationary); core drill (truck or skid mtd. - similar to penn drill), dozer (25,000 lbs or less); Ditch Witch Saw, force feedloader; fork lift (lull or similar); grader - power; grease unit opertor (head); guard rail post driver (truck mounted) guard rail post driver (skid type); hilift (under 4 cy.); skid steer loader; hydraulic boom truck (non-pivotal cab); job work boat (powered), jumbo operator; locomotive (narrow guage); minor equipment operator (accumulative four units); mucking machine; multi-head saw (groover); overhead crane; roller -power- asphalt; ross carrier; side boom or tractor mounted boom; shuttle buggy (asphalt), stone crusher (screening-washing plants); stone spreader (self propelled) truck mounted drill (davey or similar); welder and repairman; well point pump operator; bidwell concrete finishing machine (or similar).

GROUP 3: Broom Finisher (C.M.I. or similar); Compactors/Rollers (static or vibratory (Self-propelled) on dirt or stone; Curb Builder; Minor Equipment Opertor (two or three units); Multi-head Tie Tamper; Pavement Breaker (self-propelled or ridden); Soil Stablizer Machine; Tire Repairman; Tractor (snaking and hauling); Well Driller and Horizontal: Winch or "A" Frame Truck (when hoisting and lowering).

GROUP 4: Ballast Regulator; Compressor; Concrete Mixer (1 cy. & under with skip); Concrete Saw (Ridden or selp-propelled); Conveyor; Elevator (Material hauling only); Fork-lift (Ridden or self-propelled); Form Line

Machine; Generator; Groute Pump; Heater (Machinical); Hoist (single Drum); Ladavator, Light Plant; Mulching Machine; Personnel Boat (Powered), Pulverizer, Pumps, Seeding Machine, spray Cure Machine (powered Driven); Subgrader; Tie Puller; Tugger; Welding Machine (Gas or Diesel).

GROUP 5: Deck Hand; Farm Tractor; Fireman on Boiler; Oiler; Power Broom; Side Delivery Shoulder Spreader (attachment);

IRON0003-001 06/01/2011

ALLEGHENY, FAYETTE, WESTMORELAND, CAMBRIA, INDIANA, ARMSTRONG, BUTLER, BEAVER, CLARION, AND WASHINGTON COUNTIES

	Rates	Fringes
IRONWORKER	$ 30.38	24.20

IRON0003-007 06/01/2011

CRAWFORD, ERIE, FOREST, BLAIR, CAMERON, CENTRE, CLEARFIELD, CLINTON, ELK, JEFFERSON, MCKEAN POTTER, AND WARREN COUNTIES

	Rates	Fringes
Ironworkers:	$ 30.38	24.20
Pre-Engineered Metal Building	$ 29.43	7.42
Structural, Reinforcing & Ornamental		

IRON0003-009 06/01/2011

BLAIR, CAMERON, CENTRE, CLEARFIELD, CLINTON, ELK, JEFFERSON, MCKEAN AND POTTER COUNTIES

	Rates	Fringes
Ironworkers:	$ 30.38	24.20

IRON0207-002 06/01/2011

LAWRENCE, MERCER, AND VENANGO COUNTIES

	Rates	Fringes
IRONWORKER	$ 27.06	18.96

IRON0404-008 07/01/2011

FRANKLIN (Remainder), HUNTINGDON (Remainder), AND MIFFLIN COUNTIES

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 29.02	24.05

IRON0549-002 12/01/2011

GREENE COUNTY

	Rates	Fringes
IRONWORKER	$ 29.35	16.04

IRON0568-004 05/01/2011

BEDFORD, FRANKLIN (Southwest 1/3), FULTON, HUNTINGDON (Western 2/3), AND SOMERSET COUNTIES

	Rates	Fringes
Ironworkers:		
Sheeter, Bucker-Up	$ 26.73	14.70
Structural, Ornamental, Reinforcing, Machinery Mover, Rigger & Machinery Erector, Welder, Fence Erector	$ 26.48	14.70

LABO1058-001 01/01/2012

	Rates	Fringes
LABORER (BEDFORD, CAMERON, CENTRE, CLINTON, CRAWFORD, FOREST, FRANKLIN, FULTON, HUNTINGDON, JEFFERSON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 23.97	15.58
GROUP 2	$ 24.13	15.58
GROUP 3	$ 24.62	15.58
GROUP 4	$ 25.07	15.58
GROUP 5	$ 25.48	15.58
GROUP 6	$ 22.32	15.58
GROUP 7	$ 24.97	15.58
GROUP 8	$ 26.47	15.58
Laborers: (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CLARION, CLEARFIELD, ELK, ERIE, FAYETTE, GREENE, INDIANA, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND COUNTIES)		
GROUP 1	$ 24.07	15.58
GROUP 2	$ 24.23	15.58
GROUP 3	$ 24.62	15.58
GROUP 4	$ 25.07	15.58
GROUP 5	$ 25.48	15.58
GROUP 6	$ 22.32	15.58
GROUP 7	$ 25.07	15.58
GROUP 8	$ 26.57	15.58

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt curb sealer; Asphalt tamper; Batcherman (weigh) Blaster,Boatman, Brakeman, Change house attendant, Coffer dam, Concrete curing pitman, Puddler, Drill Runner's helper (Includes Drill Mounted on Truck, Track, or similar and Davey Drill Spots, Clean up, helps to maintain), Electric Brush and or Grinder, Fence Construction (Including Fence Machine Operator) Form stripper and Mover, Gabion (Erectors and Placers) Hydro jet blaster nozzleman; Landscape laborer, Manually moved emulusion sprayer, Radio actuated traffic control operator Rip rap work, scaffolds and Runways, Sheeters and Shorers (includes lagging) structural concrete Top Surfacer, Walk Behind Street Sweeper, and Wood Chipper; water boy

GROUP 2: Air tool operator (all types); Asphalt, batch & concrete plant operator (manually operated) Burner, Caisson; men (open air); Carryable pumps; Chain saw operator including attachments, Cribbing, (concrete or steel); Curb machine operator (asphalt or concrete walk behind); Diamond head Core Drller, Drill runner's helper (tunnel) Fork Lift, (walk behind), Form Setter (Road Forms Line man) Highway Slab reinforcement placers (including joint and Basket Setters) Hydraulic pipe pusher; Liner plates (Tile or Vitrified Clay) Mechanical compacting equipment operators, Mechanical joint sealer, Dope pot and Tar Kettle, Mortar mixer (hand or machine) Muckers, Brakemen & all other Labor, (Includes installation of utility lines) Pipe Layers /Fusion /Heating Iron (Regardless of materials) Portable Single Unit Conveyor, Post Hole Auger, (2 or 4 cycle hand operated) Power wheelbarrows and buggies, Rail porter or similar; Sand blaster;Signal Man,Vibrator operator, All RAILROAD TRACK WORK TO INCLUDE THE FOLLOWING: adzing machine, ballast Router, Bolting Machine, Power Jacks, Rail Drills, Railroad Brakeman,Rail Saws, Spike Drivers (Manually or hand held tool) Spike Pullers Tamping Machine, Thermitweld

GROUP 3: Asphalt Luteman/Raker,Blacksmith, Blaster, Brick, stone and block pavers and block cutters (wood, belgian and asphalt); Cement mortar lining car pusher; Cement mortar mixer (pipe relining); Cement mortar pipe reliners; concrete saw operator (walk behind); Curb cutters and setters; Elevated roadway drainage construction; erector of overhead signs, Form setter (road forms-lead man); Grout machine operator; Gunite or dry pack gun (nozzle and machine man); Manhole or catch basin builder (Brick block concrete or any prefabrication) Miners and drillers (including lining, supporting and form workmen, setting of shields, miscellaneous equipment and jumbos); Multi-plate pipe (aligning and securing); Placing wire mesh on gunite projects; Wagon drill operators (air track or similar); Walk behind ditching machine (trencher or similar);crown screed adjuster and welder

GROUP 4: Reinforcing Steel Placer (Bending, aligning, and securing, Cadweld)

GROUP 5:High Burner, (Any burning not done from deck), Welder (Pipeline)

GROUP 6: Uniformed Flagperson, Watchman

GROUP 7: Toxic/Hazardous Waste Removal Laborer Levels C & D

GROUP 8: Toxic/Hazardous Waste Removal Laborer Levels A & B

PAIN0021-019 05/01/2010

CLINTON COUNTY

	Rates	Fringes
Painters:		
Bridge	$ 29.60	13.00
Brush & Roller	$ 23.30	13.00
Spray	$ 24.30	13.00

PAIN0021-024 05/01/2010

FRANKLIN COUNTY

	Rates	Fringes
PAINTER		
Brush	$ 22.57	9.60

PAIN0057-014 06/01/2011

ALLEGHENY, FAYETTE, GREEN, WASHINGTON COUNTIES

	Rates	Fringes
Painters:		
Bridge	$ 30.92	14.09
Brush & Roller	$ 25.72	14.09
Spray	$ 25.72	14.09

PAIN0057-015 06/01/2011

ARMSTRONG, BEAVER, BEDFORD, BLAIR, BUTLER,CAMBRIA, CENTRE, CLARION, CLEARFIELD, ELK, FULTON, HUNTINGTON, INDIANA, JEFFERSON, LAWRENCE, MERCER, MIFFLIN, SOMERSET, VENANGO AND WESTMORELAND COUNTIES

	Rates	Fringes
Painters:		
Bridge	$ 30.92	14.09
Brush and Roller	$ 25.72	14.09
Spray	$ 25.72	14.09

PAIN0057-022 05/01/2011

	Rates	Fringes
Painters: (ERIE, McKEAN, AND WARREN (Including Columbus and Freehold twps) COUNTIES)		

Bridges,Stacks,Towers	$ 22.78	13.25
Brush and Roller	$ 20.78	13.25
Spray and Sandblasting	$ 21.53	13.25

PAIN0057-027 06/01/2011

CAMERON, CRAWFORD, POTTER, WARREN, (Excluding Columbus and Freehold twps)

	Rates	Fringes
PAINTER		
Brush and Roller	$ 25.72	14.09

PLAS0526-002 01/01/2012

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
Beaver, Cameron, Clarion, Crawford, Elk, Forest, Lawrence, McKean, Potter, Venango and Warren Counties	$ 28.22	15.17
Bedford, Blair, Cambria, Centre, Clinton, Huntingdon, Mifflin and Somerset Counties	$ 28.22	15.17
All Other Counties	$ 28.02	14.27

PLUM0027-001 06/01/2011

ALLEGHENY, ARMSTRONG, GREENE (Except extreme Eastern portion), WASHINGTON (Except extreme Eastern portion) and WESTMORELAND (City of Arnold and City of New Kensington Only) COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 35.85	17.57

PLUM0047-005 05/01/2011

BEAVER, BUTLER, MCKEAN, MERCER, VENANGO, CLARION, LAWRENCE, FOREST, WARREN, CRAWFORD, AND ERIE COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 36.57	18.51

PLUM0354-005 06/01/2011

BEDFORD, BLAIR, CAMBRIA, CAMERON, CLEARFIELD, ELK, FAYETTE, GREENE (Extreme Eastern portion), HUNTINGDON, INDIANA, JEFFERSON, SOMERSE, WASHINGTON (Extreme Eastern portion), AND WESTMORELAND COUNTIES

	Rates	Fringes
Plumbers and Pipefitters (Bridge Drain Pipe)	$ 35.33	19.18

TEAM0040-001 01/01/2012

	Rates	Fringes
TRUCK DRIVER (ALLEGHENY, ARMSTRONG, BEAVER, BLAIR, BUTLER, CAMBRIA, CENTRE, CLARFIELD, CRAWFORD, ERIE, FAYETTE, GREENE, INDIANA, JEFFERSON, LAWRENCE, MCKEAN, MERCER, SOMERSET, VENANGO, WARREN, WASHINGTON, AND WESTMORELAND)		
GROUP 1	$ 25.88	13.49
GROUP 2	$ 26.02	13.57
GROUP 3	$ 25.88	13.83
Truck drivers: (BEDFORD, CAMERON, CLAIRON, CLINTON, ELK, FOREST, FRANKLIN, FULTON, HUNTINGDON, MIFFLIN, AND POTTER COUNTIES)		
GROUP 1	$ 25.69	13.41
GROUP 2	$ 25.87	13.50
GROUP 3	$ 26.37	3.79

FOOTNOTES: A. Hazardous/toxic waste material/work level A & B receive additional $2.50 per hour above classification rate

B. Hazardous/toxic waste materials/Work level C & D receive $1.00 per hour above classification

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Single Axle (2 axles including steering axle); Includes partsman and warehoueman

GROUP 2 - Tandem - Tri-Axle - Semi-Tractor Trailer (combination) (3 axles or more including steering axle)

GROUP 3 - Specialty Vehicles; Heavy equipment whose capacity exceeds that for which state licenses are issued specifically refers to units in excess of eight (8) feet width (such as Euclids, Atley Wagon, Payloder, Tournawagons, and similar equipment when not self loaded); Tar and Asphalt Distributors Trucks, Heavy Duty Trailer, such as Low Boy, High Boy

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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.

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END OF GENERAL DECISION

DISCLOSURE OF LOBBYING ACTIVITIES

Approved by OMB
0348-0046

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:	2. Status of Federal Action:	3. Report Type:
☐ a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	☐ a. bid/offer/application b. initial award c. post-award	☐ a. initial filing b. material change **For Material Change Only:** year _____ quarter _____ date of last report _____

4. Name and Address of Reporting Entity:	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:
☐ **Prime** ☐ **Subawardee** Tier _____, *if known*: **Congressional District**, *if known*: 4c	**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)

Created by PENNDOT EDMS Tuesday, October 16, 2012 12:58:36 PM

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 employeeof 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 organizationallevel 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.

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	☐	☐
4.b	Reinforcement Bars	☐	☐
4.c	Piles	☐	☐
4.d	Steel Sign Structure(s)	☐	☐
4.e	Fabricated Structural Steel	☐	☐
4.f	Precast Reinforced Concrete Box Culvert(s) / Prestressed Concrete Bridge Beam(s)	☐	☐

* 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.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

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.

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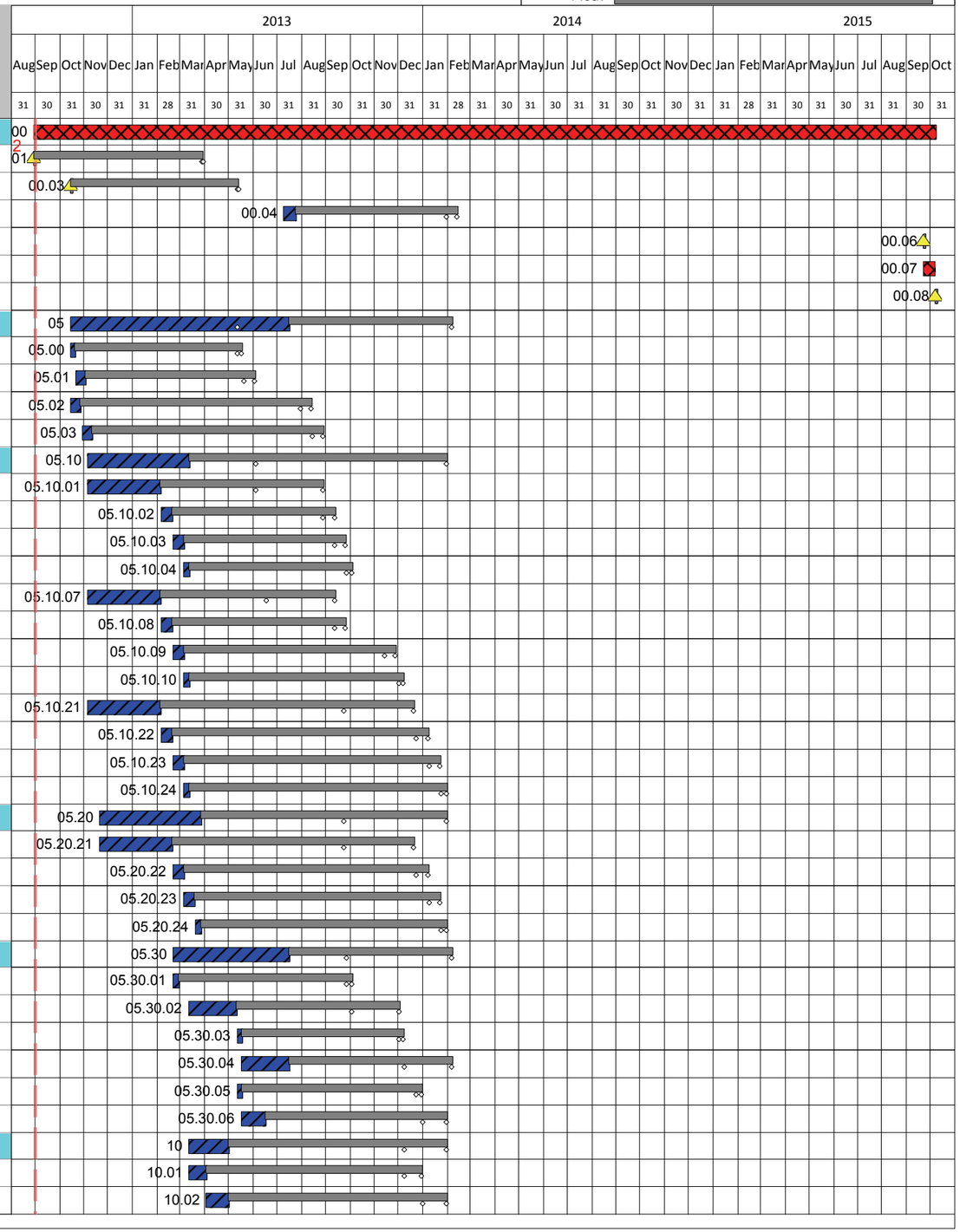
Time Now: 30Aug12
Start: 30Aug12
Finish: 06Oct15
Run: 10Jul12

Project:SR0080-540 (5C)
Project Description: SR0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
00	Contract Administration	1133d	30Aug12	06Oct15	0	Calendar Days
00.01	Contract Letting	0	30Aug12	30Aug12	142d	PENNDOT 5-DAY
00.03	NTP Awarded	0	15Oct12	15Oct12	143d	PENNDOT 5-DAY
00.04	Mobilization	10d	10Jul13	23Jul13	138d	PENNDOT 5-DAY
00.06	Substantial Completion Walkthrough	0	21Sep15	21Sep15	0	PENNDOT 5-DAY
00.07	Punchlist / Demobilization / Cleanup	10d	22Sep15	05Oct15	0	PENNDOT 5-DAY
00.08	Final Completion	0	06Oct15	06Oct15	0	PENNDOT 5-DAY
05	Design Engineering	275d	15Oct12	16Jul13	138d	Calendar Days
05.00	Prepare/Submit Design Firm ID and Qual Submission	5d	15Oct12	19Oct12	143d	5-DAY
05.01	Review/Approve Design Firm ID and Qual Submission	10d	22Oct12	02Nov12	143d	PENNDOT 5-DAY
05.02	Prepare/Submit Quality Plan Submission	10d	15Oct12	26Oct12	198d	5-DAY
05.03	Review/Approve Quality Plan Submission	10d	29Oct12	09Nov12	198d	PENNDOT 5-DAY
05.10	Roadway Submissions	128d	05Nov12	12Mar13	143d	Calendar Days
05.10.01	Prepare/Submit Preliminary E&S PCP & PSMP	60d	05Nov12	04Feb13	143d	5-DAY
05.10.02	Review/Approve Preliminary E&S PCP & PSMP	10d	05Feb13	19Feb13	143d	PENNDOT 5-DAY
05.10.03	Prepare/Submit Final E&S PCP & PSMP	10d	20Feb13	05Mar13	143d	5-DAY
05.10.04	Review/Approve Final E&S PCP & PSMP	5d	06Mar13	12Mar13	143d	PENNDOT 5-DAY
05.10.07	Prepare/Submit Preliminary Roadway Plan Submission	60d	05Nov12	04Feb13	153d	5-DAY
05.10.08	Review/Approve Preliminary Roadway Plan Submission	10d	05Feb13	19Feb13	153d	PENNDOT 5-DAY
05.10.09	Prepare/Submit Final Roadway Plan Submission	10d	20Feb13	05Mar13	186d	5-DAY
05.10.10	Review/Approve Final Roadway Plan Submission	5d	06Mar13	12Mar13	186d	PENNDOT 5-DAY
05.10.21	Prepare/Submit Preliminary Signing & Pavement Marking Plan Submission	60d	05Nov12	04Feb13	221d	5-DAY
05.10.22	Review/Approve Preliminary Signing & Pavement Marking Plan Submission	10d	05Feb13	19Feb13	221d	PENNDOT 5-DAY
05.10.23	Prepare/Submit Final Signing & Pavement Marking Plan Submission	10d	20Feb13	05Mar13	221d	5-DAY
05.10.24	Review/Approve Final Signing & Pavement Marking Plan Submission	5d	06Mar13	12Mar13	221d	PENNDOT 5-DAY
05.20	Maintenance & Protection of Traffic Submissions	127d	20Nov12	26Mar13	211d	Calendar Days
05.20.21	Prepare/Submit Preliminary MPT Plan Submission	60d	20Nov12	19Feb13	211d	5-DAY
05.20.22	Review/Approve Preliminary MPT Plan Submission	10d	20Feb13	05Mar13	211d	PENNDOT 5-DAY
05.20.23	Prepare/Submit Final MPT Plan Submission	10d	06Mar13	19Mar13	211d	5-DAY
05.20.24	Review/Approve Final MPT Plan Submission	5d	20Mar13	26Mar13	211d	PENNDOT 5-DAY
05.30	Permits	147d	20Feb13	16Jul13	138d	Calendar Days
05.30.01	Prepare/Submit NPDES Permit Application (Submit only after Approval of E&S PCP & PSMP)	5d	20Feb13	26Feb13	153d	5-DAY
05.30.02	Obtain NPDES Permit	60d	13Mar13	11May13	204d	Calendar Days
05.30.03	Prepare/Submit Joint Permit Application	5d	13May13	17May13	138d	5-DAY
05.30.04	Obtain PADEP Joint Permit	60d	18May13	16Jul13	204d	Calendar Days
05.30.05	Prepare/Submit Waste/Borrow Area Submission	5d	13May13	17May13	153d	5-DAY
05.30.06	Review/Approve Waste/Borrow Area Submission	30d	18May13	16Jun13	227d	Calendar Days
10	Construction Engineering	49d	13Mar13	30Apr13	186d	Calendar Days
10.01	Prepare/Submit Concrete Q.C. Plan	15d	13Mar13	02Apr13	186d	5-DAY
10.02	Review/Approve Concrete Q.C. Plan	20d	03Apr13	30Apr13	186d	PENNDOT 5-DAY



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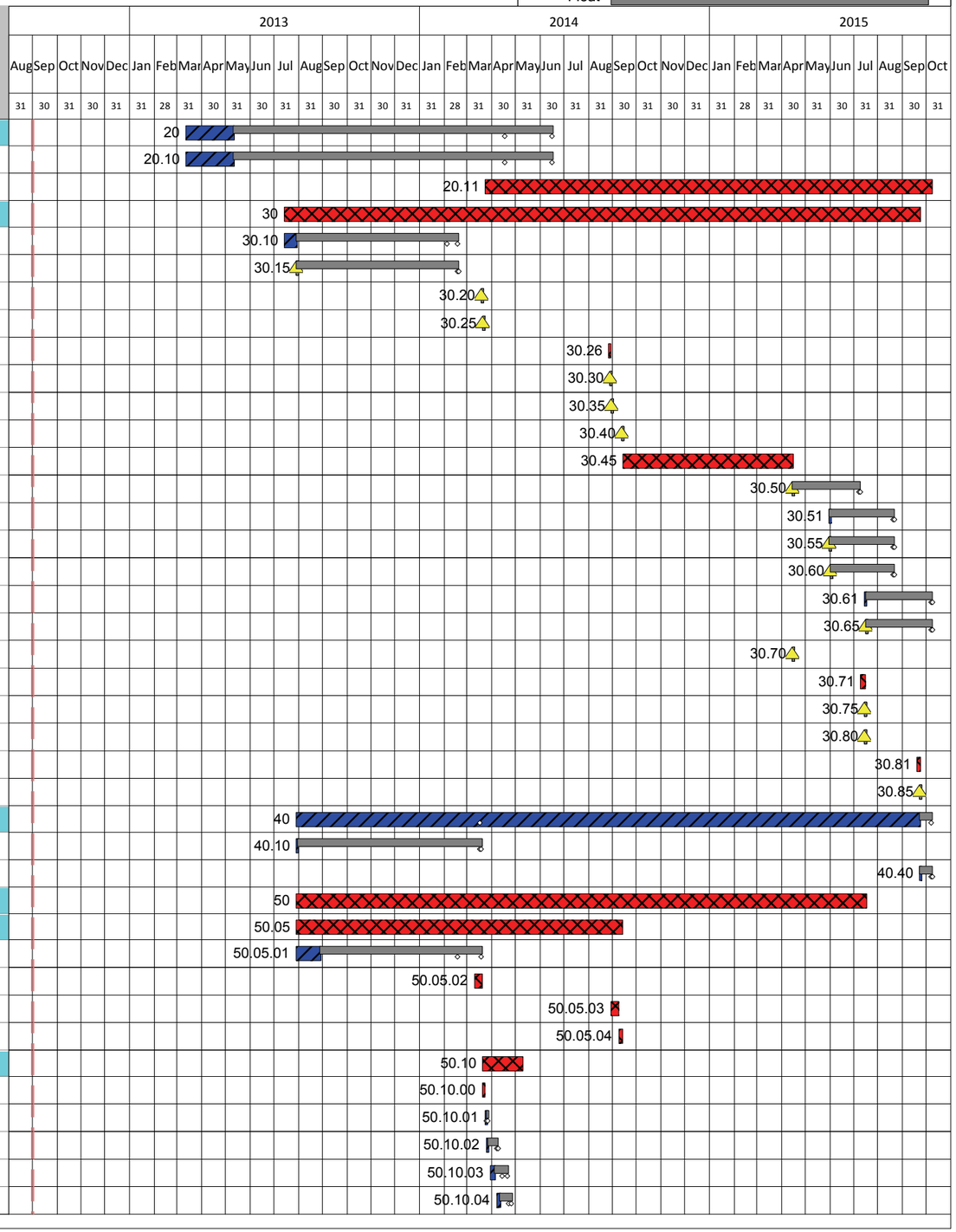
20	Fabrication/Procurement	60d	13Mar13	11May13	401d	Calendar Days
20.10	Procurement/Delivery of Reinforcing Baskets	60d	13Mar13	11May13	401d	Calendar Days
20.11	Rubbelize Excavated Existing Pavement Slabs	436.75d	24Mar14	06Oct15	2d	Calendar Days
30	Maintenance and Protection of Traffic	799d	15Jul13	21Sep15	0	Calendar Days
30.10	Advanced Notification MPT	14d	15Jul13	28Jul13	204d	Calendar Days
30.15	Phase 1 - Start (TEMPORARY/PREPARATORY)	0	29Jul13	29Jul13	204d	Calendar Days
30.20	Phase 1 - Complete	0	19Mar14	19Mar14	0	Calendar Days
30.25	Phase 2 - Start (WB RECONSTRUCTION)	0	20Mar14	20Mar14	0	Calendar Days
30.26	Line Striping	3d	26Aug14	28Aug14	0	Calendar Days
30.30	Phase 2 - Complete (WB RECONSTRUCTION)	0	28Aug14	28Aug14	0	Calendar Days
30.35	Phase 3 - Start (EB GUIDERAIL RECONFIGURE FOR CORRECT FLOW)	0	29Aug14	29Aug14	0	Calendar Days
30.40	Phase 3 - Complete (EB GUIDERAIL RECONFIGURE FOR CORRECT FLOW)	0	12Sep14	12Sep14	0	Calendar Days
30.45	Winter Shutdown	214d	13Sep14	14Apr15	0	Calendar Days
30.50	Phase 4 - Startt (WB PHASED CONSTRUCTION STAGE A)	0	15Apr15	15Apr15	83d	Calendar Days
30.51	Line Striping	1d	31May15	31May15	80d	Calendar Days
30.55	Phase 4 - Completet (WB PHASED CONSTRUCTION STAGE A)	0	31May15	31May15	80d	Calendar Days
30.60	Phase 5 - Start (WB PHASED CONSTRUCTION STAGE B)	0	01Jun15	01Jun15	80d	Calendar Days
30.61	Line Striping	1d	15Jul15	15Jul15	83d	Calendar Days
30.65	Phase 5 - Complete (WB PHASED CONSTRUCTION STAGE B)	0	15Jul15	15Jul15	83d	Calendar Days
30.70	Phase 6 - Start (EB PHASED CONSTRUCTION STAGE A)	0	15Apr15	15Apr15	0	Calendar Days
30.71	Line Striping	5d	10Jul15	14Jul15	1d	Calendar Days
30.75	Phase 6 - Complete (EB PHASED CONSTRUCTION STAGE A)	0	14Jul15	14Jul15	1d	Calendar Days
30.80	Phase 7 - Start (EB PHASED CONSTRUCTION STAGE B)	0	15Jul15	15Jul15	1d	Calendar Days
30.81	Line Striping	3d	19Sep15	21Sep15	0	Calendar Days
30.85	Phase 7 - Complete (EB PHASED CONSTRUCTION STAGE B)	0	21Sep15	21Sep15	0	Calendar Days
40	E&S Controls	786d	29Jul13	22Sep15	10d	Calendar Days
40.10	Construct E&S Controls	2d	29Jul13	30Jul13	157d	5-DAY
40.40	Remove all E&S Controls	1d	22Sep15	22Sep15	10d	5-DAY
50	WB Construction	717d	29Jul13	15Jul15	0	Calendar Days
50.05	Temporary	411d	29Jul13	12Sep14	0	Calendar Days
50.05.01	Construct Median Crossovers, Emergency Access Accel.	30d	29Jul13	27Aug13	204d	Calendar Days
50.05.02	Reconfigure EB Guiderail for COUNTER FLOW	10d	10Mar14	19Mar14	0	Calendar Days
50.05.03	Reconfigure EB Guiderail for CORRECT FLOW	10d	29Aug14	07Sep14	0	Calendar Days
50.05.04	Remove Crossovers/Restore Medians	5d	08Sep14	12Sep14	0	Calendar Days
50.10	Station (141+16.40 to 159+49.54)	51d	20Mar14	09May14	0	Calendar Days
50.10.00	Sawcut Existing Roadway (141+16.40 to 159+49.54+00)	2d	20Mar14	21Mar14	0	5-DAY
50.10.01	Excavate Existing Pavement Pavement Slabs (141+16.40 to 159+49.54+00)	2d	24Mar14	25Mar14	2d	5-DAY
50.10.02	Undercut Existing Subgrade (141+16.40 to 159+49.54+00)	2d	26Mar14	27Mar14	8d	5-DAY
50.10.03	Construct Subgrade/Embankment (141+16.40 to 159+49.54+00)	5d	31Mar14	04Apr14	11d	5-DAY
50.10.04	Construct Subbase/Drainage (141+16.40 to 159+49.54+00)	4d	07Apr14	10Apr14	11d	5-DAY



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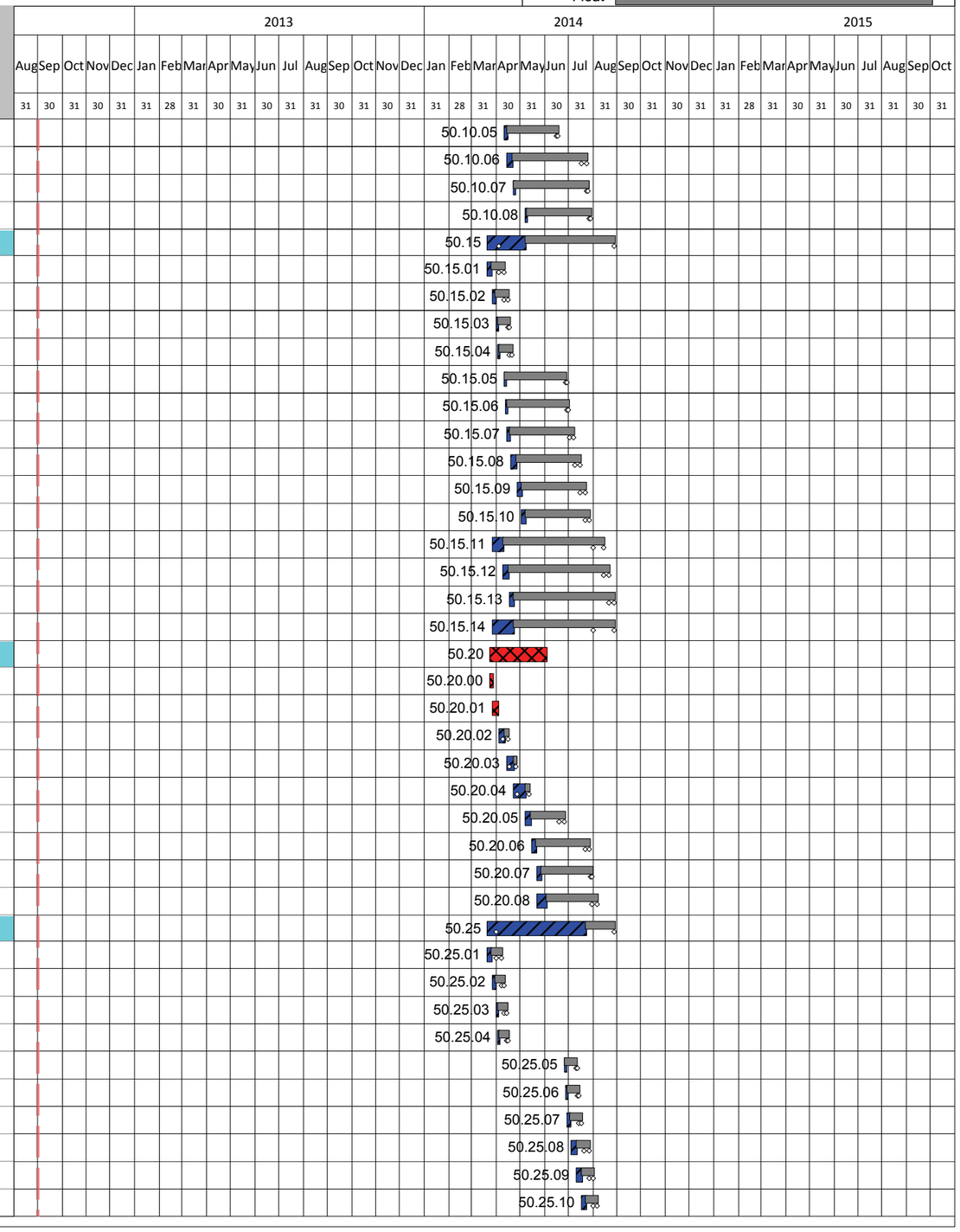
50.10.05	F/R/P Concrete Pavement (141+16.40 to 159+49.54+00)	2d	11Apr14	14Apr14	46d	5-DAY
50.10.06	Cure Concrete Pavement (141+16.40 to 159+49.54+00)	7d	15Apr14	21Apr14	94d	Cure
50.10.07	Backup Shoulder/Landscape/Seed (141+16.40 to 159+49.54+00)	1d	22Apr14	22Apr14	73d	SEEDING
50.10.08	Install Guiderail (141+16.40 to 159+49.54+00)	2d	08May14	09May14	55d	5-DAY
50.15	S-32751 (STA 159+49.54 to 160+68.19)	49d	20Mar14	07May14	11d	Calendar Days
50.15.01	Demo Portions of Existing Structure (S-32751)	5d	20Mar14	26Mar14	11d	5-DAY
50.15.02	Excavate Behind Abutments (S-32751)	3d	27Mar14	31Mar14	11d	5-DAY
50.15.03	Apply Waterproofing (S-32751)	2d	01Apr14	02Apr14	11d	5-DAY
50.15.04	Install Structure Foundation Drain/Backfill (S-32751)	2d	03Apr14	04Apr14	11d	5-DAY
50.15.05	F/R/P Sleeper Slabs (S-32751)	1d	11Apr14	11Apr14	54d	5-DAY
50.15.06	Cure Sleeper Slabs (S-32751)	3d	12Apr14	14Apr14	78d	Cure
50.15.07	F/R/P Bridge Approach Slabs (S-32751)	4d	15Apr14	18Apr14	55d	5-DAY
50.15.08	Cure Approach Slabs (S-32751)	7d	19Apr14	25Apr14	81d	Cure
50.15.09	F/R/P Safety Wings (S-32751)	5d	28Apr14	02May14	55d	5-DAY
50.15.10	Cure/Strip/Parge Safety Wings (S-32751)	5d	03May14	07May14	81d	Cure
50.15.11	Sawcut/Demo Bridge Deck/Dams (S-32751)	10d	27Mar14	09Apr14	89d	5-DAY
50.15.12	F/I/P Bridge Deck/Dams (S-32751)	5d	10Apr14	16Apr14	89d	5-DAY
50.15.13	Cure Bridge Deck Patching (S-32751)	7d	17Apr14	23Apr14	127d	Cure
50.15.14	Demo/Repair Concrete Bridge Beams/Substructure (S-32751)	20d	27Mar14	23Apr14	89d	5-DAY
50.20	Station (160+68.19 to 212+71.26) (S-32751)	71d	24Mar14	02Jun14	0	Calendar Days
50.20.00	Sawcut Existing Roadway (160+68.19 to 212+71.26)	4d	24Mar14	27Mar14	0	5-DAY
50.20.01	Excavate Existing Pavement Pavement Slabs (160+68.19 to 212+71.26)	5d	28Mar14	03Apr14	0	5-DAY
50.20.02	Undercut Existing Subgrade (160+68.19 to 212+71.26)	6d	04Apr14	11Apr14	3d	5-DAY
50.20.03	Construct Subgrade/Embankment (160+68.19 to 212+71.26)	7d	14Apr14	22Apr14	3d	5-DAY
50.20.04	Construct Subbase/Drainage (160+68.19 to 212+71.26)	11d	23Apr14	07May14	3d	5-DAY
50.20.05	F/R/P Concrete Pavement (160+68.19 to 212+71.26)	5d	08May14	14May14	29d	5-DAY
50.20.06	Cure Concrete Pavement (160+68.19 to 212+71.26)	7d	15May14	21May14	68d	Cure
50.20.07	Backup Shoulder/Landscape/Seed (160+68.19 to 212+71.26)	3d	22May14	27May14	54d	SEEDING
50.20.08	Install Guiderail (160+68.19 to 212+71.26)	6d	23May14	02Jun14	46d	5-DAY
50.25	S-32750 (STA 212+71.26 to 213+32.94)	125d	20Mar14	22Jul14	8d	Calendar Days
50.25.01	Demo Portions of Existing Structure (S-32750)	5d	20Mar14	26Mar14	8d	5-DAY
50.25.02	Excavate Behind Abutments (S-32750)	3d	27Mar14	31Mar14	8d	5-DAY
50.25.03	Apply Waterproofing (S-32750)	2d	01Apr14	02Apr14	8d	5-DAY
50.25.04	Install Structure Foundation Drain/Backfill (S-32750)	2d	03Apr14	04Apr14	8d	5-DAY
50.25.05	F/R/P Sleeper Slabs (S-32750)	1d	26Jun14	26Jun14	10d	5-DAY
50.25.06	Cure Sleeper Slabs (S-32750)	3d	27Jun14	29Jun14	15d	Cure
50.25.07	F/R/P Bridge Approach Slabs (S-32750)	4d	30Jun14	03Jul14	10d	5-DAY
50.25.08	Cure Approach Slabs (S-32750)	7d	04Jul14	10Jul14	17d	Cure
50.25.09	F/R/P Safety Wings (S-32750)	5d	11Jul14	17Jul14	11d	5-DAY
50.25.10	Cure/Strip/Parge Safety Wings (S-32750)	5d	18Jul14	22Jul14	15d	Cure



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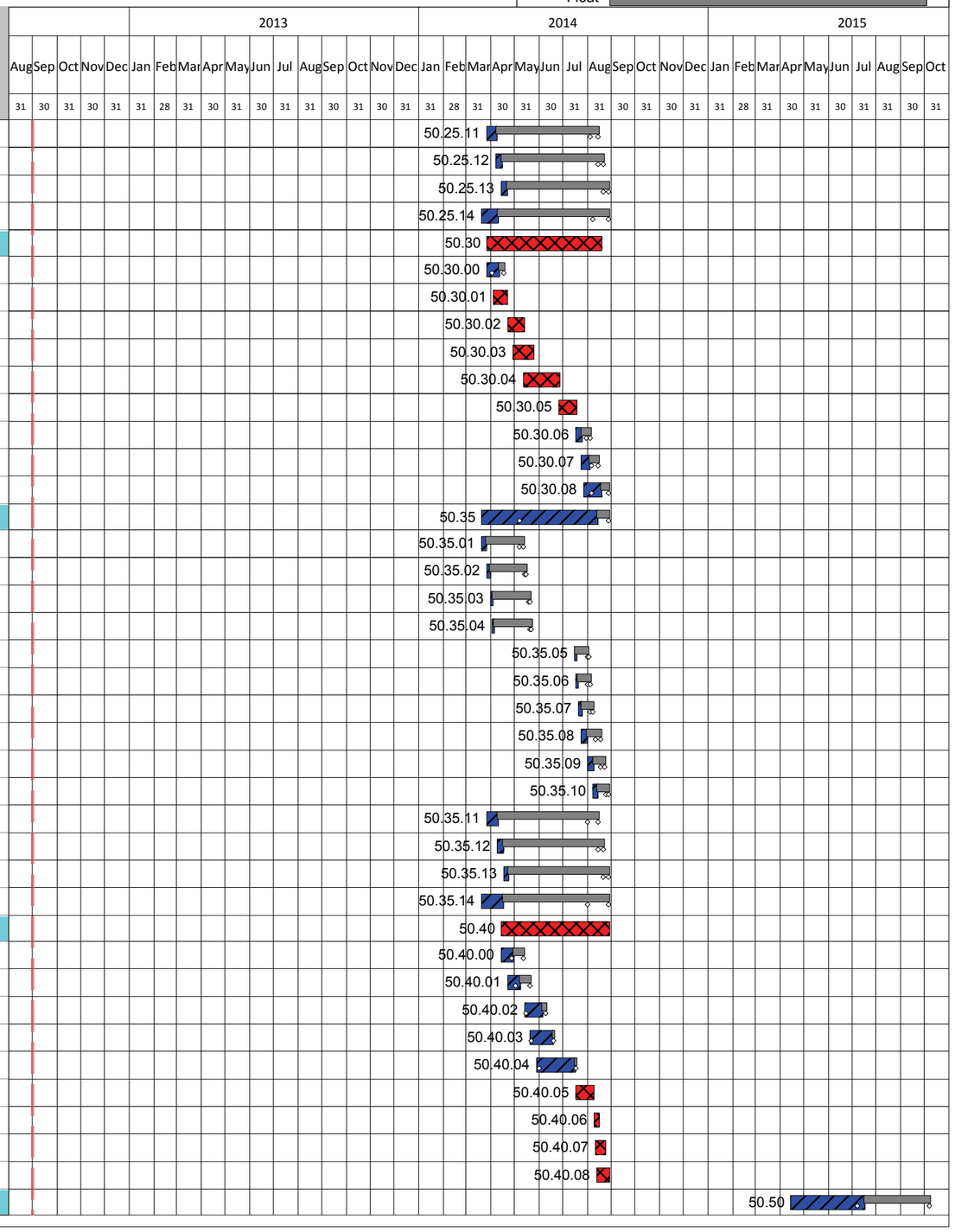
50.25.11	Sawcut/Demo Bridge Deck/Dams (S-32750)	8d	27Mar14	07Apr14	91d	5-DAY
50.25.12	F/I/P Bridge Deck/Dams (S-32750)	5d	08Apr14	14Apr14	91d	5-DAY
50.25.13	Cure Bridge Deck Patching (S-32750)	7d	15Apr14	21Apr14	129d	Cure
50.25.14	Demo/Repair Concrete Bridge Beams/Substructure (S-32750)	15d	20Mar14	09Apr14	99d	5-DAY
50.30	Station (213+32.94 to 364+82.42)	144d	28Mar14	18Aug14	0	Calendar Days
50.30.00	Sawcut Existing Roadway (213+32.94 to 364+82.42)	11d	28Mar14	11Apr14	4d	5-DAY
50.30.01	Excavate Existing Pavement Pavement Slabs (213+32.94 to 364+82.42)	12d	04Apr14	21Apr14	0	5-DAY
50.30.02	Undercut Existing Subgrade (213+32.94 to 364+82.42)	16d	22Apr14	13May14	0	5-DAY
50.30.03	Construct Subgrade/Embankment (213+32.94 to 364+82.42)	19d	29Apr14	23May14	0	5-DAY
50.30.04	Construct Subbase/Drainage (213+32.94 to 364+82.42)	31d	13May14	25Jun14	0	5-DAY
50.30.05	F/R/P Concrete Pavement (213+32.94 to 364+82.42)	15d	26Jun14	17Jul14	0	5-DAY
50.30.06	Cure Concrete Pavement (213+32.94 to 364+82.42)	7d	18Jul14	24Jul14	12d	Cure
50.30.07	Backup Shoulder/Landscape/Seed (213+32.94 to 364+82.42)	8d	25Jul14	02Aug14	10d	SEEDING
50.30.08	Install Guiderail (213+32.94 to 364+82.42)	16d	28Jul14	18Aug14	8d	5-DAY
50.35	S-32749 (STA 364+82.42 to 365+89.31)	146d	20Mar14	12Aug14	11d	Calendar Days
50.35.01	Demo Portions of Existing Structure (S-32749)	5d	20Mar14	26Mar14	34d	5-DAY
50.35.02	Excavate Behind Abutments (S-32749)	3d	27Mar14	31Mar14	34d	5-DAY
50.35.03	Apply Waterproofing (S-32749)	2d	01Apr14	02Apr14	34d	5-DAY
50.35.04	Install Structure Foundation Drain/Backfill (S-32749)	2d	03Apr14	04Apr14	34d	5-DAY
50.35.05	F/R/P Sleeper Slabs (S-32749)	1d	16Jul14	16Jul14	12d	5-DAY
50.35.06	Cure Sleeper Slabs (S-32749)	3d	17Jul14	19Jul14	16d	Cure
50.35.07	F/R/P Bridge Approach Slabs (S-32749)	4d	21Jul14	24Jul14	11d	5-DAY
50.35.08	Cure Approach Slabs (S-32749)	7d	25Jul14	31Jul14	17d	Cure
50.35.09	F/R/P Safety Wings (S-32749)	5d	01Aug14	07Aug14	11d	5-DAY
50.35.10	Cure/Strip/Parge Safety Wings (S-32749)	5d	08Aug14	12Aug14	16d	Cure
50.35.11	Sawcut/Demo Bridge Deck/Dams (S-32749)	10d	27Mar14	09Apr14	89d	5-DAY
50.35.12	F/I/P Bridge Deck/Dams (S-32749)	5d	10Apr14	16Apr14	89d	5-DAY
50.35.13	Cure Bridge Deck Patching (S-32749)	7d	17Apr14	23Apr14	127d	Cure
50.35.14	Demo/Repair Concrete Bridge Beams/Substructure (S-32749)	20d	20Mar14	16Apr14	94d	5-DAY
50.40	Station (365+89.31 to 525+00)	137d	14Apr14	28Aug14	0	Calendar Days
50.40.00	Sawcut Existing Roadway (365+89.31 to 525+00)	12d	14Apr14	29Apr14	10d	5-DAY
50.40.01	Excavate Existing Pavement Pavement Slabs (365+89.31 to 525+00)	13d	22Apr14	08May14	8d	5-DAY
50.40.02	Undercut Existing Subgrade (365+89.31 to 525+00)	16d	14May14	05Jun14	2d	5-DAY
50.40.03	Construct Subgrade/Embankment (365+89.31 to 525+00)	20d	21May14	18Jun14	2d	5-DAY
50.40.04	Construct Subbase/Drainage (365+89.31 to 525+00)	33d	29May14	15Jul14	2d	5-DAY
50.40.05	F/R/P Concrete Pavement (365+89.31 to 525+00)	16d	18Jul14	08Aug14	0	5-DAY
50.40.06	Cure Concrete Pavement (365+89.31 to 525+00)	7d	09Aug14	15Aug14	2d	Cure
50.40.07	Backup Shoulder/Landscape/Seed (365+89.31 to 525+00)	9d	12Aug14	22Aug14	0	5-DAY
50.40.08	Install Guiderail (365+89.31 to 525+00)	12d	13Aug14	28Aug14	0	5-DAY
50.50	Station (525+00 to 533+02.83) (PHASED CONSTRUCTION)	92d	15Apr15	15Jul15	57d	Calendar Days



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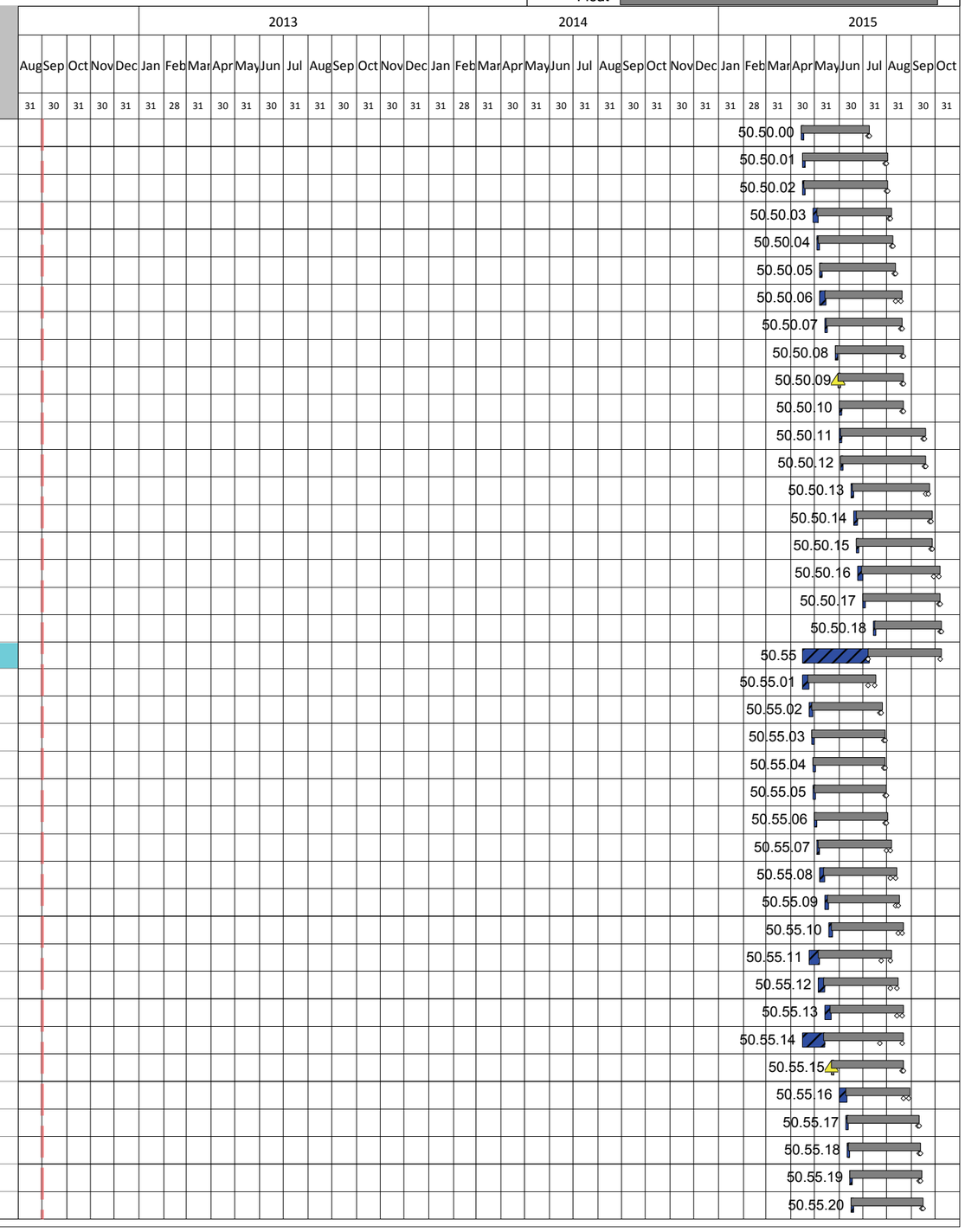
50.50.00	Sawcut Existing Roadway (525+00 to 533+02.83) (STAGE A)	1d	15Apr15	15Apr15	57d	5-DAY
50.50.01	Excavate Existing Pavement Pavement Slabs (525+00 to 533+02.83) (STAGE A)	1d	16Apr15	16Apr15	73d	5-DAY
50.50.02	Undercut Existing Subgrade (525+00 to 533+02.83) (STAGE A)	1d	17Apr15	17Apr15	73d	5-DAY
50.50.03	Construct Subgrade/Embankment (525+00 to 533+02.83) (STAGE A)	3d	30Apr15	04May15	65d	5-DAY
50.50.04	Construct Subbase/Drainage (525+00 to 533+02.83) (STAGE A)	2d	05May15	06May15	65d	5-DAY
50.50.05	F/R/P Concrete Pavement (525+00 to 533+02.83) (STAGE A)	1d	07May15	07May15	65d	5-DAY
50.50.06	Cure Concrete Pavement (525+00 to 533+02.83) (STAGE A)	7d	08May15	14May15	95d	Cure
50.50.07	Backup Shoulder/Landscape/Seed (525+00 to 533+02.83) (STAGE A)	1d	15May15	15May15	65d	5-DAY
50.50.08	Install Guiderail (525+00 to 533+02.83) (STAGE A)	1d	27May15	27May15	59d	5-DAY
50.50.09	STAGE A COMPLETE	0	31May15	31May15	80d	Calendar Days
50.50.10	Sawcut Existing Roadway (525+00 to 533+02.83) (STAGE B)	1d	01Jun15	01Jun15	57d	5-DAY
50.50.11	Excavate Existing Pavement Pavement Slabs (525+00 to 533+02.83) (STAGE B)	1d	02Jun15	02Jun15	74d	5-DAY
50.50.12	Undercut existing Subgrade (525+00 to 533+02.83) (STAGE B)	1d	03Jun15	03Jun15	74d	5-DAY
50.50.13	Construct Subgrade/Embankment (525+00 to 533+02.83) (STAGE B)	3d	16Jun15	18Jun15	66d	5-DAY
50.50.14	Construct Subbase/Drainage (525+00 to 533+02.83) (STAGE B)	2d	19Jun15	22Jun15	66d	5-DAY
50.50.15	F/R/P Concrete Pavement (525+00 to 533+02.83) (STAGE B)	1d	23Jun15	23Jun15	66d	5-DAY
50.50.16	Cure Concrete Pavement (525+00 to 533+02.83) (STAGE B)	7d	24Jun15	30Jun15	96d	Cure
50.50.17	Backup Shoulder/Landscape/Seed (525+00 to 533+02.83) (STAGE B)	1d	01Jul15	01Jul15	66d	5-DAY
50.50.18	Install Guiderail (525+00 to 533+02.83) (STAGE B)	1d	15Jul15	15Jul15	58d	5-DAY
50.55	S-32748 (STA533+02.83 to 536+54.35)	84d	16Apr15	08Jul15	57d	Calendar Days
50.55.01	Demo Portions of Existing Structure (STAGE A) (S-32748)	6d	16Apr15	23Apr15	57d	5-DAY
50.55.02	Excavate Behind Abutments (STAGE A) (S-32748)	2d	24Apr15	27Apr15	62d	5-DAY
50.55.03	Apply Waterproofing (STAGE A) (S-32748)	1d	28Apr15	28Apr15	62d	5-DAY
50.55.04	Install Structure Foundation Drain/Backfill (STAGE A) (S-32748)	1d	29Apr15	29Apr15	62d	5-DAY
50.55.05	F/R/P Sleeper Slabs (STAGE A) (S-32748)	1d	30Apr15	30Apr15	62d	5-DAY
50.55.06	Cure Sleeper Slabs (STAGE A) (S-32748)	1d	01May15	01May15	90d	Cure
50.55.07	F/R/P Bridge Approach Slabs (STAGE A) (S-32748)	3d	04May15	06May15	62d	5-DAY
50.55.08	Cure Approach Slabs (STAGE A) (S-32748)	7d	07May15	13May15	90d	Cure
50.55.09	F/R/P Safety Wings (STAGE A) (S-32748)	3d	14May15	18May15	62d	5-DAY
50.55.10	Cure/Strip/Parge Safety Wings (STAGE A) (S-32748)	5d	19May15	23May15	88d	Cure
50.55.11	Sawcut/Demo Bridge Deck/Dams (STAGE A) (S-32748)	8d	24Apr15	05May15	63d	5-DAY
50.55.12	F/I/P Bridge Deck/Dams (STAGE A) (S-32748)	6d	06May15	13May15	63d	5-DAY
50.55.13	Cure Bridge Deck Patching (STAGE A) (S-32748)	7d	14May15	20May15	91d	Cure
50.55.14	Demo/Repair Concrete Bridge Beams/Substructure (STAGE A) (S-32748)	20d	16Apr15	13May15	68d	5-DAY
50.55.15	STAGE A COMPLETE (S-32748)	0	23May15	23May15	88d	Calendar Days
50.55.16	Demo Portions of Existing Structure (STAGE B) (S-32748)	6d	02Jun15	09Jun15	57d	5-DAY
50.55.17	Excavate Behind Abutments (STAGE B) (S-32748)	2d	10Jun15	11Jun15	62d	5-DAY
50.55.18	Apply Waterproofing (STAGE B) (S-32748)	1d	12Jun15	12Jun15	62d	5-DAY
50.55.19	Install Structure Foundation Drain/Backfill (STAGE B) (S-32748)	1d	15Jun15	15Jun15	62d	5-DAY
50.55.20	F/R/P Sleeper Slabs (STAGE B) (S-32748)	1d	16Jun15	16Jun15	62d	5-DAY



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Time Now: 30Aug12
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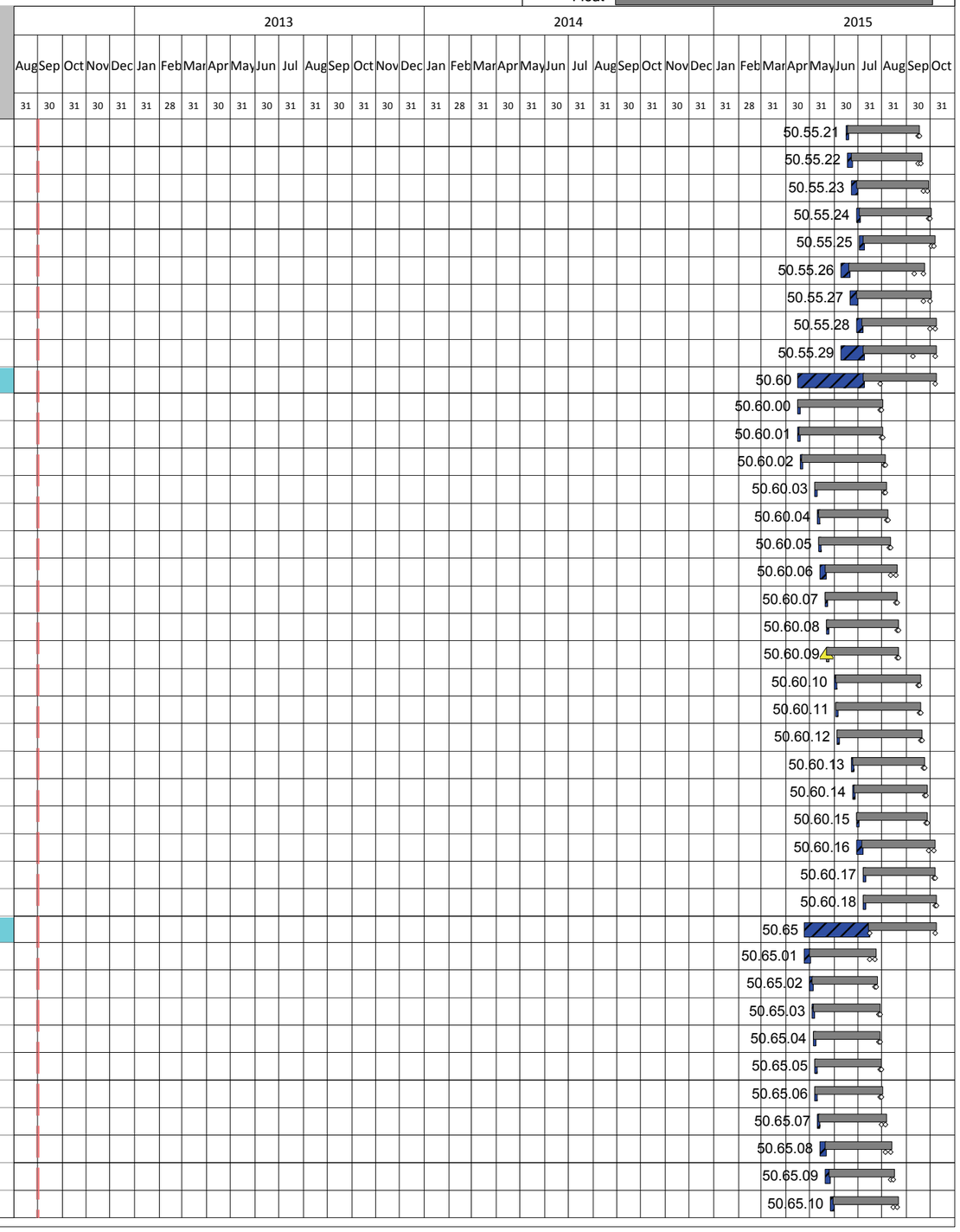
Project:SR0080-540 (5C)
Project Description: SR0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
50.55.21	Cure Sleeper Slabs (STAGE B) (S-32748)	1d	17Jun15	17Jun15	90d	Cure
50.55.22	F/R/P Bridge Approach Slabs (STAGE B) (S-32748)	3d	18Jun15	22Jun15	62d	5-DAY
50.55.23	Cure Approach Slabs (STAGE B) (S-32748)	7d	23Jun15	29Jun15	90d	Cure
50.55.24	F/R/P Safety Wings (STAGE B) (S-32748)	3d	30Jun15	02Jul15	62d	5-DAY
50.55.25	Cure/Strip/Parge Safety Wings (STAGE B) (S-32748)	5d	03Jul15	07Jul15	90d	Cure
50.55.26	Sawcut/Demo Bridge Deck/Dams (STAGE B) (S-32748)	8d	10Jun15	19Jun15	64d	5-DAY
50.55.27	F/I/P Bridge Deck/Dams (STAGE B) (S-32748)	6d	22Jun15	29Jun15	64d	5-DAY
50.55.28	Cure Bridge Deck Patching (STAGE B) (S-32748)	7d	30Jun15	06Jul15	92d	Cure
50.55.29	Demo/Repair Concrete Bridge Beams/Substructure (STAGE B) (S-32748)	20d	10Jun15	08Jul15	63d	5-DAY
50.60	Station (536+54.35 to 543+61.14) (PHASED CONSTRUCTION)	84d	16Apr15	08Jul15	61d	Calendar Days
50.60.00	Sawcut Existing Roadway (536+54.35 to 543+61.14) (STAGE A)	1d	16Apr15	16Apr15	73d	5-DAY
50.60.01	Excavate Existing Pavement Pavement Slabs (536+54.35 to 543+61.14) (STAGE A)	1d	17Apr15	17Apr15	73d	5-DAY
50.60.02	Undercut Existing Subgrade (536+54.35 to 543+61.14) (STAGE A)	1d	20Apr15	20Apr15	73d	5-DAY
50.60.03	Construct Subgrade/Embankment (536+54.35 to 543+61.14) (STAGE A)	2d	07May15	08May15	61d	5-DAY
50.60.04	Construct Subbase/Drainage (536+54.35 to 543+61.14) (STAGE A)	2d	11May15	12May15	61d	5-DAY
50.60.05	F/R/P Concrete Pavement (536+54.35 to 543+61.14) (STAGE A)	1d	13May15	13May15	61d	5-DAY
50.60.06	Cure Concrete Pavement (536+54.35 to 543+61.14) (STAGE A)	7d	14May15	20May15	89d	Cure
50.60.07	Backup Shoulder/Landscape/Seed (536+54.35 to 543+61.14) (STAGE A)	1d	21May15	21May15	61d	5-DAY
50.60.08	Install Guiderail (536+54.35 to 543+61.14) (STAGE A)	1d	22May15	22May15	61d	5-DAY
50.60.09	STAGE A COMPLETE	0	22May15	22May15	89d	Calendar Days
50.60.10	Sawcut Existing Roadway (536+54.35 to 543+61.14) (STAGE B)	1d	02Jun15	02Jun15	74d	5-DAY
50.60.11	Excavate Existing Pavement Pavement Slabs (536+54.35 to 543+61.14) (STAGE B)	1d	03Jun15	03Jun15	74d	5-DAY
50.60.12	Undercut existing Subgrade (536+54.35 to 543+61.14) (STAGE B)	1d	04Jun15	04Jun15	74d	5-DAY
50.60.13	Construct Subgrade/Embankment (536+54.35 to 543+61.14) (STAGE B)	2d	23Jun15	24Jun15	62d	5-DAY
50.60.14	Construct Subbase/Drainage (536+54.35 to 543+61.14) (STAGE B)	2d	25Jun15	26Jun15	62d	5-DAY
50.60.15	F/R/P Concrete Pavement (536+54.35 to 543+61.14) (STAGE B)	1d	29Jun15	29Jun15	62d	5-DAY
50.60.16	Cure Concrete Pavement (536+54.35 to 543+61.14) (STAGE B)	7d	30Jun15	06Jul15	90d	Cure
50.60.17	Backup Shoulder/Landscape/Seed (536+54.35 to 543+61.14) (STAGE B)	1d	07Jul15	07Jul15	63d	5-DAY
50.60.18	Install Guiderail (536+54.35 to 543+61.14) (STAGE B)	1d	08Jul15	08Jul15	63d	5-DAY
50.65	S-32747 (STA 543+61.14 to 545+33.37)	82d	24Apr15	14Jul15	57d	Calendar Days
50.65.01	Demo Portions of Existing Structure (STAGE A) (S-32747)	5d	24Apr15	30Apr15	57d	5-DAY
50.65.02	Excavate Behind Abutments (STAGE A) (S-32747)	2d	01May15	04May15	57d	5-DAY
50.65.03	Apply Waterproofing (STAGE A) (S-32747)	1d	05May15	05May15	57d	5-DAY
50.65.04	Install Structure Foundation Drain/Backfill (STAGE A) (S-32747)	1d	06May15	06May15	57d	5-DAY
50.65.05	F/R/P Sleeper Slabs (STAGE A) (S-32747)	1d	07May15	07May15	57d	5-DAY
50.65.06	Cure Sleeper Slabs (STAGE A) (S-32747)	1d	08May15	08May15	83d	Cure
50.65.07	F/R/P Bridge Approach Slabs (STAGE A) (S-32747)	3d	11May15	13May15	57d	5-DAY
50.65.08	Cure Approach Slabs (STAGE A) (S-32747)	7d	14May15	20May15	83d	Cure
50.65.09	F/R/P Safety Wings (STAGE A) (S-32747)	3d	21May15	26May15	57d	5-DAY
50.65.10	Cure/Strip/Parge Safety Wings (STAGE A) (S-32747)	5d	27May15	31May15	80d	Cure



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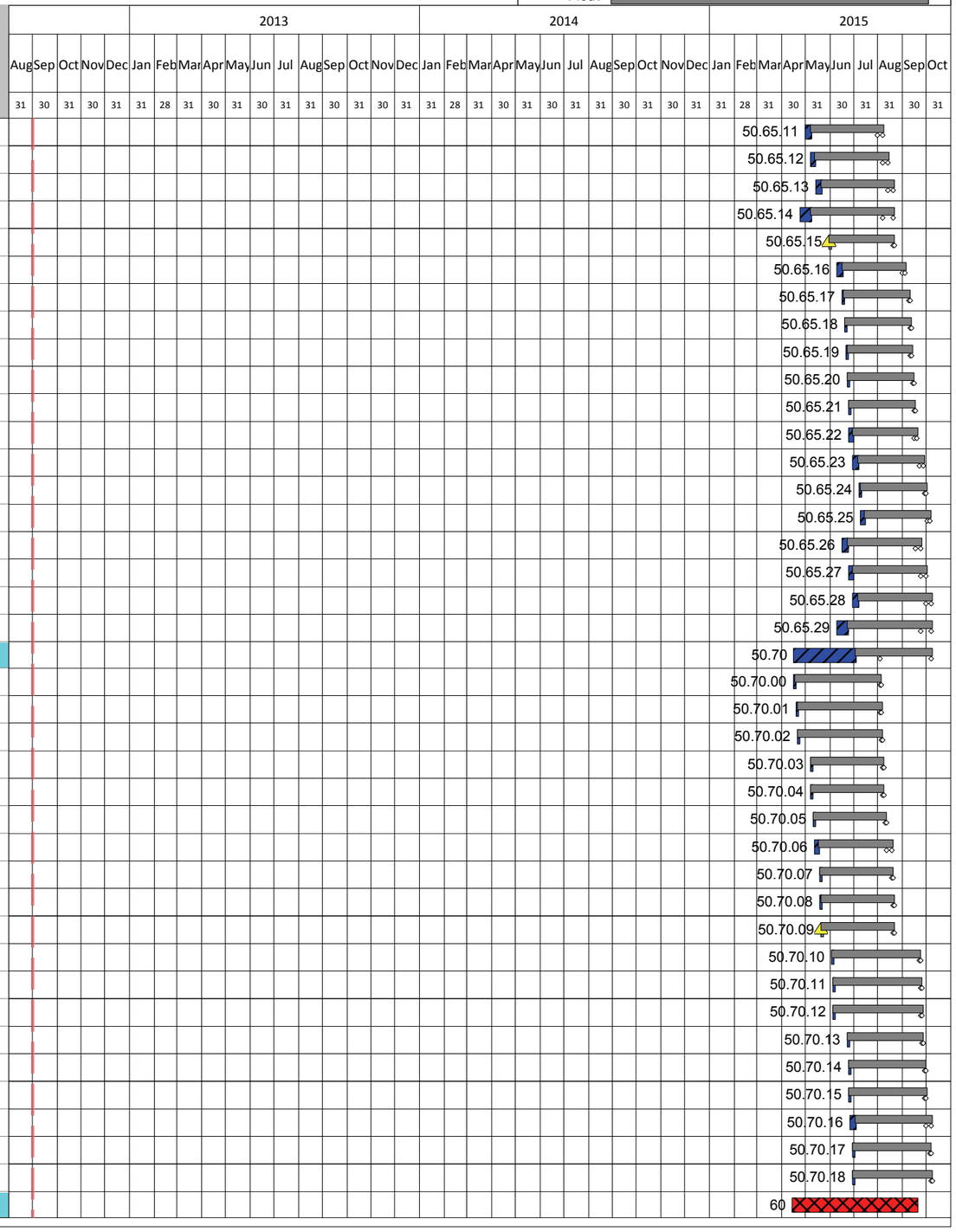
Project:SR0080-540 (5C)
Project Description: SR0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
50.65.11	Sawcut/Demo Bridge Deck/Dams (STAGE A) (S-32747)	5d	01May15	07May15	63d	5-DAY
50.65.12	F/I/P Bridge Deck/Dams (STAGE A) (S-32747)	4d	08May15	13May15	63d	5-DAY
50.65.13	Cure Bridge Deck Patching (STAGE A) (S-32747)	7d	14May15	20May15	91d	Cure
50.65.14	Demo/Repair Concrete Bridge Beams/Substructure (STAGE A) (S-32747)	10d	24Apr15	07May15	72d	5-DAY
50.65.15	STAGE A COMPLETE (S-32747)	0	31May15	31May15	80d	Calendar Days
50.65.16	Demo Portions of Existing Structure (STAGE B) (S-32747)	5d	10Jun15	16Jun15	57d	5-DAY
50.65.17	Excavate Behind Abutments (STAGE B) (S-32747)	2d	17Jun15	18Jun15	57d	5-DAY
50.65.18	Apply Waterproofing (STAGE B) (S-32747)	1d	19Jun15	19Jun15	57d	5-DAY
50.65.19	Install Structure Foundation Drain/Backfill (STAGE B) (S-32747)	1d	22Jun15	22Jun15	57d	5-DAY
50.65.20	F/R/P Sleeper Slabs (STAGE B) (S-32747)	1d	23Jun15	23Jun15	57d	5-DAY
50.65.21	Cure Sleeper Slabs (STAGE B) (S-32747)	1d	24Jun15	24Jun15	83d	Cure
50.65.22	F/R/P Bridge Approach Slabs (STAGE B) (S-32747)	3d	25Jun15	29Jun15	57d	5-DAY
50.65.23	Cure Approach Slabs (STAGE B) (S-32747)	7d	30Jun15	06Jul15	83d	Cure
50.65.24	F/R/P Safety Wings (STAGE B) (S-32747)	3d	07Jul15	09Jul15	58d	5-DAY
50.65.25	Cure/Strip/Parge Safety Wings (STAGE B) (S-32747)	5d	10Jul15	14Jul15	83d	Cure
50.65.26	Sawcut/Demo Bridge Deck/Dams (STAGE B) (S-32747)	5d	17Jun15	23Jun15	64d	5-DAY
50.65.27	F/I/P Bridge Deck/Dams (STAGE B) (S-32747)	4d	24Jun15	29Jun15	64d	5-DAY
50.65.28	Cure Bridge Deck Patching (STAGE B) (S-32747)	7d	30Jun15	06Jul15	92d	Cure
50.65.29	Demo/Repair Concrete Bridge Beams/Substructure (STAGE B) (S-32747)	10d	10Jun15	23Jun15	73d	5-DAY
50.70	Station (545+33.37 to 547+90) (PHASED CONSTRUCTION)	77d	17Apr15	02Jul15	63d	Calendar Days
50.70.00	Sawcut Existing Roadway (545+33.37 to 547+90) (STAGE A)	1d	17Apr15	17Apr15	74d	5-DAY
50.70.01	Excavate Existing Pavement Pavement Slabs (545+33.37 to 547+90) (STAGE A)	1d	20Apr15	20Apr15	74d	5-DAY
50.70.02	Undercut Existing Subgrade (545+33.37 to 547+90) (STAGE A)	1d	21Apr15	21Apr15	74d	5-DAY
50.70.03	Construct Subgrade/Embankment (545+33.37 to 547+90) (STAGE A)	1d	07May15	07May15	63d	5-DAY
50.70.04	Construct Subbase/Drainage (545+33.37 to 547+90) (STAGE A)	1d	08May15	08May15	63d	5-DAY
50.70.05	F/R/P Concrete Pavement (545+33.37 to 547+90) (STAGE A)	1d	11May15	11May15	63d	5-DAY
50.70.06	Cure Concrete Pavement (545+33.37 to 547+90) (STAGE A)	7d	12May15	18May15	91d	Cure
50.70.07	Backup Shoulder/Landscape/Seed (545+33.37 to 547+90) (STAGE A)	1d	19May15	19May15	63d	5-DAY
50.70.08	Install Guiderail (545+33.37 to 547+90) (STAGE A)	1d	20May15	20May15	63d	5-DAY
50.70.09	STAGE A COMPLETE	0	20May15	20May15	91d	Calendar Days
50.70.10	Sawcut Existing Roadway (545+33.37 to 547+90) (STAGE B)	1d	03Jun15	03Jun15	77d	5-DAY
50.70.11	Excavate Existing Pavement Pavement Slabs (545+33.37 to 547+90) (STAGE B)	1d	04Jun15	04Jun15	77d	5-DAY
50.70.12	Undercut existing Subgrade (545+33.37 to 547+90) (STAGE B)	1d	05Jun15	05Jun15	77d	5-DAY
50.70.13	Construct Subgrade/Embankment (545+33.37 to 547+90) (STAGE B)	1d	23Jun15	23Jun15	66d	5-DAY
50.70.14	Construct Subbase/Drainage (545+33.37 to 547+90) (STAGE B)	1d	24Jun15	24Jun15	66d	5-DAY
50.70.15	F/R/P Concrete Pavement (545+33.37 to 547+90) (STAGE B)	1d	25Jun15	25Jun15	66d	5-DAY
50.70.16	Cure Concrete Pavement (545+33.37 to 547+90) (STAGE B)	7d	26Jun15	02Jul15	96d	Cure
50.70.17	Backup Shoulder/Landscape/Seed (545+33.37 to 547+90) (STAGE B)	1d	29Jun15	29Jun15	68d	5-DAY
50.70.18	Install Guiderail (545+33.37 to 547+90) (STAGE B)	1d	30Jun15	30Jun15	68d	5-DAY
60	EB Overlay	157d	15Apr15	18Sep15	0	Calendar Days



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Milestone
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Summary
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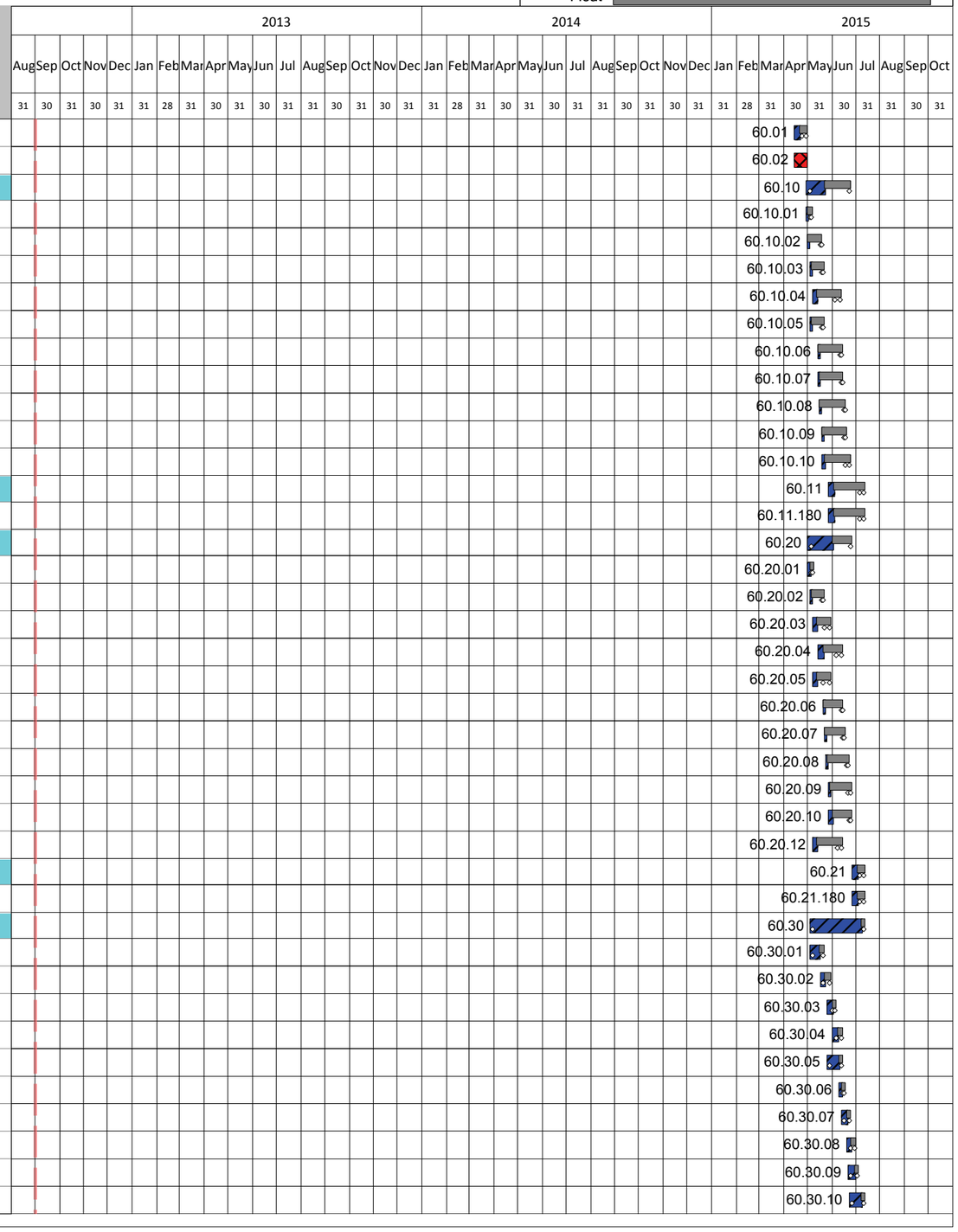
Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
60.01	Place Asphalt for Crossover Tie-Ins	5d	15Apr15	20Apr15	8d	BASE/BINDER 10-0
60.02	Place Temporary Barrier	15d	15Apr15	29Apr15	0	Calendar Days
60.10	Station (848+46 to 871+09 LT)	23d	30Apr15	22May15	3d	Calendar Days
60.10.01	Remove Guiderail (848+46 to 871+09 LT)	1d	30Apr15	30Apr15	3d	5-DAY
60.10.02	Mill Existing Asphalt (848+46 to 871+09 LT)	1d	01May15	01May15	11d	5-DAY
60.10.03	Perform Concrete Patching (848+46 to 871+09 LT)	3d	04May15	06May15	11d	5-DAY
60.10.04	Cure Concrete Patches (848+46 to 871+09 LT)	7d	07May15	13May15	29d	Cure
60.10.05	Saw/Seal Existing Concrete Pavement (848+46 to 871+09 LT)	2d	04May15	05May15	11d	5-DAY
60.10.06	Place Asphalt Leveling Course (848+46 to 871+09 LT)	1d	14May15	14May15	28d	WEARING 10-0
60.10.07	Place Binder (848+46 to 871+09 LT)	1d	15May15	15May15	24d	BASE/BINDER 10-0
60.10.08	Place Wearing (848+46 to 871+09 LT)	1d	16May15	16May15	30d	WEARING 10-0
60.10.09	Backup Shoulders/Landscape/Seed (848+46 to 871+09 LT)	1d	19May15	19May15	22d	SEEDING
60.10.10	Install Guiderail/PIAD (848+46 to 871+09 LT)	3d	20May15	22May15	20d	5-DAY
60.11	S-16402 (STA 871+09.16 to 872+28.66 LT)	7d	27May15	02Jun15	27d	Calendar Days
60.11.180	Epoxy Surfacing of Bridge Deck	5d	27May15	02Jun15	27d	5-DAY
60.20	Station (872+28.66 to 922+62.01 LT)	32d	01May15	01Jun15	3d	Calendar Days
60.20.01	Remove Guiderail (872+28.66 to 922+62.01 LT)	2d	01May15	04May15	3d	5-DAY
60.20.02	Mill Existing Asphalt (872+28.66 to 922+62.01 LT)	2d	05May15	06May15	10d	5-DAY
60.20.03	Perform Concrete Patching (872+28.66 to 922+62.01 LT)	5d	07May15	13May15	11d	5-DAY
60.20.04	Cure Concrete Patches (872+28.66 to 922+62.01 LT)	7d	14May15	20May15	23d	Cure
60.20.05	Saw/Seal Existing Concrete Pavement (872+28.66 to 922+62.01 LT)	5d	07May15	13May15	10d	5-DAY
60.20.06	Place Asphalt Leveling Course (872+28.66 to 922+62.01 LT)	1d	21May15	21May15	22d	WEARING 10-0
60.20.07	Place Binder (872+28.66 to 922+62.01 LT)	2d	22May15	23May15	19d	BASE/BINDER 10-0
60.20.08	Place Wearing (872+28.66 to 922+62.01 LT)	2d	24May15	26May15	26d	WEARING 10-0
60.20.09	Backup Shoulders/Landscape/Seed (872+28.66 to 922+62.01 LT)	3d	27May15	29May15	21d	SEEDING
60.20.10	Install Guiderail/PIAD (872+28.66 to 922+62.01 LT)	3d	28May15	01Jun15	18d	5-DAY
60.20.12	Construct/Grade Median Cross Overs (872+28.66 to 922+62.01 LT)	5d	07May15	13May15	21d	5-DAY
60.21	S-25885 (STA 922+62.01 to 923+23.51 LT)	7d	26Jun15	02Jul15	5d	Calendar Days
60.21.180	Epoxy Surfacing of Bridge Deck	5d	26Jun15	02Jul15	5d	5-DAY
60.30	Station (923+23.51 to 1075+59.03 LT)	64d	05May15	07Jul15	3d	Calendar Days
60.30.01	Remove Guiderail (923+23.51 to 1075+59.03 LT)	9d	05May15	15May15	3d	5-DAY
60.30.02	Mill Existing Asphalt (923+23.51 to 1075+59.03 LT)	5d	18May15	22May15	3d	5-DAY
60.30.03	Perform Concrete Patching (923+23.51 to 1075+59.03 LT)	5d	26May15	01Jun15	4d	5-DAY
60.30.04	Cure Concrete Patches (923+23.51 to 1075+59.03 LT)	7d	02Jun15	08Jun15	5d	Cure
60.30.05	Saw/Seal Existing Concrete Pavement (923+23.51 to 1075+59.03 LT)	11d	26May15	09Jun15	3d	5-DAY
60.30.06	Place Asphalt Leveling Course (923+23.51 to 1075+59.03 LT)	3d	10Jun15	12Jun15	4d	WEARING 10-0
60.30.07	Place Binder (923+23.51 to 1075+59.03 LT)	6d	13Jun15	19Jun15	3d	BASE/BINDER 10-0
60.30.08	Place Wearing (923+23.51 to 1075+59.03 LT)	6d	20Jun15	25Jun15	4d	WEARING 10-0
60.30.09	Backup Shoulders/Landscape/Seed (923+23.51 to 1075+59.03 LT)	7d	22Jun15	29Jun15	3d	SEEDING
60.30.10	Install Guiderail/PIAD (923+23.51 to 1075+59.03 LT)	10d	23Jun15	07Jul15	3d	5-DAY



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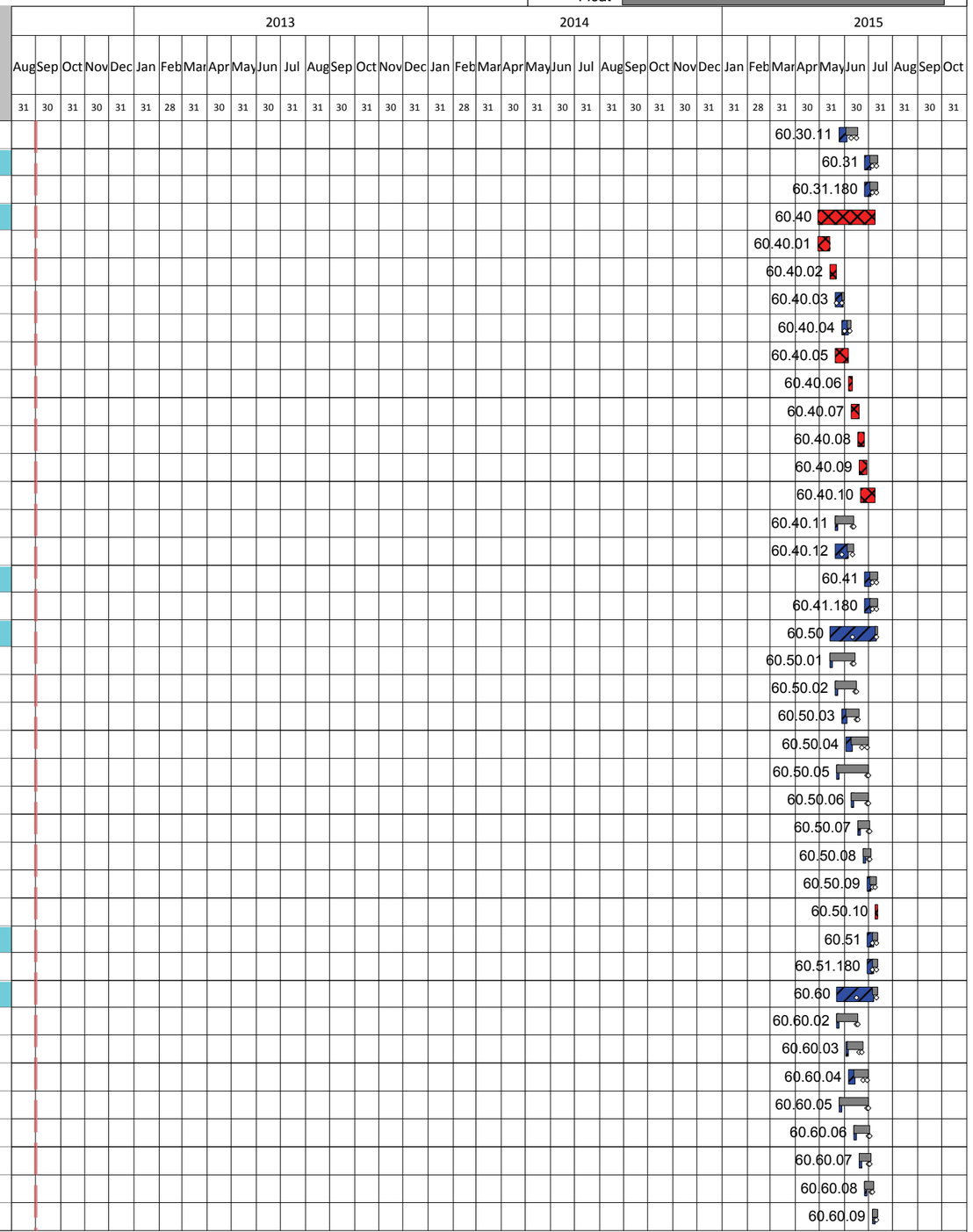
Time Now: 30Aug12
Start: 30Aug12
Finish: 06Oct15
Run: 10Jul12

Project:SR0080-540 (5C)
Project Description: SR0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
60.30.11	Construct/Grade Launch Pads (923+23.51 to 1075+59.03 LT)	6d	26May15	02Jun15	10d	5-DAY
60.31	S-16404 (STA 1075+59.0275 to 1076+66.65 LT)	7d	26Jun15	02Jul15	5d	Calendar Days
60.31.180	Epoxy Surfacing of Bridge Deck	5d	26Jun15	02Jul15	5d	5-DAY
60.40	Station (1076+66.65 to 1240+97.25 LT)	70d	30Apr15	08Jul15	0	Calendar Days
60.40.01	Remove Guiderail (1076+66.65 to 1240+97.25 LT)	10d	30Apr15	13May15	0	5-DAY
60.40.02	Mill Existing Asphalt (1076+66.65 to 1240+97.25 LT)	5d	14May15	20May15	0	5-DAY
60.40.03	Perform Concrete Patching (1076+66.65 to 1240+97.25 LT)	5d	21May15	28May15	1d	5-DAY
60.40.04	Cure Concrete Patches (1076+66.65 to 1240+97.25 LT)	7d	29May15	04Jun15	3d	Cure
60.40.05	Saw/Seal Existing Concrete Pavement (1076+66.65 to 1240+97.25 LT)	11d	21May15	05Jun15	0	5-DAY
60.40.06	Place Asphalt Leveling Course (1076+66.65 to 1240+97.25 LT)	4d	06Jun15	09Jun15	2d	WEARING 10-0
60.40.07	Place Binder (1076+66.65 to 1240+97.25 LT)	7d	10Jun15	17Jun15	2d	BASE/BINDER 10-0
60.40.08	Place Wearing (1076+66.65 to 1240+97.25 LT)	7d	18Jun15	24Jun15	2d	WEARING 10-0
60.40.09	Backup Shoulders/Landscape/Seed (1076+66.65 to 1240+97.25 LT)	8d	19Jun15	27Jun15	2d	SEEDING
60.40.10	Install Guiderail/PIAD (1076+66.65 to 1240+97.25 LT)	12d	22Jun15	08Jul15	1d	5-DAY
60.40.11	Construct/Grade Launch Pads (1076+66.65 to 1240+97.25 LT)	0	21May15	21May15	15d	5-DAY
60.40.12	Construct/Grade Median Cross Overs (1076+66.65 to 1240+97.25 LT)	10d	21May15	04Jun15	5d	5-DAY
60.41	S-16406 (STA 1240+97.25 to 1244+47.75 LT)	7d	26Jun15	02Jul15	5d	Calendar Days
60.41.180	Epoxy Surfacing of Bridge Deck	5d	26Jun15	02Jul15	5d	5-DAY
60.50	Station (1244+47.75 to 1252+47.19 LT)	57d	14May15	09Jul15	1d	Calendar Days
60.50.01	Remove Guiderail (1244+47.75 to 1252+47.19 LT)	1d	14May15	14May15	20d	5-DAY
60.50.02	Mill Existing Asphalt (1244+47.75 to 1252+47.19 LT)	1d	21May15	21May15	16d	5-DAY
60.50.03	Perform Concrete Patching (1244+47.75 to 1252+47.19 LT)	3d	29May15	02Jun15	12d	5-DAY
60.50.04	Cure Concrete Patches (1244+47.75 to 1252+47.19 LT)	7d	03Jun15	09Jun15	20d	Cure
60.50.05	Saw/Seal Existing Concrete Pavement (1244+47.75 to 1252+47.19 LT)	1d	22May15	22May15	25d	5-DAY
60.50.06	Place Asphalt Leveling Course (1244+47.75 to 1252+47.19 LT)	1d	10Jun15	10Jun15	20d	WEARING 10-0
60.50.07	Place Binder (1244+47.75 to 1252+47.19 LT)	1d	18Jun15	18Jun15	11d	BASE/BINDER 10-0
60.50.08	Place Wearing (1244+47.75 to 1252+47.19 LT)	1d	25Jun15	25Jun15	7d	WEARING 10-0
60.50.09	Backup Shoulders/Landscape/Seed (1244+47.75 to 1252+47.19 LT)	4d	29Jun15	02Jul15	4d	SEEDING
60.50.10	Install Guiderail/PIAD (1244+47.75 to 1252+47.19 LT)	1d	09Jul15	09Jul15	1d	5-DAY
60.51	S-16405 (STA 1252+47.19 to 1254+28.69 LT)	8d	29Jun15	06Jul15	4d	Calendar Days
60.51.180	Epoxy Surfacing of Bridge Deck	5d	29Jun15	06Jul15	4d	5-DAY
60.60	Station (1254+28.69 to 1254+61.00 LT)	46d	22May15	06Jul15	4d	Calendar Days
60.60.02	Mill Existing Asphalt (1254+28.69 to 1254+61.00 LT)	1d	22May15	22May15	16d	5-DAY
60.60.03	Perform Concrete Patching (1254+28.69 to 1254+61.00 LT)	3d	03Jun15	05Jun15	12d	5-DAY
60.60.04	Cure Concrete Patches (1254+28.69 to 1254+61.00 LT)	7d	06Jun15	12Jun15	18d	Cure
60.60.05	Saw/Seal Existing Concrete Pavement (1254+28.69 to 1254+61.00 LT)	1d	26May15	26May15	25d	5-DAY
60.60.06	Place Asphalt Leveling Course (1254+28.69 to 1254+61.00 LT)	1d	13Jun15	13Jun15	18d	WEARING 10-0
60.60.07	Place Binder (1254+28.69 to 1254+61.00 LT)	1d	19Jun15	19Jun15	11d	BASE/BINDER 10-0
60.60.08	Place Wearing (1254+28.69 to 1254+61.00 LT)	1d	26Jun15	26Jun15	7d	WEARING 10-0
60.60.09	Backup Shoulders/Landscape/Seed (1254+28.69 to 1254+61.00 LT)	1d	06Jul15	06Jul15	4d	SEEDING



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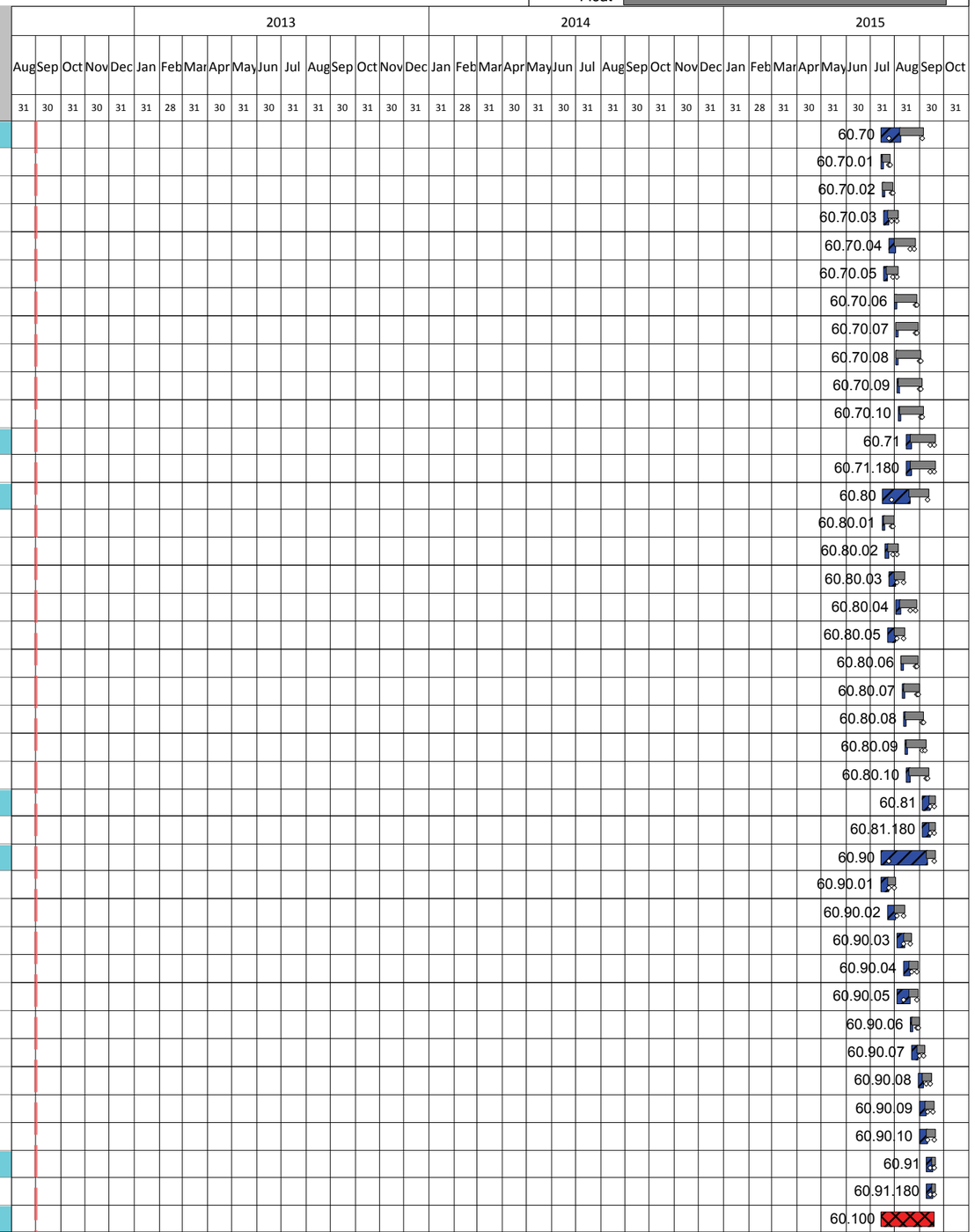
Project Description: SR0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
60.70	Station (848+46 to 871+09 RT)	24d	15Jul15	07Aug15	7d	Calendar Days
60.70.01	Remove Guiderail (848+46 to 871+09 RT)	1d	15Jul15	15Jul15	7d	5-DAY
60.70.02	Mill Existing Asphalt (848+46 to 871+09 RT)	1d	16Jul15	16Jul15	7d	5-DAY
60.70.03	Perform Concrete Patching (848+46 to 871+09 RT)	5d	17Jul15	23Jul15	7d	5-DAY
60.70.04	Cure Concrete Patches (848+46 to 871+09 RT)	7d	24Jul15	30Jul15	26d	Cure
60.70.05	Saw/Seal Existing Concrete Pavement (848+46 to 871+09 RT)	3d	17Jul15	21Jul15	9d	5-DAY
60.70.06	Place Asphalt Leveling Course (848+46 to 871+09 RT)	1d	31Jul15	31Jul15	26d	WEARING 10-0
60.70.07	Place Binder (848+46 to 871+09 RT)	1d	01Aug15	01Aug15	22d	BASE/BINDER 10-0
60.70.08	Place Wearing (848+46 to 871+09 RT)	1d	02Aug15	02Aug15	29d	WEARING 10-0
60.70.09	Backup Shoulders/Landscape/Seed (848+46 to 871+09 RT)	1d	04Aug15	04Aug15	24d	SEEDING
60.70.10	Install Guiderail/PIAD (848+46 to 871+09 RT)	3d	05Aug15	07Aug15	20d	5-DAY
60.71	S-16402 (STA 871+09.16 to 872+28.66 RT)	7d	14Aug15	20Aug15	20d	Calendar Days
60.71.180	Epoxy Surfacing of Bridge Deck	5d	14Aug15	20Aug15	20d	5-DAY
60.80	Station (872+28.66 to 922+62.01 RT)	34d	16Jul15	18Aug15	7d	Calendar Days
60.80.01	Remove Guiderail (872+28.66 to 922+62.01 RT)	2d	16Jul15	17Jul15	8d	5-DAY
60.80.02	Mill Existing Asphalt (872+28.66 to 922+62.01 RT)	3d	20Jul15	22Jul15	8d	5-DAY
60.80.03	Perform Concrete Patching (872+28.66 to 922+62.01 RT)	6d	24Jul15	31Jul15	7d	5-DAY
60.80.04	Cure Concrete Patches (872+28.66 to 922+62.01 RT)	7d	01Aug15	07Aug15	19d	Cure
60.80.05	Saw/Seal Existing Concrete Pavement (872+28.66 to 922+62.01 RT)	6d	23Jul15	30Jul15	8d	5-DAY
60.80.06	Place Asphalt Leveling Course (872+28.66 to 922+62.01 RT)	1d	08Aug15	08Aug15	19d	WEARING 10-0
60.80.07	Place Binder (872+28.66 to 922+62.01 RT)	2d	10Aug15	11Aug15	16d	BASE/BINDER 10-0
60.80.08	Place Wearing (872+28.66 to 922+62.01 RT)	2d	12Aug15	13Aug15	22d	WEARING 10-0
60.80.09	Backup Shoulders/Landscape/Seed (872+28.66 to 922+62.01 RT)	3d	13Aug15	15Aug15	19d	SEEDING
60.80.10	Install Guiderail/PIAD (872+28.66 to 922+62.01 RT)	3d	14Aug15	18Aug15	16d	5-DAY
60.81	S-25885 (STA 922+62.01 to 923+23.51 RT)	8d	04Sep15	11Sep15	5d	Calendar Days
60.81.180	Epoxy Surfacing of Bridge Deck	5d	04Sep15	11Sep15	5d	5-DAY
60.90	Station (923+23.51 to 1075+59.03 RT)	57d	15Jul15	09Sep15	7d	Calendar Days
60.90.01	Remove Guiderail (923+23.51 to 1075+59.03 RT)	6d	15Jul15	22Jul15	7d	5-DAY
60.90.02	Mill Existing Asphalt (923+23.51 to 1075+59.03 RT)	7d	23Jul15	31Jul15	7d	5-DAY
60.90.03	Perform Concrete Patching (923+23.51 to 1075+59.03 RT)	7d	03Aug15	11Aug15	7d	5-DAY
60.90.04	Cure Concrete Patches (923+23.51 to 1075+59.03 RT)	7d	12Aug15	18Aug15	9d	Cure
60.90.05	Saw/Seal Existing Concrete Pavement (923+23.51 to 1075+59.03 RT)	12d	03Aug15	18Aug15	7d	5-DAY
60.90.06	Place Asphalt Leveling Course (923+23.51 to 1075+59.03 RT)	3d	19Aug15	21Aug15	9d	WEARING 10-0
60.90.07	Place Binder (923+23.51 to 1075+59.03 RT)	6d	22Aug15	28Aug15	7d	BASE/BINDER 10-0
60.90.08	Place Wearing (923+23.51 to 1075+59.03 RT)	6d	29Aug15	03Sep15	9d	WEARING 10-0
60.90.09	Backup Shoulders/Landscape/Seed (923+23.51 to 1075+59.03 RT)	7d	31Aug15	06Sep15	9d	SEEDING
60.90.10	Install Guiderail (923+23.51 to 1075+59.03 RT)	6d	01Sep15	09Sep15	7d	5-DAY
60.91	S-16404 (STA 1075+59.0275 to 1076+66.65 RT)	7d	09Sep15	15Sep15	3d	Calendar Days
60.91.180	Epoxy Surfacing of Bridge Deck	5d	09Sep15	15Sep15	3d	5-DAY
60.100	Station (1076+66.65 to 1240+97.25 RT)	65d	15Jul15	17Sep15	0	Calendar Days



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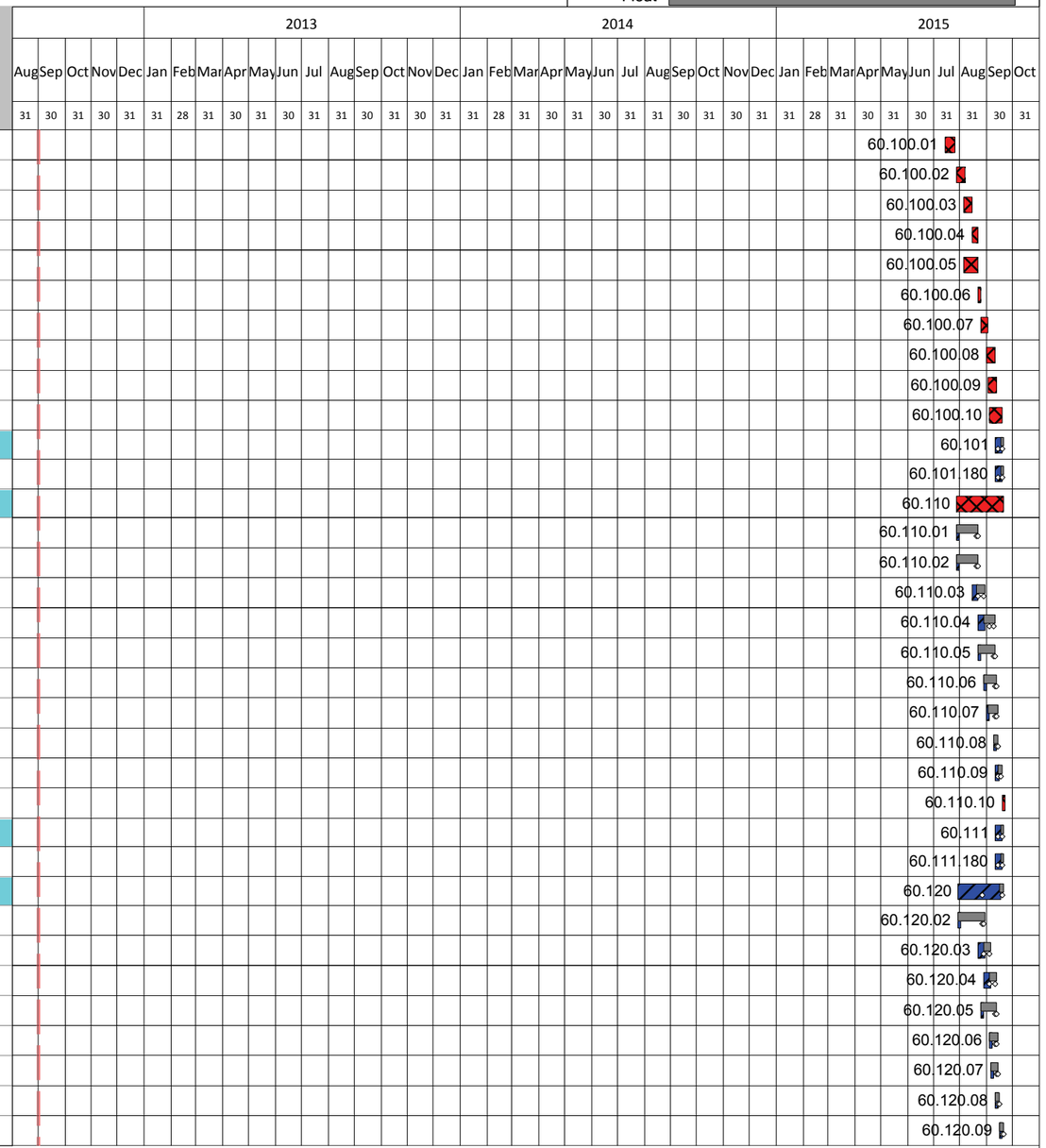
Project:SR0080-540 (5C)
Project Description: SR0080-540
Client: Engineering District 10-0
Company: PennDOT
Project Manager: SYSADMIN

Planned
Critical
Late Dates
Milestone
Progress
Summary
Float

Activity ID	Activity Desc.	Dur	ES	EF	TF	Calendar ID
60.100.01	Remove Guiderail (1076+66.65 to 1240+97.25 RT)	8d	15Jul15	24Jul15	1d	5-DAY
60.100.02	Mill Existing Asphalt (1076+66.65 to 1240+97.25 RT)	7d	27Jul15	04Aug15	1d	5-DAY
60.100.03	Perform Concrete Patching (1076+66.65 to 1240+97.25 RT)	7d	05Aug15	13Aug15	1d	5-DAY
60.100.04	Cure Concrete Patches (1076+66.65 to 1240+97.25 RT)	7d	14Aug15	20Aug15	1d	Cure
60.100.05	Saw/Seal Existing Concrete Pavement (1076+66.65 to 1240+97.25 RT)	12d	05Aug15	20Aug15	1d	5-DAY
60.100.06	Place Asphalt Leveling Course (1076+66.65 to 1240+97.25 RT)	2d	21Aug15	22Aug15	1d	WEARING 10-0
60.100.07	Place Binder (1076+66.65 to 1240+97.25 RT)	7d	24Aug15	31Aug15	0	BASE/BINDER 10-0
60.100.08	Place Wearing (1076+66.65 to 1240+97.25 RT)	7d	01Sep15	08Sep15	0	WEARING 10-0
60.100.09	Backup Shoulders/Landscape/Seed (1076+66.65 to 1240+97.25 RT)	8d	02Sep15	10Sep15	0	SEEDING
60.100.10	Install Guiderail/PIAD (1076+66.65 to 1240+97.25 RT)	10d	03Sep15	17Sep15	0	5-DAY
60.101	S-16406 (STA 1240+97.25 to 1244+47.75 RT)	7d	10Sep15	16Sep15	2d	Calendar Days
60.101.180	Epoxy Surfacing of Bridge Deck	5d	10Sep15	16Sep15	2d	5-DAY
60.110	Station (1244+47.75 to 1252+47.19 RT)	54d	27Jul15	18Sep15	0	Calendar Days
60.110.01	Remove Guiderail (1244+47.75 to 1252+47.19 RT)	1d	27Jul15	27Jul15	17d	5-DAY
60.110.02	Mill Existing Asphalt (1244+47.75 to 1252+47.19 RT)	1d	28Jul15	28Jul15	17d	5-DAY
60.110.03	Perform Concrete Patching (1244+47.75 to 1252+47.19 RT)	5d	14Aug15	20Aug15	5d	5-DAY
60.110.04	Cure Concrete Patches (1244+47.75 to 1252+47.19 RT)	7d	21Aug15	27Aug15	13d	Cure
60.110.05	Saw/Seal Existing Concrete Pavement (1244+47.75 to 1252+47.19 RT)	1d	21Aug15	21Aug15	12d	5-DAY
60.110.06	Place Asphalt Leveling Course (1244+47.75 to 1252+47.19 RT)	1d	28Aug15	28Aug15	12d	WEARING 10-0
60.110.07	Place Binder (1244+47.75 to 1252+47.19 RT)	1d	01Sep15	01Sep15	8d	BASE/BINDER 10-0
60.110.08	Place Wearing (1244+47.75 to 1252+47.19 RT)	1d	09Sep15	09Sep15	3d	WEARING 10-0
60.110.09	Backup Shoulders/Landscape/Seed (1244+47.75 to 1252+47.19 RT)	4d	11Sep15	14Sep15	3d	SEEDING
60.110.10	Install Guiderail (1244+47.75 to 1252+47.19 RT)	1d	18Sep15	18Sep15	0	5-DAY
60.111	S-16405 (STA 1252+47.19 to 1254+28.69 RT)	7d	11Sep15	17Sep15	1d	Calendar Days
60.111.180	Epoxy Surfacing of Bridge Deck	5d	11Sep15	17Sep15	1d	5-DAY
60.120	Station (1254+28.69 to 1254+61.00 RT)	49d	29Jul15	15Sep15	3d	Calendar Days
60.120.02	Mill Existing Asphalt (1254+28.69 to 1254+61.00 RT)	1d	29Jul15	29Jul15	21d	5-DAY
60.120.03	Perform Concrete Patching (1254+28.69 to 1254+61.00 RT)	5d	21Aug15	27Aug15	5d	5-DAY
60.120.04	Cure Concrete Patches (1254+28.69 to 1254+61.00 RT)	7d	28Aug15	03Sep15	7d	Cure
60.120.05	Saw/Seal Existing Concrete Pavement (1254+28.69 to 1254+61.00 RT)	1d	24Aug15	24Aug15	12d	5-DAY
60.120.06	Place Asphalt Leveling Course (1254+28.69 to 1254+61.00 RT)	1d	04Sep15	04Sep15	6d	WEARING 10-0
60.120.07	Place Binder (1254+28.69 to 1254+61.00 RT)	1d	05Sep15	05Sep15	5d	BASE/BINDER 10-0
60.120.08	Place Wearing (1254+28.69 to 1254+61.00 RT)	1d	10Sep15	10Sep15	3d	WEARING 10-0
60.120.09	Backup Shoulders/Landscape/Seed (1254+28.69 to 1254+61.00 RT)	1d	15Sep15	15Sep15	3d	SEEDING



PENNDOT FORM EDD-VI

ENVIRONMENTAL DUE DILIGENCE (EDD) PHASE 1
VISUAL INSPECTION FORM

DATE: 5/29/12

SR/SEC: 80/540 COUNTY: Jefferson

SEGMENT: 904

ECMS Project#: 94915

ACTIVITY: Field View

Location: Right shoulder Area

Visual Site Inspection (EDD-PHASE 1):

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

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: [signature]

PRINTED NAME: Chad Mosco

TITLE: Se Civil Engineer Supervisor

ORGANIZATION: Penn DOT 10-0

*** FORM MUST BE MAINTAINED FOR A MINIMUM 5 YEARS IN THE PROJECT FILE***

2012 Mitigation Tracking System Matrix

Project Name:	I-80 Jefferson Concrete WB
Project Location:	Washington Township, Jefferson County
MPMS #:	94915
SR-SEG:	0080-540

				Location		**Design Field View (if needed)**				**Final Design/Bid Package Preparation**				**Construction**	**Operations and Maintenance**		
								Responsible Party				**Responsible Party**				**Responsible Party**	
Mitigation or Commitment Activity	**Source Document**	**Resource Impacted**	**Impact Quantity**	**Begin Station**	**End Station**	**Action Taken**	**Responsible Party**	**Initials**	**Date**	**Action Taken**	**Responsible Party**	**Initials**	**Date**	**See ECMTS Construction Signature Sheet**	**Action Taken**	**Initials**	**Date**
Orange construction fencing will be used to reduce temporary impacts during construction of the project. Avoidance and minimization of impacts to wetlands has been undertaken and will continue through the final design phase	CEE	Wetlands								See special provision xxxx-yyy on ECMTS signature sheet				See special provision xxxx-yyy on ECMTS signature sheet			

Environmental Commitments and Mitigation Tracking System
Construction Tracking Signature Sheet

Project Name:	I-80 Jefferson Concrete WB
Project Location:	Washington Township, Jefferson County, Pa
MPMS #:	94915
SR-SEG:	0080-540

Special Provision Title	Date Completed	Date Inspected	Contractor Signature	Date	Construction Inspector Signature	Date
Wetland Protection						

pennsylvania
DEPARTMENT OF TRANSPORTATION

REQUEST FOR CONSIDERATION FOR ENGINEERING INVOLVEMENT RESTRICTIONS

Fill in the following information as applicable:

Agreement Number _____ Contract Number _____ MPMS _____

District _____ County _____SR _____ Section _____

SPN _____ Allot. _____ FPN _____

Consultant _____ Local Municipality _____

Project Description _____

Involvement on Department Agreement ☐ Preliminary Engineering ☐ Preliminary Review

☐ Final Design ☐ PS&E Preparation ☐ Department Review

☐ Construction Inspection ☐ Other _____

Actual duties performed: _____

_____

_____

Were recommendations, deliverables, or services developed related to the subject project?
☐ Yes ☐ No (If yes, request will be denied)

Planned Involvement on Contractor Design-Build Team _____

_____

_____

Executive Summary why consultant feels a conflict of interest does not exist

_____

_____

_____

_____

CONSULTANT REPRESENTATIVE (authorizes that information provided is true and correct)

X_____ _____

Date Title

CONSULTANT AGREEMENT CHIEF ☐ Concur - Forward ☐ Do not Concur

X_____

Date

_____

Reason for Non-Concurrence

_____ ☐ FHWA Concurrence

OFFICE OF CHIEF COUNSEL ☐ Concur ☐ Do not Concur

X_____

Date

_____

Reason for Non-Concurrence

_____

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Template for lump sum items requiring Schedules of Values.

Project #: _____ County: _____

Date: _____ SR/Section: _____

Item No.		Item Description	% of Item
9XXX-YYYY	**Design Roadway**		-
	a.	Complete Geotechnical Investigation	0.0%
	b.	Pre-Final Plan Submission	0.0%
	c.	Signing and Pavement Marking Plan	0.0%
	d.	Final Roadway Drawings Approval	0.0%
	e.	As-Builts	0.0%
	Item Total (must equal 100%)		0.0%
9XXX-YYYY	**Design Traffic Control Plan**		-
	a.	Incident/Transportation Management Plan Approval	0.0%
	b.	Preliminary Plan Approval	0.0%
	c.	Final Plan Approval	0.0%
	Item Total (must equal 100%)		0.0%
8210-____	**Design of S-xxxxx (As-Designed Foundation)**		-
	a.	Final TS&L Approval	0.0%
	b.	Final Plan Approval - Substructure	0.0%
	c.	Final Plan Approval - Superstructure	0.0%
	d.	Final Plan - for Signature	0.0%
	e.	As-Builts Drawings	0.0%
	Item Total (must equal 100%)		0.0%
8210-____	**Design of S-xxxxx (No As-Designed Foundation)**		-
	a.	Final TS&L Approval	0.0%
	b.	Foundation Approval	0.0%
	c.	Final Plan Approval - Substructure	0.0%
	d	Final Plan Approval - Superstructure	0.0%
	e.	Final Plan - for Signature	0.0%
	f.	As-Builts Drawings	0.0%
	Item Total (must equal 100%)		0.0%
9XXX-YYYY	**Right-of-Way Design and Acquisition Services**		-
	a.	Final Right-of-Way Plan Approval	0.0%
	b.	All Appraisals Approved	0.0%
	c.	Final Right-of-Way Clearance	0.0%
	d.	Right-of-Way Plan Revisions	0.0%
	Item Total (must equal 100%)		0.0%
9XXX-YYYY	**Permits**		-
	a.	NPDES Permit Application Initial Submission	0.0%
	b.	NPDES Permit Issuance	0.0%
	c.	Waterway Permit Application Initial Submission	0.0%
	d.	Waterway Permit Issuance	0.0%
	Item Total (must equal 100%)		0.0%

Item No.		Item Description	% of Item
9XXX-YYYY	**Construct Roadway**		-
	a.	Excavation/Embankment	0.0%
	b.	Drainage	0.0%
	c.	Subgrade/Subbase	0.0%
	d.	Concrete Roadway	0.0%
	e.	Asphalt Roadway	0.0%
	f.	Guiderail & Concrete Barrier	0.0%
	g.	Signing & Pavement Marking	0.0%
	h.	Miscellaneous (define)	0.0%
	Item Total (must equal 100%)		0.0%
8___-____	**Construction of Bridge S-xxxxx**		-
	a.	Excavation/Backfill	
	b.	Substructure	0.0%
	c.	Superstructure	0.0%
	d.	Approach Slabs	0.0%
	e.	Miscellaneous (define)	0.0%
	Item total (must equal 100%)		0.0%
8___-____	**Construction of Culvert S-xxxxx**		-
	a.	Excavation/Backfill	0.0%
	b.	Box Placement	0.0%
	c	Wingwall/Apron	0.0%
	d.	Miscellaneous (define)	0.0%
	Item Total (must equal 100%)		0.0%

Project No. EC09472401
April 2012

AWK CONSULTING ENGINEERS, INC.
PITTSBURGH, PENNSYLVANIA

ROADWAY DESIGN GUIDANCE REPORT (RDGR)

INTERSTATE 80 WESTBOUND RECONSTRUCTION SEG. 0881/1740 TO SEG. 0961/0976

JEFFERSON COUNTY, PA

AGREEMENT NO. E01549 – W.O. #24

Prepared for:
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
DISTRICT 10-0

ROADWAY DESIGN GUIDANCE REPORT (RDGR)

INTERSTATE 80 WESTBOUND RECONSTRUCTION
MM. 88/2496 TO MM. 95/3968

JEFFERSON COUNTY,
PENNSYLVANIA

AGREEMENT E01549, W.O. #24

PREPARED FOR:
PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
DISTRICT 10-0

PREPARED BY:
AWK CONSULTING ENGINEERS, INC.
1225 RODI ROAD
TURTLE CREEK, PA 15145

APRIL 2012

AWK PROJECT NO. EC09472401

TABLE OF CONTENTS

Roadway Design Guidance Report
Interstate 80 Westbound Reconstruction – MM. 88/2496 to MM. 95/3968
Jefferson County, Pennsylvania

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

1.0 INTRODUCTION

This Roadway Design Guidance Report (RDGR) has been prepared by AWK Consulting Engineers, Inc. (AWK) to support design of a new pavement structure and roadway widening for the reconstruction of the Westbound lanes of I-80 in Jefferson County, PA from Segment 0881 Offset 1740 to Segment 0961 Offset 0976.

1.1 LOCATION

The project is located in Jefferson County from the Jefferson/Clearfield County line on the east to the westbound rest area on I-80 on the west. The project is located in Washington Township, Jefferson County. A location map of the project area is included as Figure 1.

1.2 PURPOSE AND SCOPE

The purpose of this report is to prepare a pavement type approval submission for the reconstruction of the westbound lanes of I-80 from Segment 0881 Offset 1740 to Segment 0961Offset 0976 and to also provide geotechnical recommendations for roadway widening. This submission will support SAI Consulting Engineers, Inc. (SAI) Line, Grade, and Typical Section Submission. AWK performed this work as a sub-consultant to SAI who is under contract with PENNDOT.

Pavement type determination will be based on a Life Cycle Cost Analysis. Since the project is a Design-Build project, District 10-0 has instructed AWK to complete pavement designs for Jointed Plain Concrete Pavement (JPC) and Full-depth Bituminous pavement structures. AWK has completed life-cycle costs for each alternate. PENNDOT will instruct the bidders to include a "C" factor cost based on the contractor's selection of pavement type included in the bid. This "C" factor cost is the difference in life cycle costs between the JPC and Full-depth Bituminous alternates excluding any initial cost differences

This report has also been prepared to describe the results of literature research, existing pavement structure data, traffic data, construction/ as-built plans, as well as laboratory testing and field reconnaissance conducted by AWK and PENNDOT District 10-0. This work was performed in accordance with AWK's proposal and the requirements of PENNDOT Publication 242, "Pavement Policy Manual", dated January 2010.

1.3 PROPOSED CONSTRUCTION

Proposed construction will consist of the complete reconstruction of the westbound lanes of I-80 from MM. 88 Offset 2496 to MM. 95 Offset 3968 for a total length of 7.73 miles. The line and grade has been set by SAI to meet existing mainline structures which will not be reconstructed as a part of this project, project termini points, and the ramps of the Jefferson County Airport Interchange. Beyond these profile restrictions, the profile of SR 80 westbound lanes will be lowered by approximately one (1) foot to approximate the original construction profile.

The proposed construction will also include the construction of temporary single-lane cross-overs to switch traffic to the eastbound inside lane of I-80 during reconstruction of the westbound lanes. A full-depth flexible pavement design has been completed for the cross-overs.

2.0 SOIL, ROCK AND HYDROLOGIC SETTING

This section summarizes the site geology based on published literature and government records.

2.1 SOIL CONDITIONS

The project site is mostly underlain by the Gilpin-Wellston-Ernest association, as shown on the soil map included in Appendix A. These soils are shallow to deep, well drained, and moderately well drained, silty soils. From a review of available construction soil profiles for the westbound lanes of I-80, the existing pavement subgrade material consists of A-4, A-6, and A-7 soil classifications.

At the time of the original I-80 construction, the topsoil, soil, and bedrock would have been typically removed to an elevation corresponding to three (3) feet below top of subgrade elevation and replaced with fine-grained embankment material (typically clay or clayey sand/silt cap) with the upper one (1) foot compacted to 100 percent standard proctor density.

2.2 STRUCTURAL GEOLOGY AND BEDROCK CONDITIONS

The project area lies in Appalachian Plateau Physiographic Province in west-central Pennsylvania. This area is characterized by gently folded to nearly horizontal sedimentary rocks. Elevations in the project area range from about 1429 feet ASL (above sea level) to in excess of 1870 feet ASL on the hilltops above the project.

The western section of the project lies along the axis of the Worthville Syncline on the western terminus. This syncline dips to the southwest. The central and eastern sections of the project lie on the southern flank of the Sabinsville Anticline. This anticline also dips to the southwest. The base of the Lower Kittaning No. 3 coal is at an elevation ranging from 1690 FT at the western terminus to 1820 feet at approximately one (1) mile to the east of the western project terminus to 1560 feet at the eastern terminus of the project. Coal outcrops were indicated in the original construction plan soil profile at STA. 864+10 to STA. 868+05.

2.3 HYDROLOGY- SURFACE WATER AND GROUNDWATER

Essentially all of the surface water in the vicinity of the project area drains into Kyle Run, Horm Run, Beaverdam Creek, and Sandy Lick Creek. Groundwater measurements were not taken in the excavations to determine the effect of groundwater on the pavement structure and pavement typical section.

3.0 SUBSURFACE EXPLORATION AND TESTING PROGRAM

3.1 SUBSURFACE EXPLORATION PROGRAM

The subsurface exploration program for the pavement replacement consisted of nine subsurface sampling locations, which includes one (1) excavation in a cut section, four (4) excavations in cut/fill transitions, and four (4) excavations in fill sections. This sampling and testing program was developed by the District. Bag samples were obtained from these sample locations in the westbound lanes at depths ranging from 1.3 FT to 8.0 FT below the pavement surface.

Completed sampling and laboratory testing results for the pavement replacement of the westbound lanes are included in Appendix B (Table 1). A plan of these sampling locations is shown on SAI's Line and Grade submission drawings presented in Appendix B.

3.2 TESTING PROGRAM AND RESULTS

The sampling and testing program included classification, grain size distribution, Atterberg Limits, laboratory CBR, proctor density and moisture, and natural moisture contents. The dominant soil type included clayey sand with gravel. The AASHTO classifications included A-6(2), A-2-4(0), and A-1-A. Eight of the nine samples were plastic in nature. For the plastic samples, the natural moisture contents ranged from 8.2% to 11.4% and were typically wet of optimum. The laboratory CBR values ranged from 0.7 to 4.0 for those samples (6 total) that were wet of optimum and 0.8 to 43.9 for the samples that were dry of optimum (3 total).

4.0 ANALYSIS AND INTERPRETATION OF DATA

Based on SAI's Line and Grade analysis, the condition of the existing pavement, and the finding contained herein, the District evaluated the required typical section design with respect to constructability, performance, and serviceability and has determined that full depth reconstruction of the westbound lanes of SR 80 from MM. 88 Offset 2496 to MM. 95 Offset 3968 is the most viable option. Accordingly, Jointed Plain Concrete Pavement (JPC) and Full-depth Bituminous pavement structures will be the only pavement structures allowed.

The project consists of nineteen (19) separate cut and fill areas for a total length of 7.9 miles. Only nine (9) of these areas were investigated for CBR and index properties (grain size, limits, moisture). Seven (7) of the nine (9) samples tested have CBR values of 4 or less. In addition, six (6) of the nine (9) samples have in situ moisture contents which are wet of optimum. Thus, the majority of the subgrade tested cannot provide adequate support to any overlying pavement structure or construction traffic. It should be noted that only a limited number of locations were sampled and tested. Therefore, the variation in subgrade support conditions over the entire project reach cannot be accurately characterized at this time. However, based on the results of the nine (9) samples tested, the existing subgrade can be characterized as inadequate.

Subgrade stabilization requirements should be the same for each pavement structure. Based on a review of subsurface conditions and coordination with District personnel, we recommend that one hundred (100) percent of the subgrade area below the proposed pavement structure be undercut and removed to a depth of eighteen (18) inches and be replaced with Selected Borrow Excavation, 206 Rock and/or rubblized concrete. Continuous six (6) inch diameter subgrade drains wrapped in Class 1 Geotextile should be specified in each undercut section to adequately drain each undercut. Refer to Section 5.0 of this report for undercut and subgrade stabilization design.

Eight (8) of the nine (9) samples tested had plastic fines with more than three (3) percent of the material passing the No. 200 mesh (0.02 mm) sieve. The U.S. Army Corps of Engineers have reported that most inorganic soils containing three (3) percent (by weight) or more of grains finer than 0.02 mm in diameter are considered frost susceptible for pavement design purposes.

The effect of frost heave is to reduce the predicted service life of a pavement structure. It is feasible to control frost heave by increasing the thickness of non-frost susceptible material. The most accepted method to minimize the effect of frost heave is to replace the frost-susceptible material with non-frost-susceptible material to a depth of one-half or more of the frost depth.

5.0 PAVEMENT AND GEOTECHNICAL TREATMENT DESIGN

5.1 SR 80 WB MAINLINE PAVEMENT STRUCTURE AND TYPICAL SECTION

This report includes recommendations for Pavement Type Approval for reconstruction of the westbound lanes with either a Jointed Plain Concrete Pavement (JPC) or a Full-depth Bituminous pavement structure. This work has been performed in accordance with PENNDOT Publication 242 –"Pavement Policy Manual."

AWK Consulting Engineers, Inc. has completed one Concrete pavement structure design and one Full-depth Bituminous pavement structure design with AASHTO DarWIN software for the reconstruction of the westbound lanes. AWK has also developed design parameters and DarWIN input values for each alternate pavement structure. ~~Pavement designs, design parameters, and DarWIN input values are included in Appendix C for each pavement structure alternate~~.

The concrete pavement structure alternate is as follows:

- ~~13~~ 14" Jointed Plain Concrete Pavement on
- 4" Asphalt Treated or Concrete Treated Permeable Base Course on
- 4" Subbase (NO. 2A) with
- Type 2 Tied Concrete Shoulders LT and RT with
- 6" Pavement Base Drain and Geotextile, Class 1 LT and RT

The full-depth bituminous pavement structure alternate is as follows:

- 1-1/2" Superpave Asphalt Mixture Design, HMA Wearing Course, RPS, PG 76-22, >/= 30 Million ESALs 9.5 mm Mix, SRL-E on
- 2-1/2" Superpave Asphalt Mixture Design, HMA Binder Course, PG 76-22, RPS, >/= 30 Million ESALs 19.0 mm Mix on
- ~~13~~ (4") Superpave Asphalt Mixture Design, HMA Base Course, PG 64-22, >30 Million ESALs 37.5 mm Mix on
- 8" Subbase (NO. 2A)
- 4 FT Wide Full-depth Bituminous Shoulders LT and
- 10 FT Wide Type 1-SP Bituminous Shoulders RT (12 FT Effective Width)
- 6" Pavement Base Drain and Geotextile, Class 1 LT and RT

The existing pavement structure is a 10" Jointed Plain Concrete (JPC) on 2-1/2" (min. depth) dense graded bituminous concrete interlayer on 10" Jointed Reinforced Concrete Pavement (JRCP) on variable depth (8" or 14") Subbase (NO. 2A). The minimum total depth of the existing pavement is 30.5" or 2.54 feet.

Six-inch diameter pavement base drain will be included in the pavement typical section at the outside edge of the inside shoulder and at the outside lane/ shoulder location to intercept and remove subsurface water from the pavement structure.

From a review of existing laboratory soils data, the limiting soil type is AASHTO A-6. This soil typically is frost susceptible and has a reported frost heave rate of 8 mm per day. This soil type was utilized to determine the serviceability loss due to frost heave. In the determination of this value, the frost penetration depth was determined to be 4.0 feet, the drainage quality of the proposed pavement structure was estimated to be "fair", and the frost heave probability was estimated at 35.4 percent. This value corresponds to the project area in cut sections. It is assumed that the overexcavation of existing subgrade to a depth of eighteen (18) inches and backfill with 206 Rock will minimize pavement degradation due to frost throughout the project. The potential for subsurface water infiltration into the pavement structure and subgrade may be possible in cut sections. Thus, the frost heave probability was set accordingly. This resulted in a serviceability loss due to frost heave of 0.40 utilizing Figure G.8 of the AASHTO "Guide for the Design of Pavement Structures." This value was added to the Terminal Serviceability Index (TSI) of 3.0 to arrive at an adjusted TSI to account for frost degradation. This value should be utilized for the design of all full-depth flexible pavement structures.

~~Undercutting and removal of the top eighteen (18) inches of existing subgrade will be specified for the entire length of the reconstructed I-80 westbound lanes.~~ The undercut limits will include the westbound travel and passing lanes and the shoulders (total width of 40 feet). Undercut stabilization and replacement will consist of a minimum thickness of ~~18"~~ 24" (~~1.5~~ 2 FT) of Selected Borrow Excavation, 206 Rock (12" max. top size) and to be placed to the elevation of the bottom of the Subbase (NO. 2A) layer of the proposed pavement. Geotextile, Class 4, Type A will be placed between the subbase and the 206 Rock. Geotextile, Class 4, Type B will be placed between the 206 Rock and the top of existing subgrade. Refer to the special provision "Rock Cap for Soil Cuts and Soil Embankment" in Appendix D. Also refer to the undercut detail also included in Appendix D. Undercut and backfill quantities will be included in the ECMS Schedule of Quantities.

~~5.2~~ SR 80 WB PAVEMENT LIFE-CYCLE COST ANALYSIS

The cost for reconstruction of the westbound lanes of SR 0080 Section 540 will be in excess of three (3) million dollars. Per Table 6.1 of PENNDOT Pub. 242, a life-cycle cost analysis is required. This analysis was performed with PENNDOT LCCA spreadsheets for Concrete Reconstruction and Bituminous Reconstruction alternates and is included in Appendix C. The life-cycle cost analysis was performed ignoring inflation but applying a four (4) percent Discount Rate over the span of the analysis period. The Total Present Worth Cost (Initial Construction Cost + Maintenance Activities Cost + User Delay Cost) was computed for each alternate. A Residual Life Discount was calculated to even out the Concrete Reconstruction and Bituminous Reconstruction alternates analysis periods to make them equal to 50 years.

Since this is a Design-Build project where the contractor will include in his/ her bid the construction (initial) cost of either the Concrete Reconstruction or the Bituminous Reconstruction alternate, the initial costs of these alternates were set to be equal to each other in the life-cycle cost analysis. A "C" factor cost was calculated for each alternate to include Total Present Worth Cost - Initial Construction Cost. PENNDOT will instruct the bidders to include the appropriate "C" factor cost and Residual Life Discount Cost based on the contractor's

~~selection of pavement type to be included in the bid. In the life-cycle cost analysis, AWK has set production rates of non-paving activities of future rehabilitation schedules to correspond to multiple crews so as not to inflate user delay costs.~~

5.3 SR 80 TEMPORARY CROSSOVER PAVEMENT STRUCTURE

AWK Consulting Engineers, Inc. has completed one full-depth flexible pavement structure with AASHTO DarWIN software for the crossovers of the westbound lanes. This pavement structure is based on a one (1) year design life and includes:

- 1-1/2" Superpave Asphalt Mixture Design, HMA Wearing Course, PG 76-22, 0.3 to <3 Million ESALs 9.5 mm Mix, SRL-E on
- 8" Superpave Asphalt Mixture Design, HMA Base Course, PG 64-22, 0.3 to <3 Million ESALs 25.0 mm Mix on
- 8" Subbase (NO. 2A)

This pavement design is based on a subgrade CBR value of 5.0. If the subgrade soils beneath each cross-over do not have minimum subgrade CBR values of 5.0, undercut and removal of 24" (2.0 FT) of the subgrade is recommended with backfill and stabilization as follows:

- Existing subgrade to be undercut a minimum depth of 24" (2.0 FT).
- Geotextile, Class4, Type B to be placed on top of existing subgrade.
- 206 Rock (12" max. top size) to be placed to the elevation of the bottom of the Subbase (NO. 2A) layer of the proposed pavement.
- Geotextile, Class4, Type A to be placed between the subbase and the 206 Rock.

~~The typical section and pavement design for this pavement structure are included in Appendix C.~~

5.4 SR 80 WIDENED EMBANKMENT DESIGN

In order to accommodate the proposed widened pavement typical section to include twelve (12) foot wide outside shoulders and a two (2) foot backup of proposed guide rail, it is anticipated that the existing profile grade will be lowered to about the elevation of the top of concrete of the original pavement structure. The original pavement structure was overlaid in 1988 with ten (10) inches of JPC on 2-1/2" of bituminous bond breaker. Lowering the profile grade of SR 80 WB will minimize the extent of widened embankments; however, the profile grade cannot be lowered at project termini, mainline bridges, and the ramps of the Dubois-Jefferson County Airport Interchange.

AWK has developed geotechnical treatment details for Widened Embankment Earth Fills (2H:1V side slope), Widened Embankment Rock Fills (1.5H:1V side slope or flatter), and Geosynthetic Soil Reinforced Fills (1.0H:1V side slope or flatter) as presented in Appendix D. The specific requirements for each geotechnical treatment are presented in Appendix D.

5.5 SR 80 MISCELLANEOUS GEOTECHNICAL DETAILS

Transition bench geotechnical treatments will be required where lowering of the roadway profile is required at cut/fill transitions. These details are also included in Appendix D.

Where the profile is lowered in cut sections, cut slopes will be designed at no steeper than 1.5H:1V in rock and no steeper than 2H:1V in soil.

6.0 ENVIRONMENTAL CONCERNS

SAI will prepare a Level 1b Categorical Exclusion Evaluation (CEE) to complete NEPA document requirements. Since the proposed project lies within a HQ/EV watershed, an individual NPDES permit and/or 105/404 permit may be required for culvert extensions, stream impacts, wetland impacts and/or non-maintenance disturbance in excess of 1.0 acre.

A special provision has been developed for rubblization of the existing concrete pavement and reuse as subgrade backfill material under the new pavement structure. This special provision has been developed to permit reuse of the rubblized concrete pavement in high quality (HQ)/ Exceptional Value (EV) watersheds. Refer to the special provision "Rubblized Concrete" in Appendix D.

7.0 ECONOMIC CONSIDERATIONS

Right-of-way acquisition is not anticipated to be required for this project. Any utilities, such as the overhead electric lines and any underground utilities adjacent to the roadway, are not expected to require relocation.

8.0 CLOSING

In preparing this report, our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied. In the event that conclusions or recommendations based upon the data obtained in this report are made by others, such conclusions or recommendations are the responsibility of others.

If additional comments or clarifications pertaining to the subsurface exploration, laboratory testing, pavement design and typical section design, assessment or recommendations are required, we will be pleased to comply.

Respectfully submitted,

AWK Consulting Engineers, Inc.

Daniel E. Sheftick, P.E.
Project Engineer

DES/ESA

FIGURES

FIGURE 1. PROJECT LOCATION MAP

APPENDICES

APPENDIX A

Project Soil Conditions and Maps

APPENDIX A

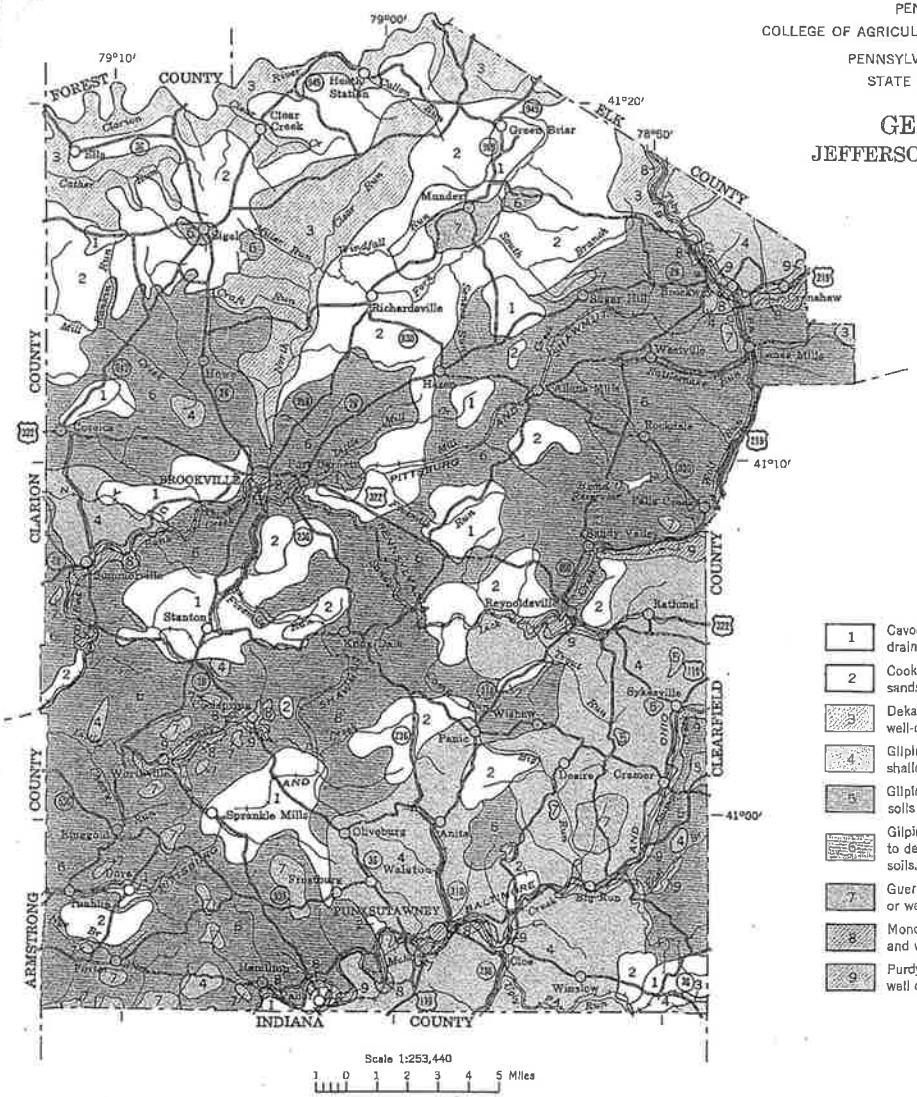
A.1 Soil Map of Jefferson County, PA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

PENNSYLVANIA STATE UNIVERSITY
COLLEGE OF AGRICULTURE AND AGRICULTURAL EXPERIMENT STATION

PENNSYLVANIA DEPARTMENT OF AGRICULTURE
STATE SOIL CONSERVATION COMMISSION

GENERAL SOIL MAP
JEFFERSON COUNTY, PENNSYLVANIA



N

SOIL ASSOCIATIONS

1. Cavode-Brinkerton-Armagh association: Somewhat poorly drained and poorly drained soils of uplands, on clay shale
2. Cookport-Hartsells-Dekalb association: Soils from sandstone on broad ridgetops and on slopes
3. Dekalb-Lestonia association: Steep, hilly, stony, well-drained soils
4. Gilpin-Montevallo-Ernest association: Hilly to steep, shallow to moderately deep, shaly and silty soils
5. Gilpin-Upshur association: Well-drained, reddish, clayey soils on interbedded red and gray shale
6. Gilpin-Wellston-Ernest association: Rolling, shallow to deep, well drained and moderately well drained, silty soils.
7. Guernsey-Westmoreland association: Moderately well drained or well drained soils containing some lime
8. Monongahela-Holston association: Moderately well drained and well drained, deep soils on stream terraces
9. Purdy-Tyler-Zoar association: Poorly drained to moderately well drained, fine-textured soils on stream terraces

January 1964

APPENDIX B

I-80 WB Subsurface Exploration and Testing Program

APPENDIX B

B.1 Subsurface Testing Locations for I-80 WB Jefferson County, PA

Summary Table #1
Schedule of Proposed Borings
I-80 Concrete Section

WESTBOUND ONLY

Boring #	Mile Marker	Offset From CL (ft) ÷ 5280	Est. Elevation	Soil Boring: Est. Depth And Type (ft) 1	Soil Boring: c/c Spacing of Split Barrell Samples	Soil Boring: # of Undisturbed Samples 2	Rock Coring Est. Depth and Type (ft) 3	Special Installations 4	Other 5	Remarks CBR values
ATW-956	95.6	3168 +	Sta.	1182+05 =	Sta. 1213+73	≈		Fill ?		
ATW-952	95.2	1056 +	Sta.	1182+05 =	Sta. 1192+	61 ≈	✓	Fill ✓		
ATW-945	94.5	2640 +	Sta.	1129+75 =	Sta. 1156+	15 ≈	✓	Fill ✓		
ATW-942	94.2	1056 +	Sta.	1129+75 =	Sta. 1140+	31 ≈	✓	Fill ✓		
ATW-938	93.8	4224 +	Sta.	1077+85 =	Sta. 1120+	09 ≈	✓	Fill ?		
ATW-953	93.5	2640 +	Sta.	1077+85 =	Sta. 1104	+35 ≈	✓	Fill ✓		
ATW-925	92.5	2640 +	Sta.	1025+05 =	Sta. 1051+	45 ≈	✓	Fill ✓		
ATW-920	92.0	0 +	Sta.	1025+05 =	Sta. 1025+	05 ≈	✓	Cut ✓		
ATW-916	91.6	3168 +	Sta.	972+25 =	Sta. 1003+	93 ≈	✓	Fill ✓		
ATW-912	91.2	1056 +	Sta.	972+25 =	Sta. 982+	81 ≈	✓	Cut ✓		
ATW-906	90.6	3168 +	Sta.	919+30 =	Sta. 950+	98 ≈	✓	Fill ?		
ATW-902	90.2	1056 +	Sta.	919+30 =	Sta. 929+	86 ≈	✓	Fill ✓		
ATW-896	89.6	3168 +	Sta.	866+75	= Sta. 898+	43 ≈	✓	Cut ✓		
ATW-892	89.2	1056 +	Sta.	866+75	= Sta. 877+	31 ≈	✓	Cut ✓		
ATW-887	88.7	3696 +	Sta.	813+90 =	Sta. 850+	86 ≈		Fill ✓		
				0.0			0.0			

1 SOIL BORINGS
- A- NX (3 3/16 inch nominal diameter) open hole
- B- ___(_____ inch nominal diameter) open hole
- H- Advanced by hollow stem auger
- S- Advanced by solid flight auger
- DC- Advanced by driving casing

2 UNDISTURBED SOIL SAMPLES
- ST- Shelby tube sample

3 ROCK DRILLING AND CORING
- A- NX or NQ rock core
- B-____ inch diameter rock core
- C-____ inch diameter desructive rock drilling

4 SPECIAL INSTALLATION
- P- Piezometer pipe
- PT- Porous tube piezometer tips
- IC- Inclinometer casing
- PC- Protective casing

5 OTHER
- G- Grouting
- TP-Test Pit
- W-Boring drilled in water

DESCRIPTION	SHEET
TITLE SHEET	1
INDEX MAPS	2,3
LOCATION MAP	4
TYPICAL SECTIONS	5
ROADWAY DETAILS	6-10
SUMMARY	11-14
ROADWAY QUANTITIES	15
SUBSURFACE DRAIN QUANTITIES	16
BRIDGE APPROACH SLAB QUANTITIES	17
GUIDE RAIL QUANTITIES	18,19
STRUCTURE QUANTITIES	20
MISCELLANEOUS QUANTITIES	21
DRAINAGE QUANTITIES	22-31

ADJACENT TO MILE MARKER 88/1486 EASTBOUND ADJACENT TO MILE MARKER 88/1421 WESTBOUND	2-24' ROADWAYS, 10" REINF. CEM. CONC. ON 8" SUBBASE, W/84' MIN. MEDIAN
MILE MARKER 88/1486 EASTBOUND TO MILE MARKER 92/4782 EASTBOUND MILE MARKER 88/1421 WESTBOUND TO MILE MARKER 92/4950 WESTBOUND	2-24' ROADWAYS, 10" REINF. CEM. CONC. ON 8" SUBBASE, W/84' MIN. MEDIAN
MILE MARKER 92/4782 EASTBOUND TO MILE MARKER 95/4219 EASTBOUND MILE MARKER 92/4950 WESTBOUND TO MILE MARKER 95/4508 WESTBOUND	2-24' ROADWAYS, 10" REINF. CEM. CONC. ON 14" SUBBASE, W/84' MIN. MEDIAN
ADJACENT TO MILE MARKER 95/4219 EASTBOUND ADJACENT TO MILE MARKER 95/4508 WESTBOUND	2-24' ROADWAYS, 10" REINF. CEM. CONC. ON 14" SUBBASE, W/84' MIN. MEDIAN

WASHINGTON TOWNS

REVISION NUMBER	REVISIONS

PENNSYLVANIA

LIMIT OF WORK
MILE MARKER 88/1421 W.B.
SEGMENT 0881 OFFSET 1421
S.R. 80 SECTION 207
JEFFERSON COUNTY
WASHINGTON TOWNSHIP

TO CLARION 28 MILES

CROSSOVER NO. 2

BEGIN RECONSTRUCTION MILE MARKER 88/2496

CROSSOVER NO. 1

BEGIN RECONSTRUCTION MILE MARKER 88/3011

STRUCTURES OVER SR 1005

PERMANENT MEDIAN CROSSOVER

LIMIT OF WORK
MILE MARKER 88/1686 E.B.
SEGMENT 0890 OFFSET 1160
S.R. 80 SECTION 207
JEFFERSON COUNTY
WASHINGTON TOWNSHIP

TO ALLENS MILLS 3 MILES

TO ALLENS MILLS 4 MILES

STRUCTURES OVER T-450

TO PUNXSUTAWNEY 11 MILES

TO REYNOLDSVILLE 4 MILES

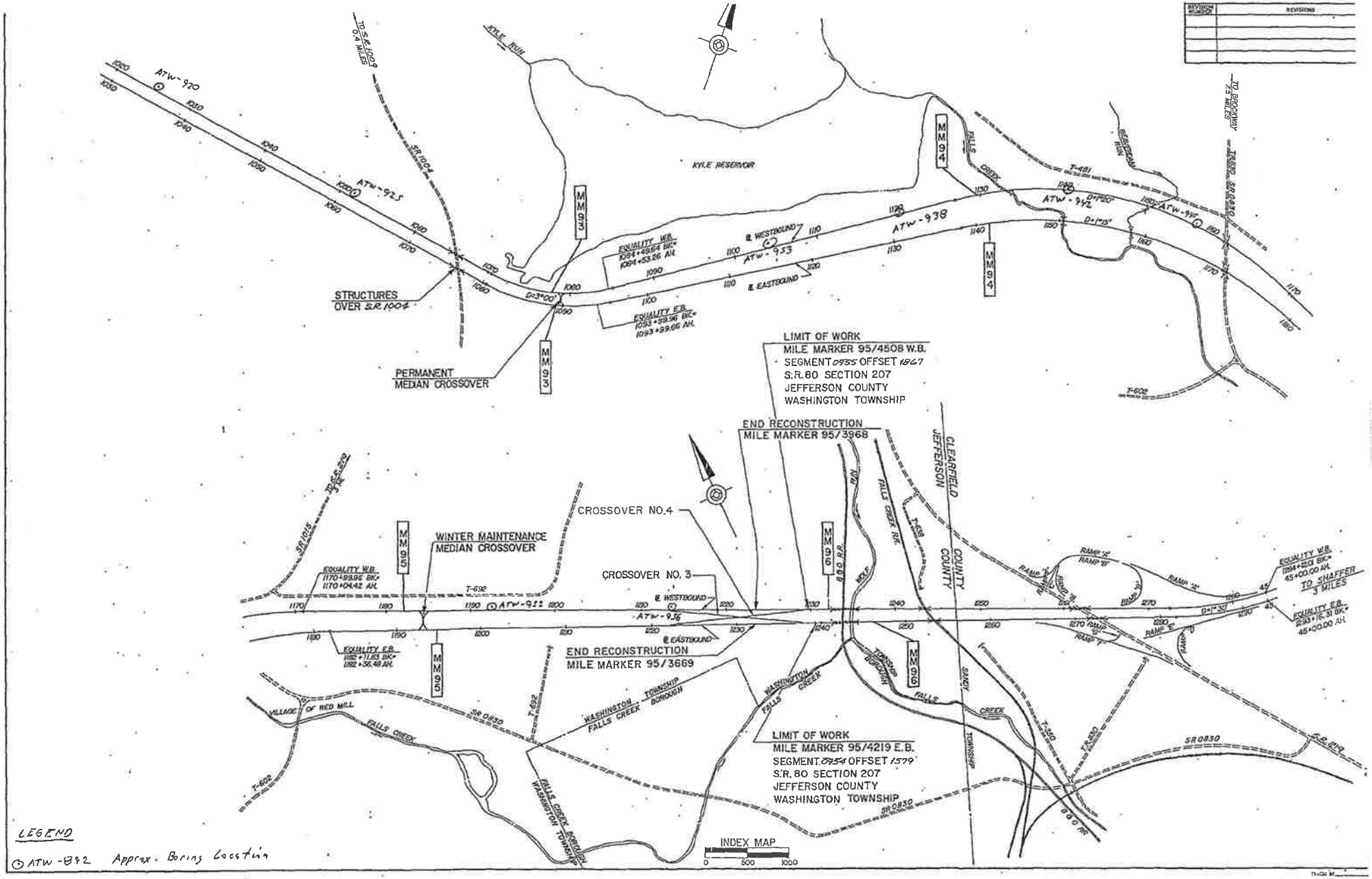
VILLAGE OF HORTOWN

VILLAGE OF PARCUS

N 361332.52
E 1649963.30

INDEX MAP
0 500 1000

LEGEND
⊙ ATW-892 Approx. Boring Location


KYLE RUN
KYLE RESERVOIR
TO S.R.1009 0.4 MILES
SR 1004
ATW-970
ATW-975
ATW-938
ATW-933
ATW-942
ATW-941
STRUCTURES OVER S.R.1004
PERMANENT MEDIAN CROSSOVER
MM 94
MM 95
MM 96
EQUALITY W.B. 1084+49.64 BK* 1084+53.26 AH
EQUALITY E.B. 1093+99.96 BK* 1093+99.65 AH
@ WESTBOUND
@ EASTBOUND
FALLS CREEK
BEAVERDAM RUN
TO BROOKVILLE 5 MILES
T-481
T-602
LIMIT OF WORK
MILE MARKER 95/4508 W.B.
SEGMENT 0955 OFFSET 1867
S.R. 80 SECTION 207
JEFFERSON COUNTY
WASHINGTON TOWNSHIP
END RECONSTRUCTION
MILE MARKER 95/3968
CLEARFIELD COUNTY
JEFFERSON COUNTY
CROSSOVER NO.4
CROSSOVER NO. 3
WINTER MAINTENANCE MEDIAN CROSSOVER
SR 1015
T-692
EQUALITY W.B. 1170+99.95 BK* 1170+104.42 AH
EQUALITY E.B. 1182+11.03 BK* 1182+36.48 AH
ATW-952
ATW-956
END RECONSTRUCTION
MILE MARKER 95/3669
LIMIT OF WORK
MILE MARKER 95/4219 E.B.
SEGMENT 0954 OFFSET 1579
S.R. 80 SECTION 207
JEFFERSON COUNTY
WASHINGTON TOWNSHIP
VILLAGE OF RED MILL
FALLS CREEK
WASHINGTON TOWNSHIP
FALLS CREEK BOROUGH
WASHINGTON FALLS CREEK TOWNSHIP BOROUGH
SANDY TOWNSHIP
T-220
T-438
SR 0830
SR 219
RAMP 'A'
RAMP 'B'
RAMP 'C'
RAMP 'D'
RAMP 'E'
RAMP 'F'
RAMP 'G'
RAMP 'H'
EQUALITY W.B. 1294+12.01 BK* 45+00.00 AH
EQUALITY E.B. 2193+16.31 BK* 45+00.00 AH
TO SHAFFER 3 MILES
INDEX MAP
0 500 1000
LEGEND
ATW-942 Approx. Boring Location

APPENDIX B

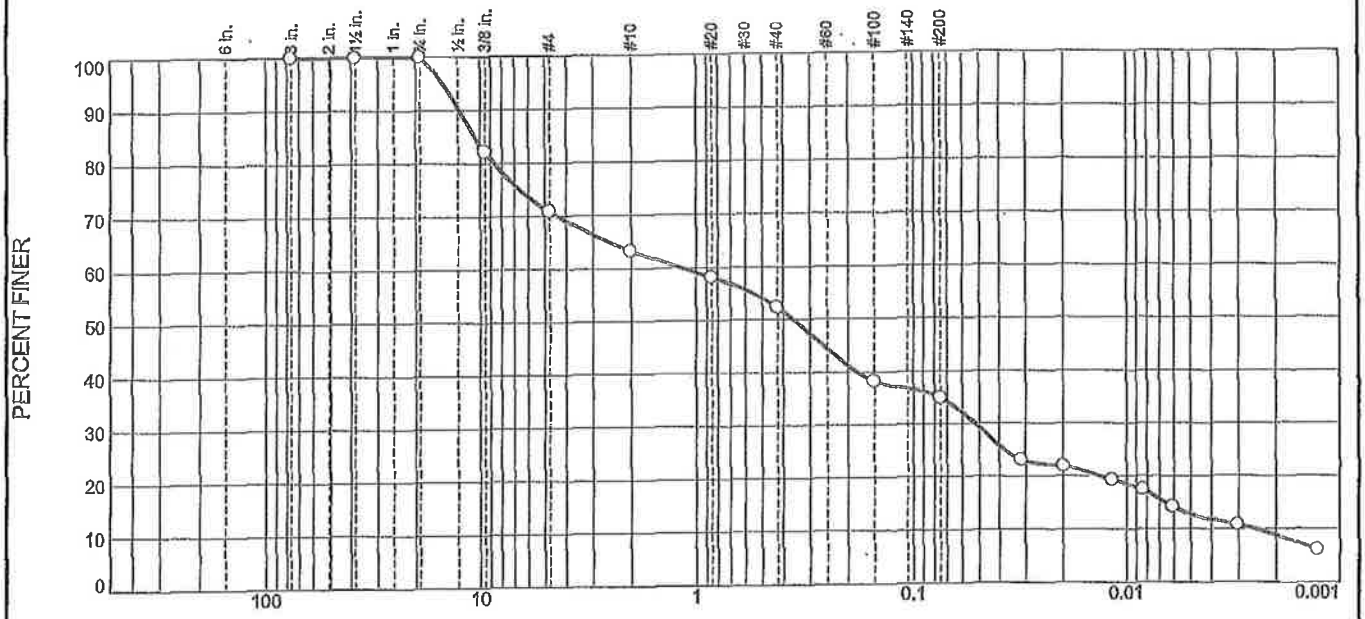
B.2 Subsurface Testing Results for I-80 WB
Jefferson County, PA

TABLE 2
SUMMARY OF PHYSICAL SOIL TEST RESULTS
SR 80 WB, Section 540 Jefferson County, Pennsylvania

Boring No.	Area (Cut or Fill)	Sample Type	Sample Depth (ft)	USCS & AASHTO Class.	Sample Description	Frost Heave Rate (mm/day)	A. Limits (%)			USCS Grain Size (%)			Nat. H_2O (%)	Optimum Moisture Content (%)	Maximum Dry Density (pcf)	Molded Density (pcf)	CBR Value @ Molded Density
							LL	PL	PI	Gravel	Sand	Silt & Clay					
ATW-906	Cut/Fill	Bag	3.0-7.5	SC A-2-4(0)	Clayey Sand with Gravel	6	26	18	8	29.1	35.9	35.0	8.8	9.7	119.5	118.8	7.9
ATW-912	Cut	Bag	2.0-7.9	SC-SM A-2-4(0)	Silty Clayey Sand with Gravel	6	20	15	5	24.0	42.2	33.8	9.2	8.2	128.5	125.4	2.6
ATW-916	Fill	Bag	3.8-8.3	CL A-6(4)	Sandy Lean Clay with Gravel	8	29	18	11	16.8	25.8	57.4	10.5	11.0	122.7	119.8	0.8
ATW-925	Fill	Bag	3.0-8.0	CL A-6(4)	Sandy Lean Clay	8	29	18	11	7.7	31.5	60.8	11.0	9.4	121.6	117.2	0.7
ATW-935	Fill	Bag	3.4-7.9	SC A-6(2)	Clayey Sand with Gravel	8	33	20	13	18.9	37.1	44.0	10.4	10.0	123.6	119.2	2.5
ATW-942	Cut/Fill	Bag	2.1-6.0	SC A-6(2)	Clayey Sand	8	26	15	11	14.9	35.9	49.2	10.6	10.3	125.8	120.4	3.5
ATW-945	Cut/Fill	Bag	1.3-8.0	GP-GM A-1-a	Poorly Graded Gravel with Silt and Sand	4	NP	NP	NP	67.2	25.8	7.0	4.4	5.1	137.9	136.3	43.9
ATW-952	Fill	Bag	4.9-7.5	SC A-6(1)	Clayey Sand with Gravel	8	28	13	15	28.8	35.1	36.1	8.2	7.9	127.6	126.9	4.0
ATW-956	Cut/Fill	Bag	4.9-5.6	SC A-6(2)	Clayey Sand	8	27	14	13	4.6	50.6	44.8	11.4	8.7	121.5	120.2	3.3

By: DES 3/3/2012
Chk: REA 4/4/2012

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	29.1	7.6	10.9	17.4	22.2	12.8

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	82.2		
#4	70.9		
#10	63.3		
#20	58.2		
#40	52.4		
#100	38.2		
#200	35.0		
0.0312 mm.	23.1		
0.0199 mm.	21.9		
0.0117 mm.	19.3		
0.0084 mm.	17.5		
0.0061 mm.	14.2		
0.0030 mm.	10.9		
0.0013 mm.	6.1		

* (no specification provided)

Material Description

Dark Gray Clayey Sand with Gravel

Atterberg Limits (ASTM D 4318)

PL= 18 LL= 26 PI= 8

Classification

USCS (D 2487)= SC AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 12.5285 D_{85}= 10.5540 D_{60}= 1.1670
D_{50}= 0.3570 D_{30}= 0.0521 D_{15}= 0.0065
D_{10}= 0.0025 C_u= 472.81 C_c= 0.94

Remarks

Moisture Content: 8.8%
USCS: Clayey sand with gravel
L.R. Kimball ID: 020612.3

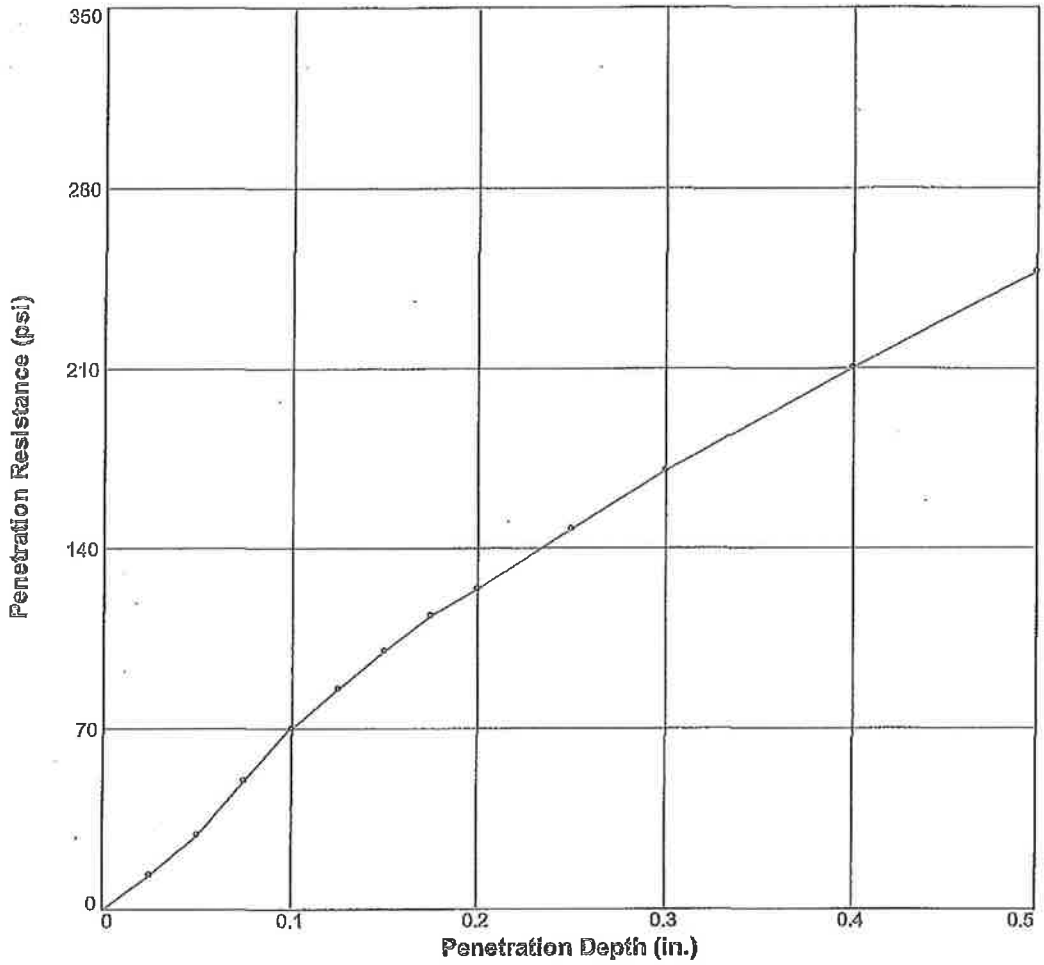
Date Received: 2-6-12 **Date Tested:** 2-6-12
Tested By: RPY
Checked By: GPL
Title: PM

Source of Sample: ATW-906 **Depth:** 3.0-7.5 **Date Sampled:** 2-6-12
Sample Number: Bag

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No: 07-1300-0300 **Figure** RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	118.8	99.4	9.2	117.3	98.2	12.7	7.9	8.7	0.014	10	1.2
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Dark Gray Clayey Sand with Gravel	SC	119.5	9.7	26	8

Project No: 07-1300-0300

Project: I80 Westbound Concrete Section

Source of Sample: ATW-906 **Depth:** 3.0-7.5

Sample Number: Bag

Date: 2-6-12

Test Description/Remarks:

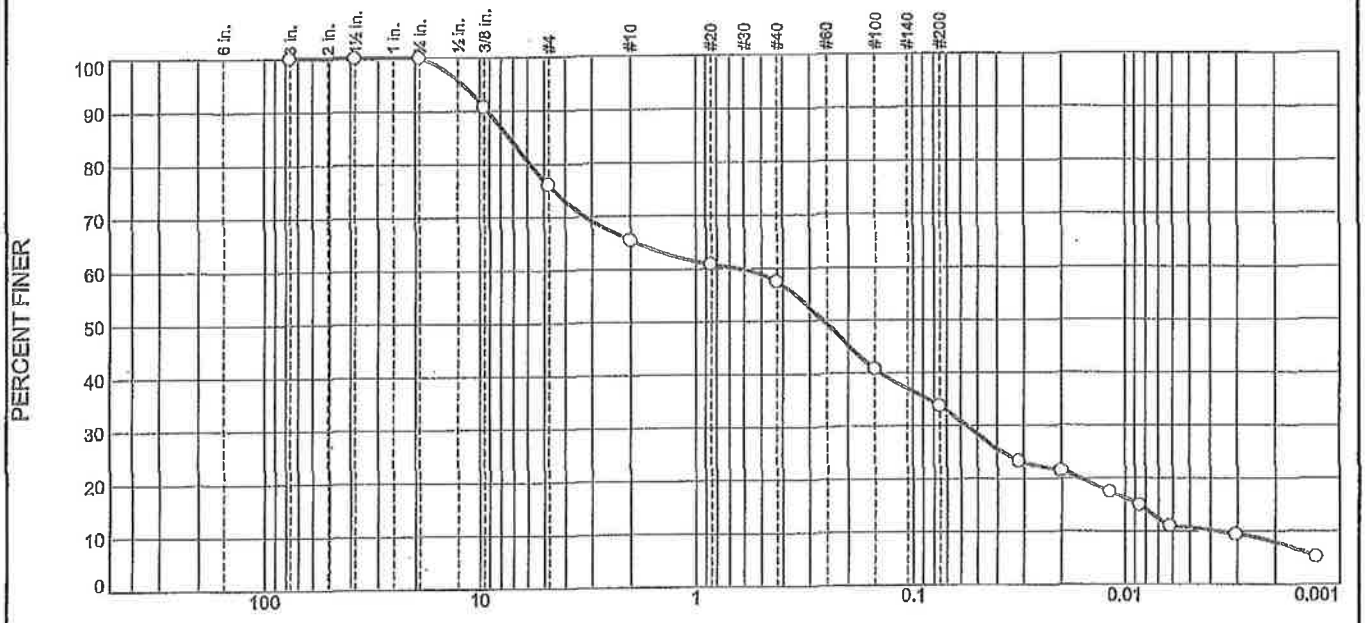
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT

L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW906

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	24.0	10.6	7.9	23.7	23.1	10.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	90.8		
#4	76.0		
#10	65.4		
#20	60.9		
#40	57.5		
#100	40.8		
#200	33.8		
0.0313 mm.	23.3		
0.0200 mm.	21.5		
0.0119 mm.	17.5		
0.0085 mm.	15.0		
0.0062 mm.	11.0		
0.0030 mm.	9.4		
0.0013 mm.	5.1		

* (no specification provided)

Material Description

Brown Silty, Clayey Sand with Gravel

Atterberg Limits (ASTM D 4318)

PL= 15 LL= 20 PI= 5

Classification

USCS (D 2487)= SC-SM AASHTO (M 145)= A-2-4(0)

Coefficients

D_{90}= 9.1694 D_{85}= 7.2732 D_{60}= 0.6328
D_{50}= 0.2594 D_{30}= 0.0559 D_{15}= 0.0085
D_{10}= 0.0037 C_u= 170.31 C_c= 1.33

Remarks

Moisture Content: 9.2%
USCS: Silty, clayey sand with gravel
L.R. Kimball ID: 020612.4

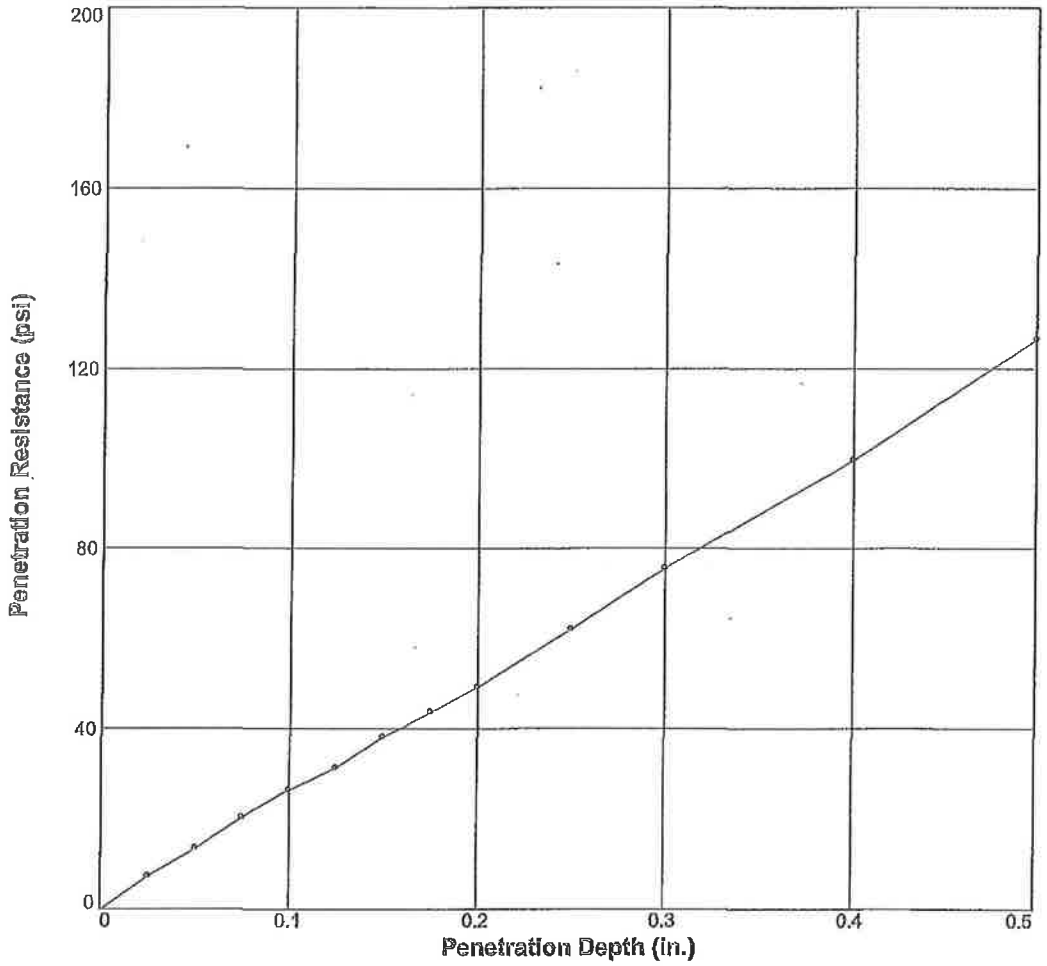
Date Received: 2-6-12 **Date Tested:** 2-6-12
Tested By: RPY
Checked By: GPL
Title: PM

Source of Sample: ATW-912 **Depth:** 2.0-7.9 **Date Sampled:** 2-6-12
Sample Number: Bag

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No: 07-1300-0300 **Figure** RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	125.4	97.6	7.4	123.4	96.1	14.0	2.6	3.3	0.000	10	1.6
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Brown Silty, Clayey Sand with Gravel	SC-SM	128.5	8.2	20	5

Project No: 07-1300-0300

Project: I80 Westbound Concrete Section

Source of Sample: ATW-912 **Depth:** 2.0-7.9

Sample Number: Bag

Date: 2-6-12

Test Description/Remarks:

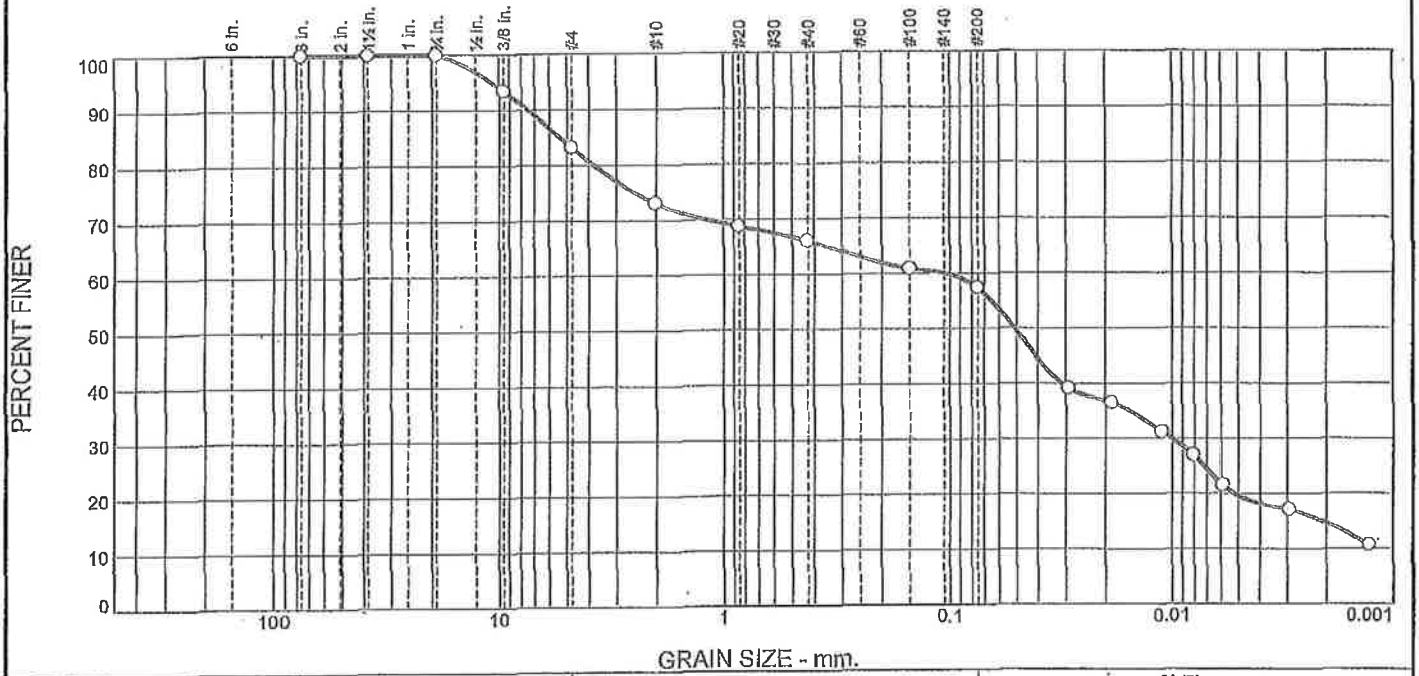
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT

L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW912

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	16.8	10.1	7.0	8.7	37.8	19.6

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	93.5		
#4	83.2		
#10	73.1		
#20	68.8		
#40	66.1		
#100	60.9		
#200	57.4		
0.0288 mm.	39.1		
0.0185 mm.	36.5		
0.0110 mm.	31.2		
0.0080 mm.	27.0		
0.0059 mm.	21.5		
0.0029 mm.	17.1		
0.0013 mm.	10.7		

* (no specification provided)

Material Description

Brown Sandy Lean Clay with Gravel

Atterberg Limits (ASTM D 4318)

PL= 18 LL= 29 PI= 11

Classification

USCS (D 2487)= CL AASHTO (M 145)= A-6(4)

Coefficients

D_{90}= 7.4775 D_{85}= 5.3734 D_{60}= 0.1035
D_{50}= 0.0510 D_{30}= 0.0100 D_{15}= 0.0021
D_{10}= C_u= C_c=

Remarks

Moisture Content: 10.5%
USCS: Sandy lean clay with gravel
L.R. Kimball ID: 020612.1

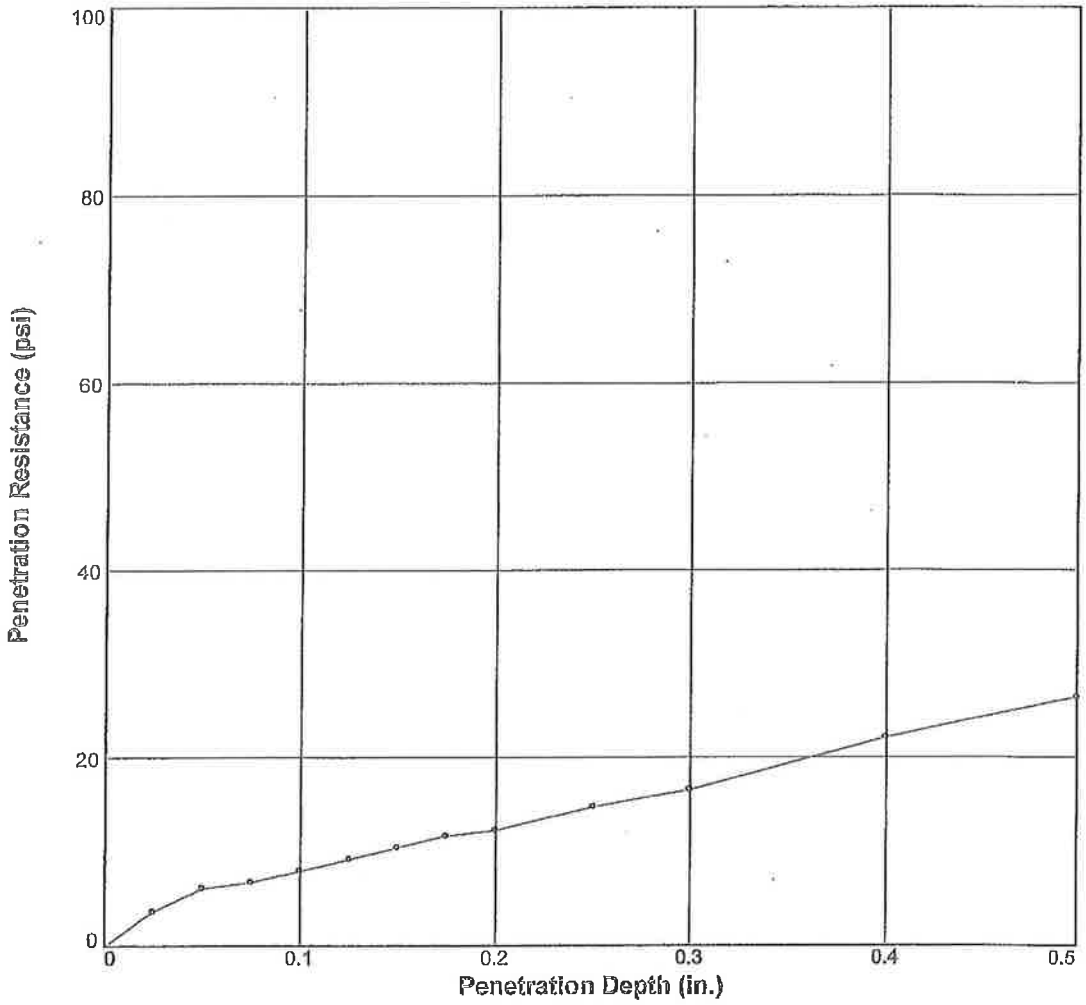
Date Received: 2-6-12 **Date Tested:** 2-6-12
Tested By: RPY
Checked By: GPL
Title: PM

Source of Sample: ATW-916 **Depth:** 3.8-8.3 **Date Sampled:** 2-6-12
Sample Number: Bag

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No: 07-1300-0300 **Figure** RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max Swe (%
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	119.8	97.6	9.8	113.5	92.5	18.2	0.8	0.8	0.000	10	5.:
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Brown Sandy Lean Clay with Gravel	CL	122.7	11.0	29	11

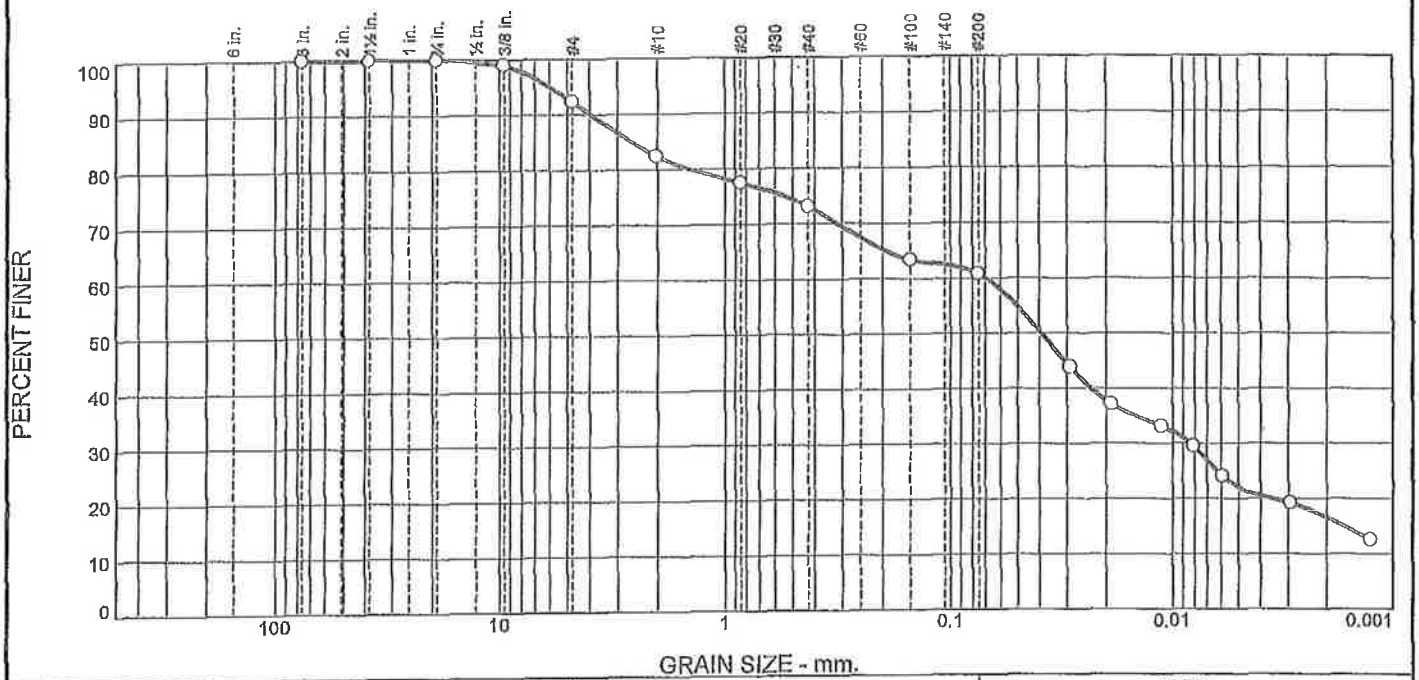
Project No: 07-1300-0300
Project: I80 Westbound Concrete Section
Source of Sample: ATW-916 **Depth:** 3.8-8.3
Sample Number: Bag
Date: 2-6-12

Test Description/Remarks:
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT
L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW91

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	7.7	9.9	9.3	12.3	38.7	22.1

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	99.0		
#4	92.3		
#10	82.4		
#20	77.5		
#40	73.1		
#100	63.4		
#200	60.8		
0.0288 mm.	43.9		
0.0189 mm.	37.2		
0.0112 mm.	33.2		
0.0081 mm.	29.5		
0.0059 mm.	24.1		
0.0029 mm.	19.2		
0.0013 mm.	12.7		

* (no specification provided)

Material Description

Light Brown Sandy Lean Clay

Atterberg Limits (ASTM D 4318)

PL= 18 LL= 29 PI= 11

Classification

USCS (D 2487)= CL AASHTO (M 145)= A-6(4)

Coefficients

D_{90}= 3.9362 D_{85}= 2.5939 D_{60}= 0.0695
D_{50}= 0.0390 D_{30}= 0.0083 D_{15}= 0.0016
D_{10}= C_u= C_c=

Remarks

Moisture Content: 11.0%
USCS: Sandy lean clay
L.R. Kimball ID: 020612.5

Date Received: 2-6-12 **Date Tested:** 2-6-12

Tested By: RPY

Checked By: GPL

Title: PM

Source of Sample: ATW-925 **Depth:** 3.0-8.0 **Date Sampled:** 2-6-12

Sample Number: Bag

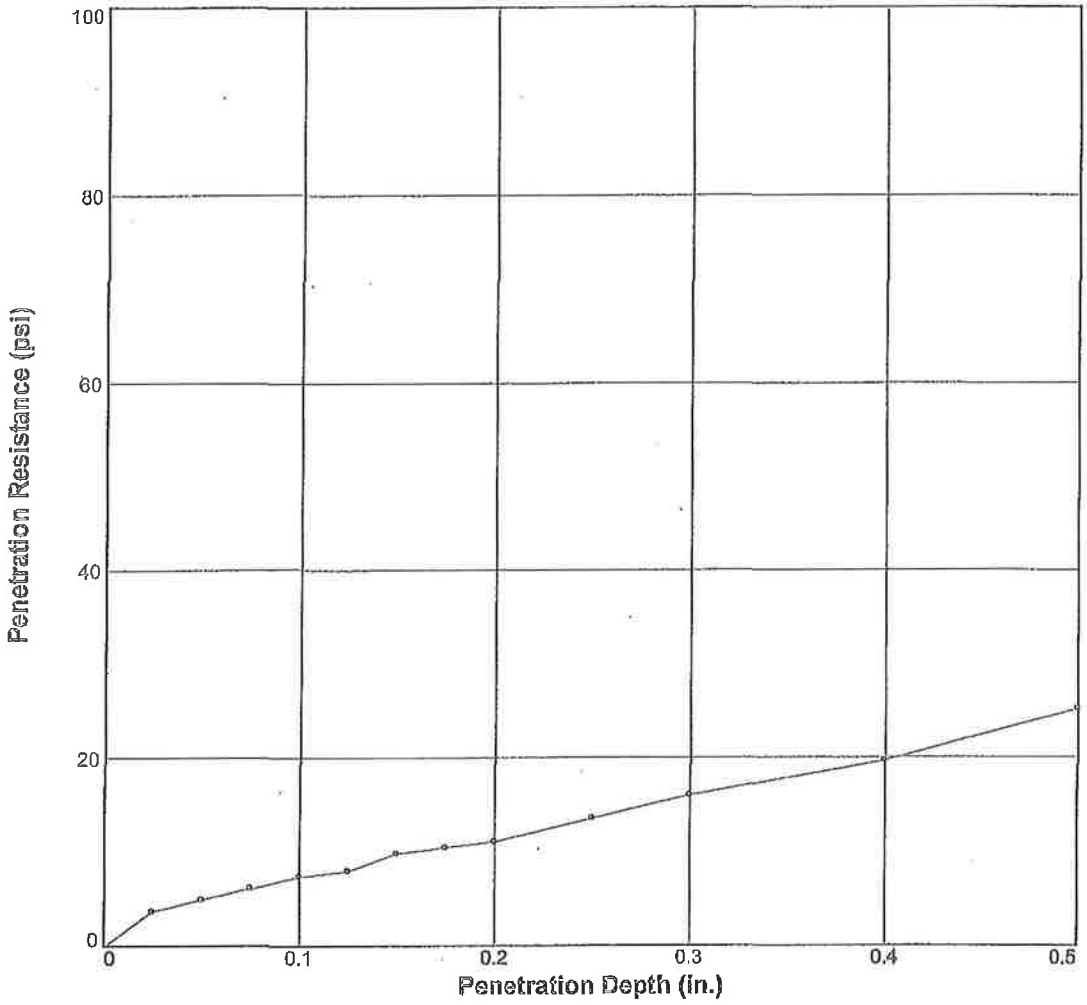
L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0

Project: I80 Westbound Concrete Section

Project No: 07-1300-0300 **Figure** RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Ma Swe (%
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	117.2	96.4	10.4	112.5	92.6	18.0	0.7	0.7	0.000	10	4.
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Light Brown Sandy Lean Clay	CL	121.6	9.4	29	11

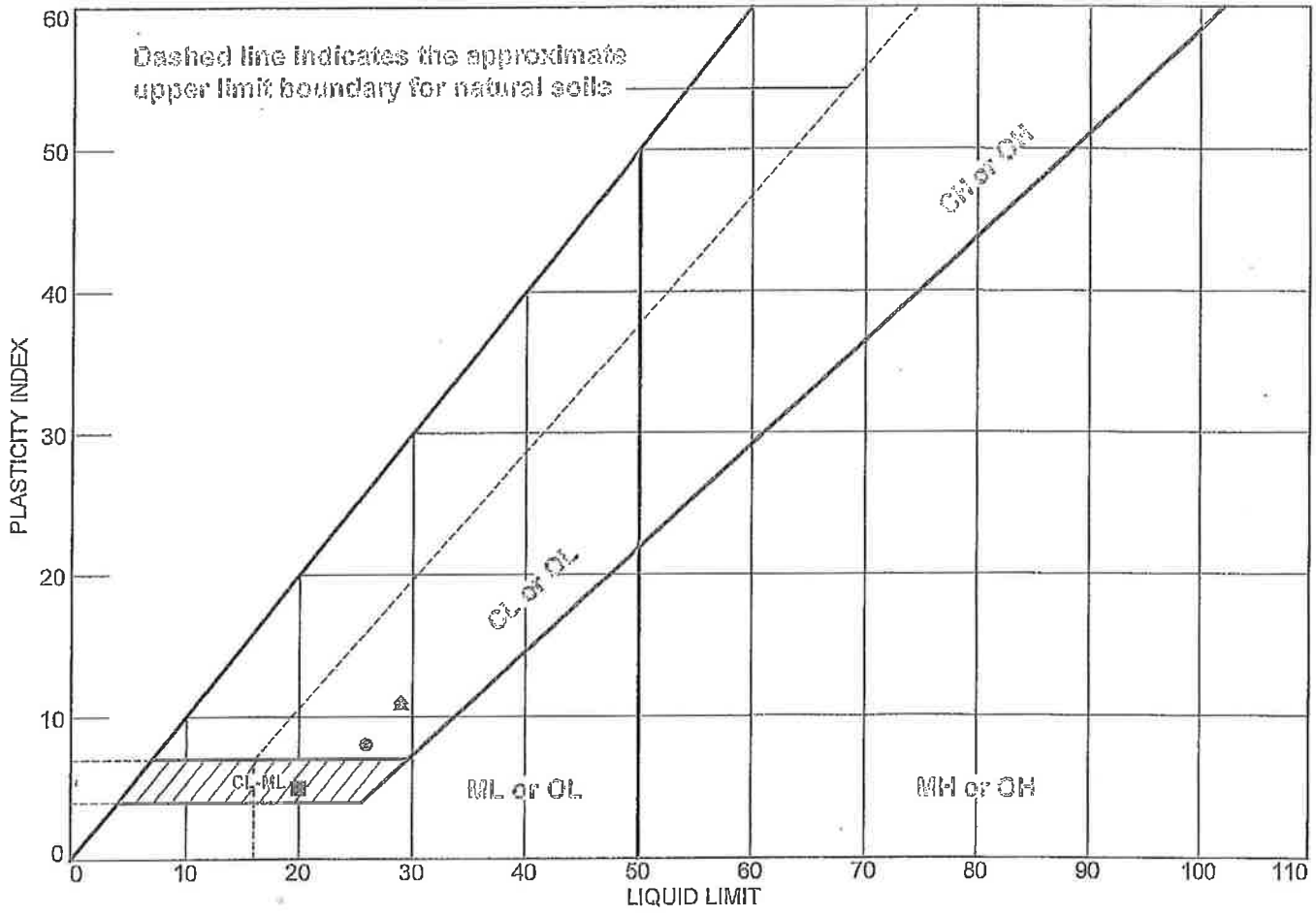
Project No: 07-1300-0300
Project: I80 Westbound Concrete Section
Source of Sample: ATW-925 **Depth:** 3.0-8.0
Sample Number: Bag
Date: 2-6-12

Test Description/Remarks:
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT
L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW92

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

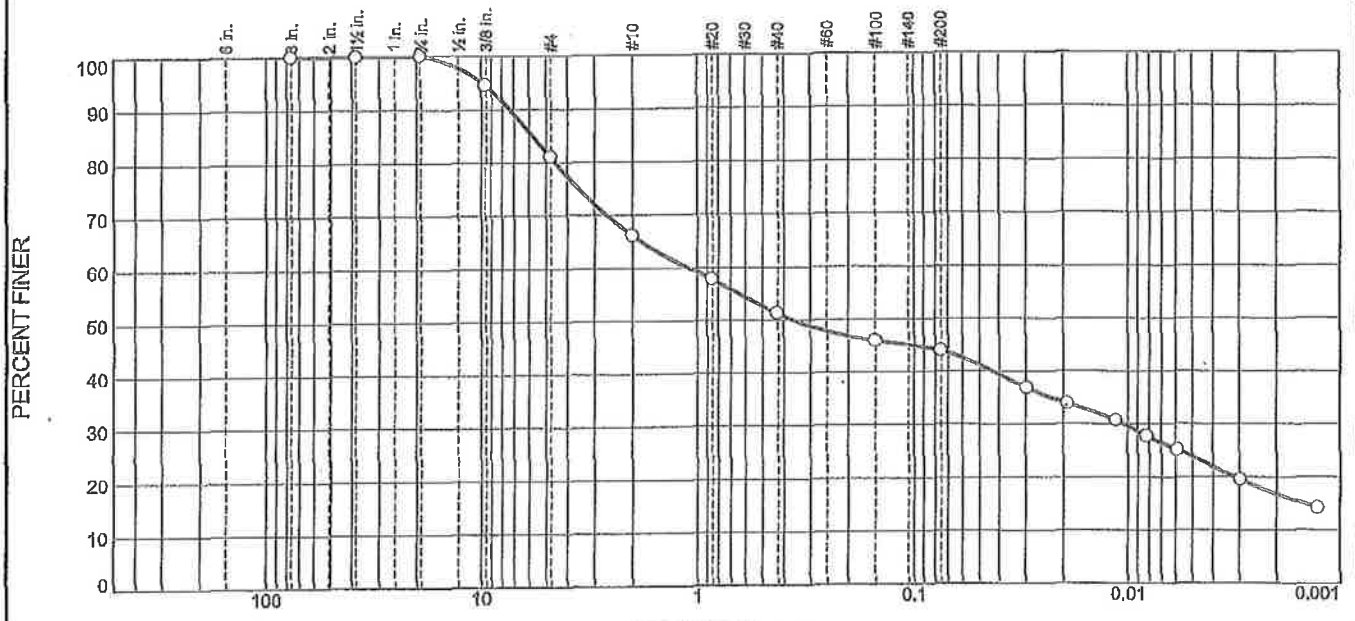
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
⊗	ATW-906	Bag	3.0-7.5	8.8	18	26	8	SC
▩	ATW-912	Bag	2.0-7.9	9.2	15	20	5	SC-SM
△	ATW-916	Bag	3.8-8.3	10.5	18	29	11	CL
◈	ATW-925	Bag	3.0-8.0	11.0	18	29	11	CL

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No.: 07-1300-0300 **Figure** RPY-F

Tested By: RPY **Checked By:** GPL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	18.9	15.0	14.8	7.3	20.2	23.8

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	94.5		
#4	81.1		
#10	66.1		
#20	57.7		
#40	51.3		
#100	45.9		
#200	44.0		
0.0295 mm.	36.9		
0.0190 mm.	33.9		
0.0113 mm.	30.7		
0.0081 mm.	27.8		
0.0059 mm.	25.1		
0.0029 mm.	19.5		
0.0013 mm.	14.2		

* (no specification provided)

Material Description

Grayish Brown Clayey Sand with Gravel

Atterberg Limits (ASTM D 4318)

PL= 20 LL= 33 PI= 13

Classification

USCS (D 2487)= SC AASHTO (M 145)= A-6(2)

Coefficients

D_{90}= 7.3323 D_{85}= 5.7307 D_{60}= 1.0965
D_{50}= 0.3585 D_{30}= 0.0104 D_{15}= 0.0015
D_{10}= C_u= C_c=

Remarks

Moisture Content: 10.4%
USCS: Clayey sand with gravel
L.R. Kimball ID: 020612.7

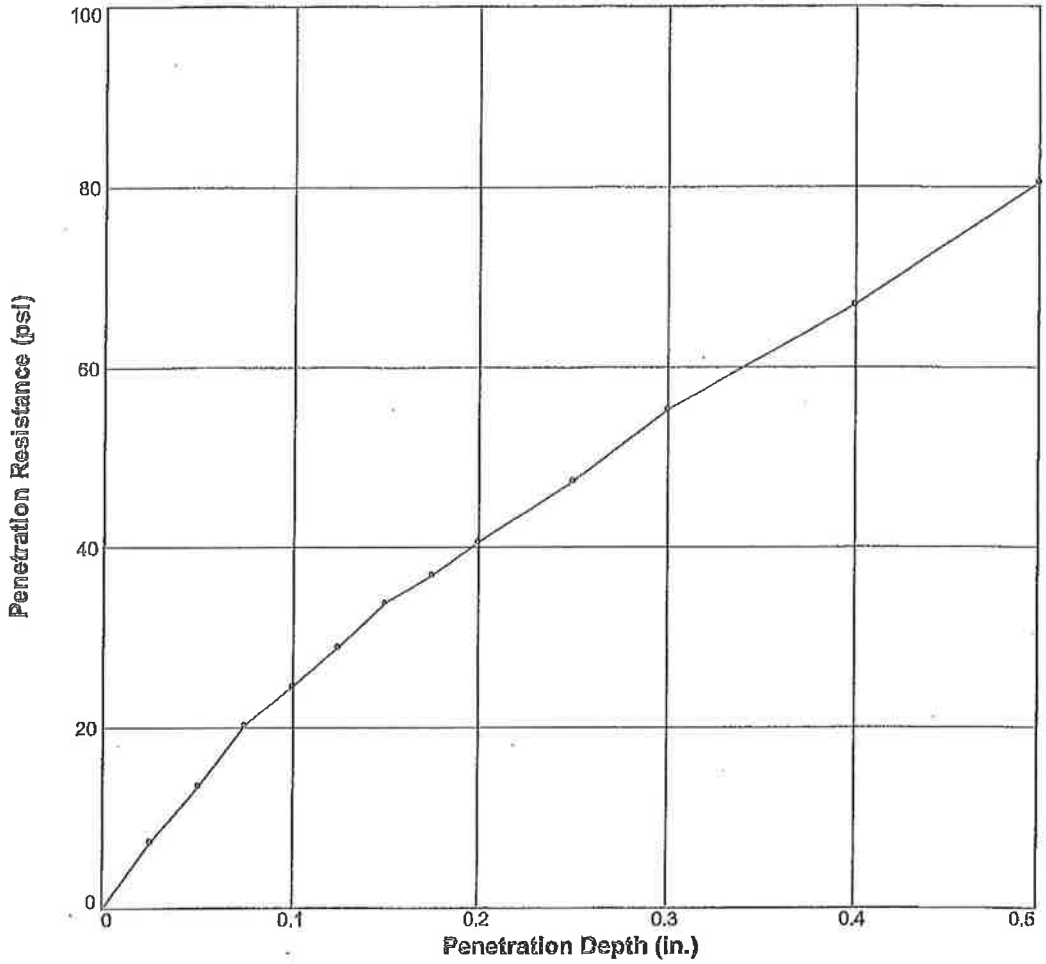
Date Received: 2-6-12 **Date Tested:** 2-6-12
Tested By: RPY
Checked By: GPL
Title: PM

Source of Sample: ATW-935 **Depth:** 3.4-7.9 **Date Sampled:** 2-6-12
Sample Number: Bag

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No: 07-1300-0300 **Figure** RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	119.2	96.4	10.8	116.5	94.2	17.3	2.5	2.7	0.000	10	2.3
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Grayish Brown Clayey Sand with Gravel	SC	123.6	10.0	33	13

Project No: 07-1300-0300

Project: I80 Westbound Concrete Section

Source of Sample: ATW-935 **Depth:** 3.4-7.9

Sample Number: Bag

Date: 2-6-12

Test Description/Remarks:

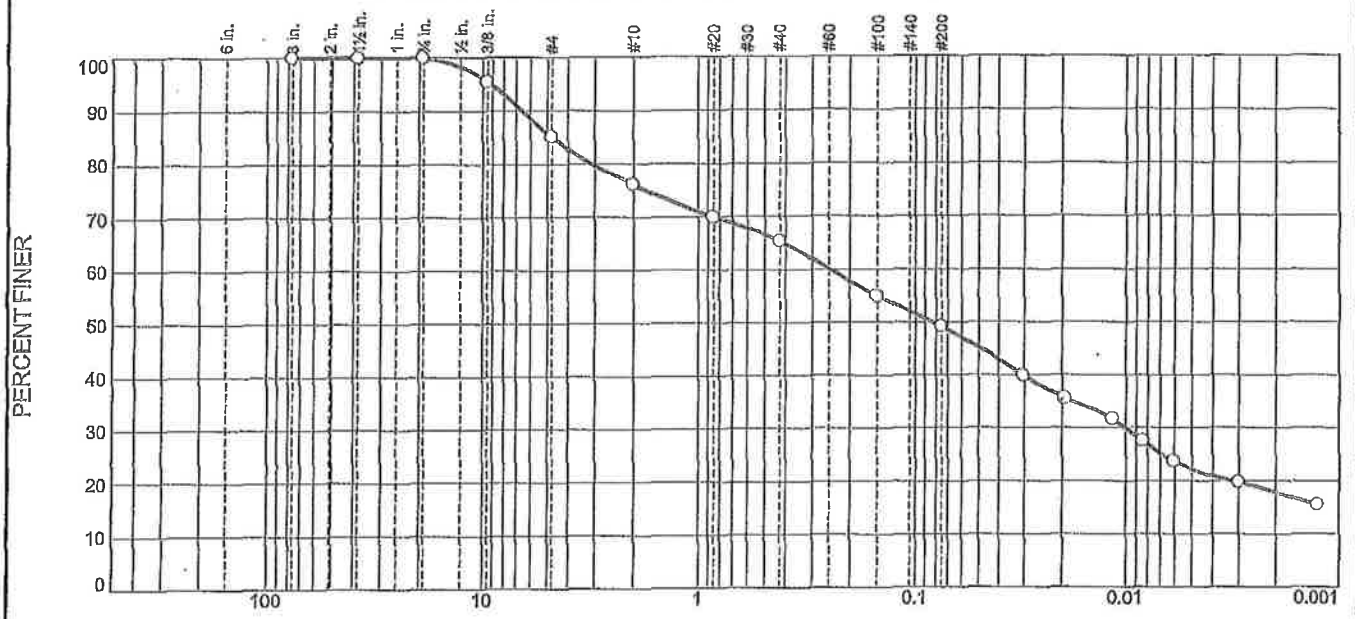
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT

L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW935

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	14.9	8.9	10.8	16.2	27.0	22.2

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	95.5		
#4	85.1		
#10	76.2		
#20	69.9		
#40	65.4		
#100	54.9		
#200	49.2		
0.0302 mm.	39.9		
0.0195 mm.	35.6		
0.0116 mm.	31.8		
0.0083 mm.	27.5		
0.0060 mm.	23.7		
0.0030 mm.	19.7		
0.0013 mm.	15.6		

* (no specification provided)

Material Description

Brown Clayey Sand

Atterberg Limits (ASTM D 4318)

PL= 15 LL= 26 PI= 11

Classification

USCS (D 2487)= SC AASHTO (M 145)= A-6(2)

Coefficients

D_{90}= 6.5291 D_{85}= 4.7260 D_{60}= 0.2468
D_{50}= 0.0827 D_{30}= 0.0100 D_{15}=
D_{10}= C_u= C_c=

Remarks

Moisture Content: 10.6%
USCS: Clayey sand
L.R. Kimball ID: 020612.6

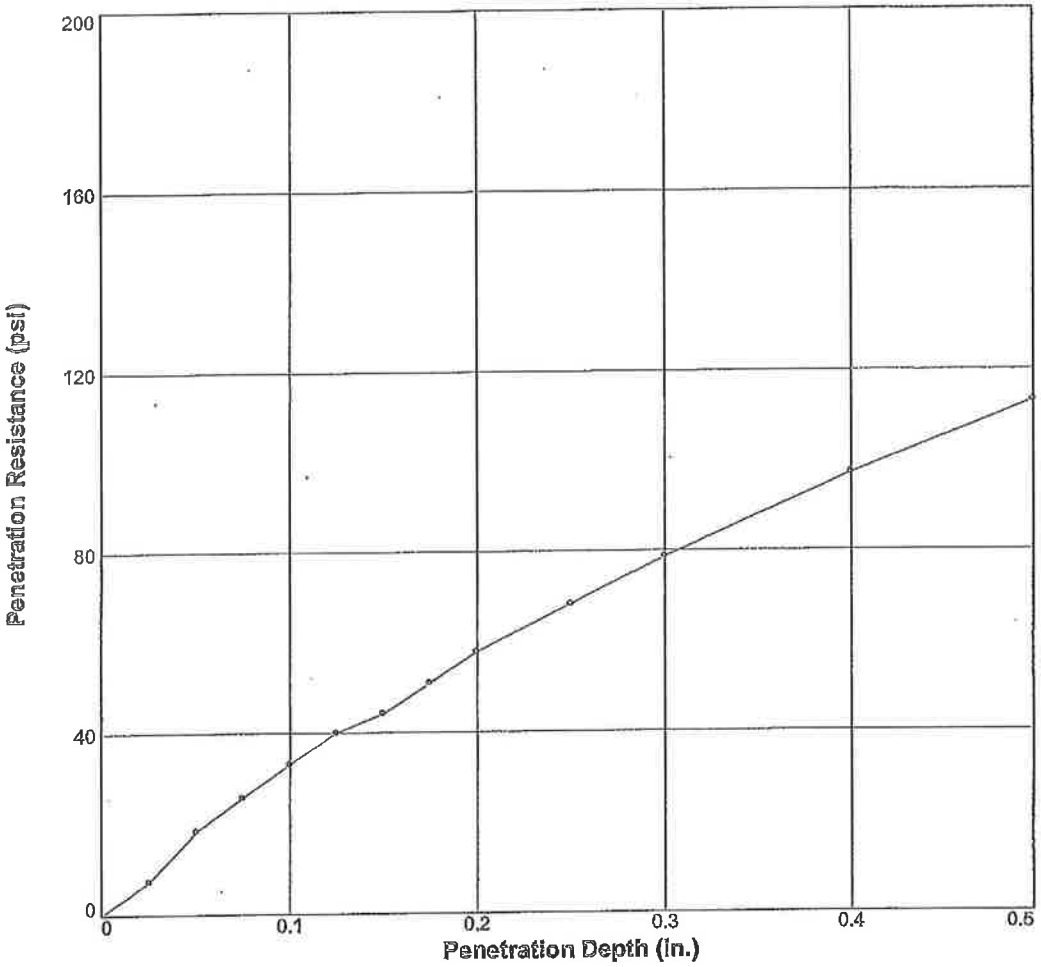
Date Received: 2-6-12 **Date Tested:** 2-6-12
Tested By: RPY
Checked By: GPL
Title: PM

Source of Sample: ATW-942 **Depth:** 2.1-6.0 **Date Sampled:** 2-6-12
Sample Number: Bag

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No: 07-1300-0300 **Figure** RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	120.4	95.7	10.3	118.4	94.1	14.0	3.5	4.0	0.007	10	1.7
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Brown Clayey Sand	SC	125.8	10.3	26	11

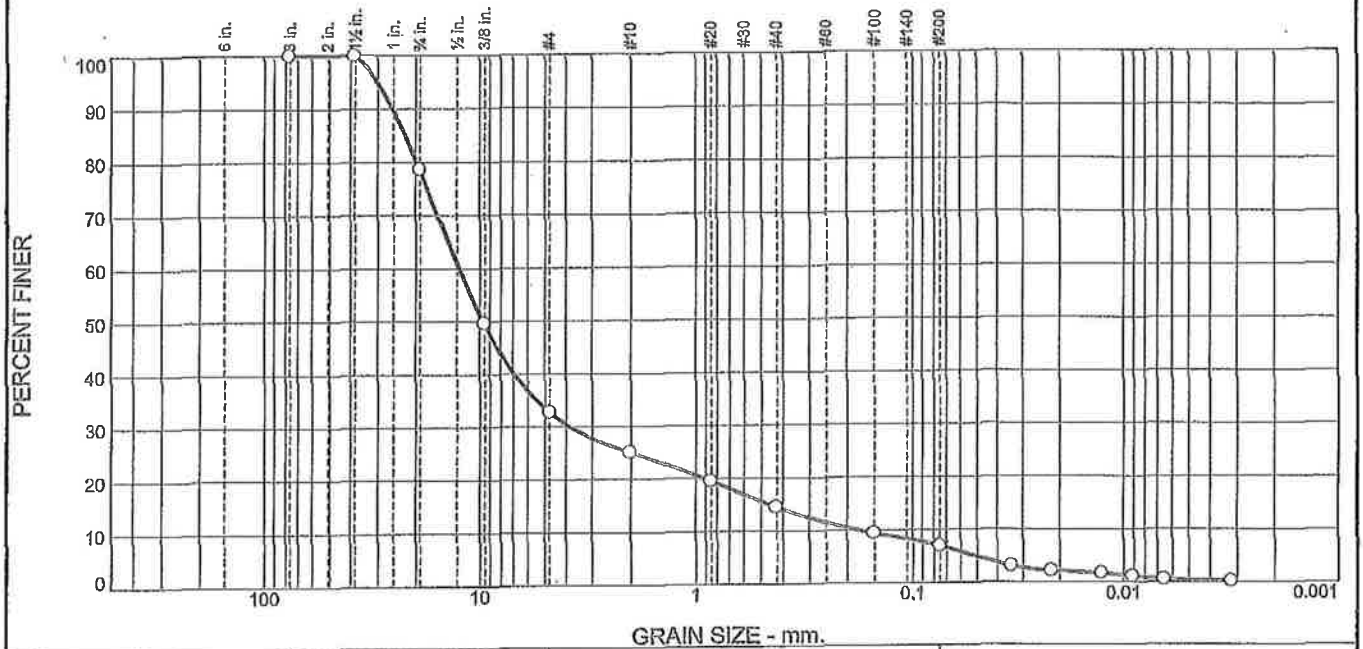
Project No: 07-1300-0300
Project: I80 Westbound Concrete Section
Source of Sample: ATW-942 **Depth:** 2.1-6.0
Sample Number: Bag
Date: 2-6-12

Test Description/Remarks:
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT
L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW942

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	21.4	45.8	7.7	10.6	7.5	6.6	0.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	78.6		
.375	49.7		
#4	32.8		
#10	25.1		
#20	19.5		
#40	14.5		
#100	9.4		
#200	7.0		
0.0342 mm.	3.1		
0.0219 mm.	2.2		
0.0127 mm.	1.7		
0.0091 mm.	1.2		
0.0065 mm.	0.6		
0.0032 mm.	0.2		

* (no specification provided)

Material Description

Gray Poorly Graded Gravel with Silt and Sand

Atterberg Limits (ASTM D 4318)

PL= NP LL= NV PI= NP

Classification

USCS (D 2487)= GP-GM AASHTO (M 145)= A-1-a

Coefficients

D_{90}= 25.5868 D_{85}= 22.3021 D_{60}= 12.3892
D_{50}= 9.6083 D_{30}= 3.8216 D_{15}= 0.4547
D_{10}= 0.1762 C_u= 70.32 C_c= 6.69

Remarks

Moisture Content: 4.4%
USCS: Poorly graded gravel with silt and sand
L.R. Kimball ID: 020612.2

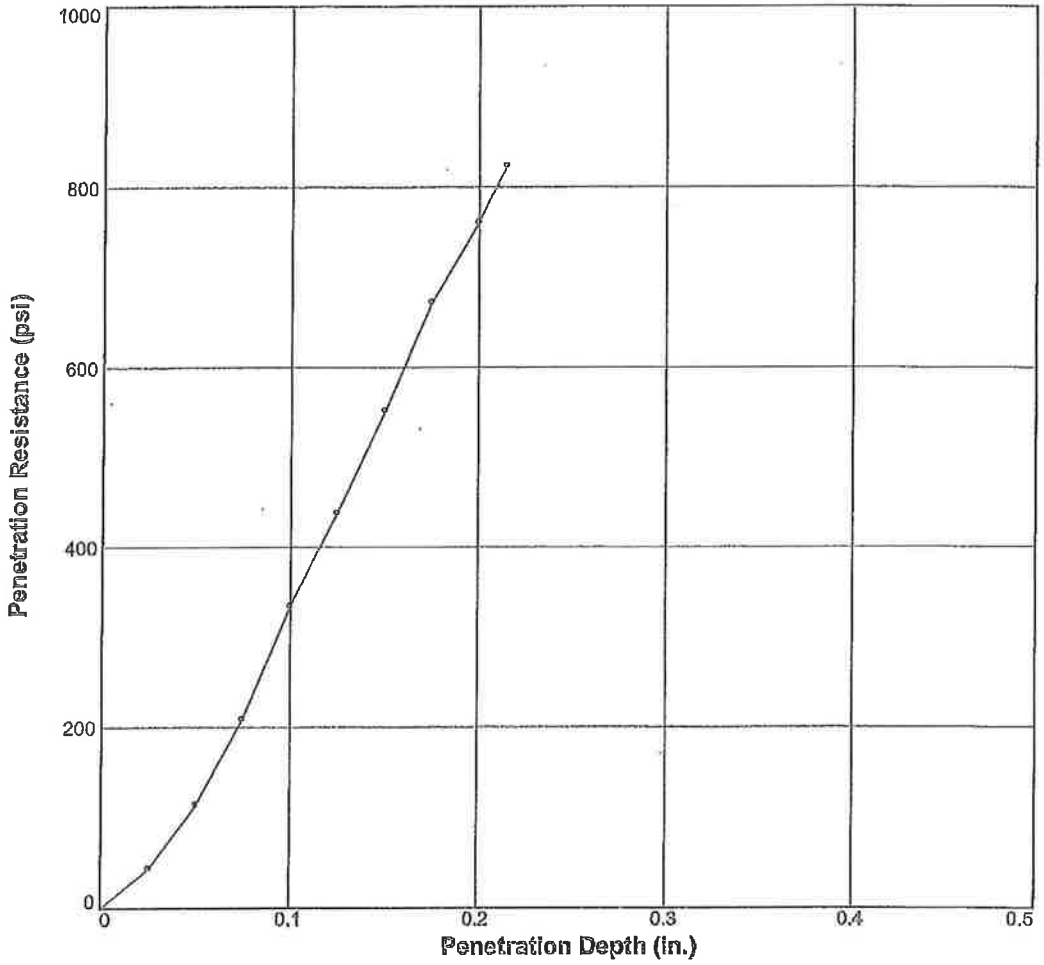
Date Received: 2-6-12 **Date Tested:** 2-6-12
Tested By: RPY
Checked By: GPL
Title: PM

Source of Sample: ATW-945 **Depth:** 1.3-8.0 **Date Sampled:** 2-6-12
Sample Number: Bag

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No: 07-1300-0300 **Figure** RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	136.3	98.8	5.0	136.3	98.8	5.6	43.9	54.9	0.025	10	0
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Gray Poorly Graded Gravel with Silt and Sand	GP-GM	137.9	5.1	NV	NP

Project No: 07-1300-0300
Project: I80 Westbound Concrete Section
Source of Sample: ATW-945 **Depth:** 1.3-8.0
Sample Number: Bag
Date: 2-6-12

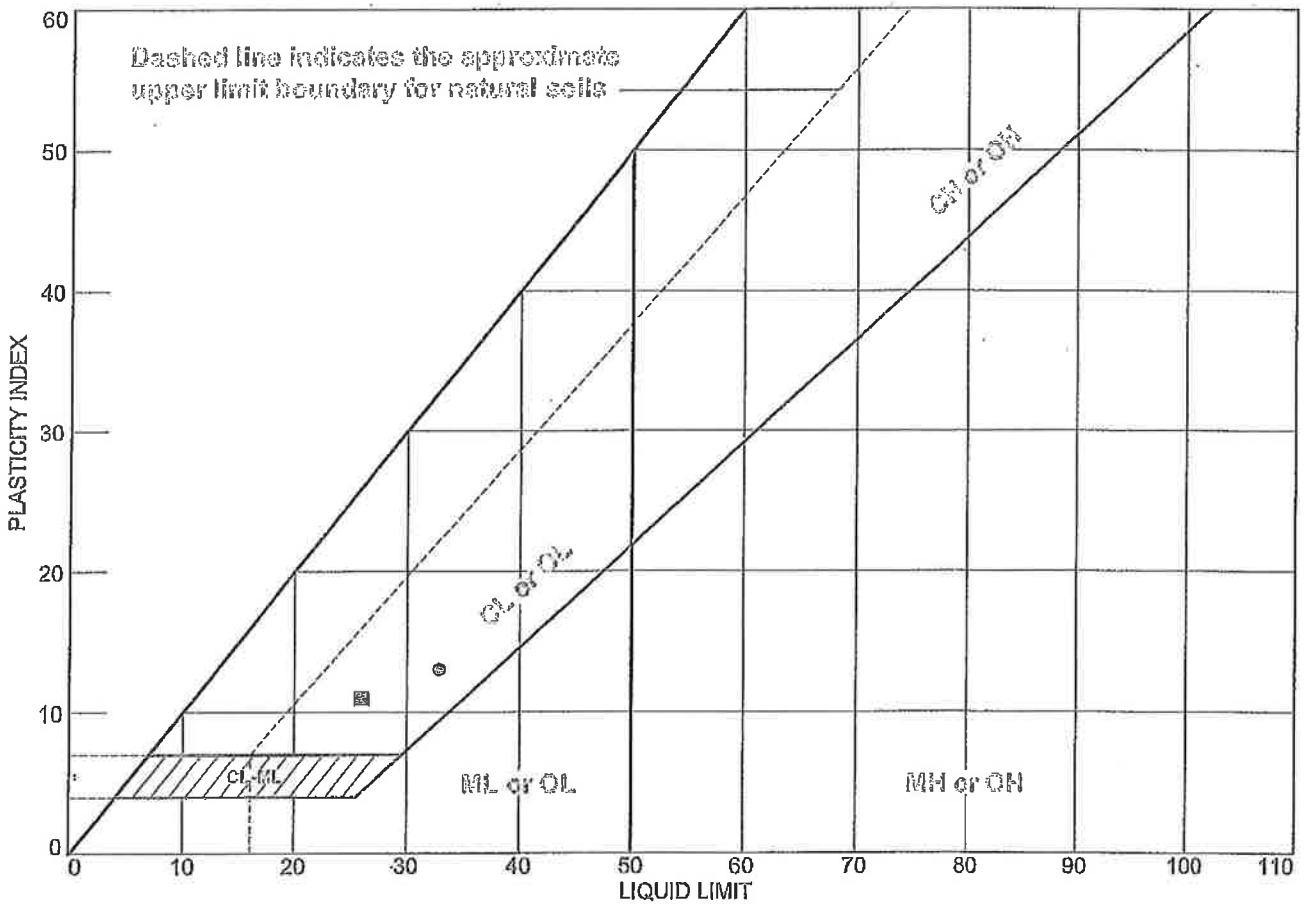
Test Description/Remarks:
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT

L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW945

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

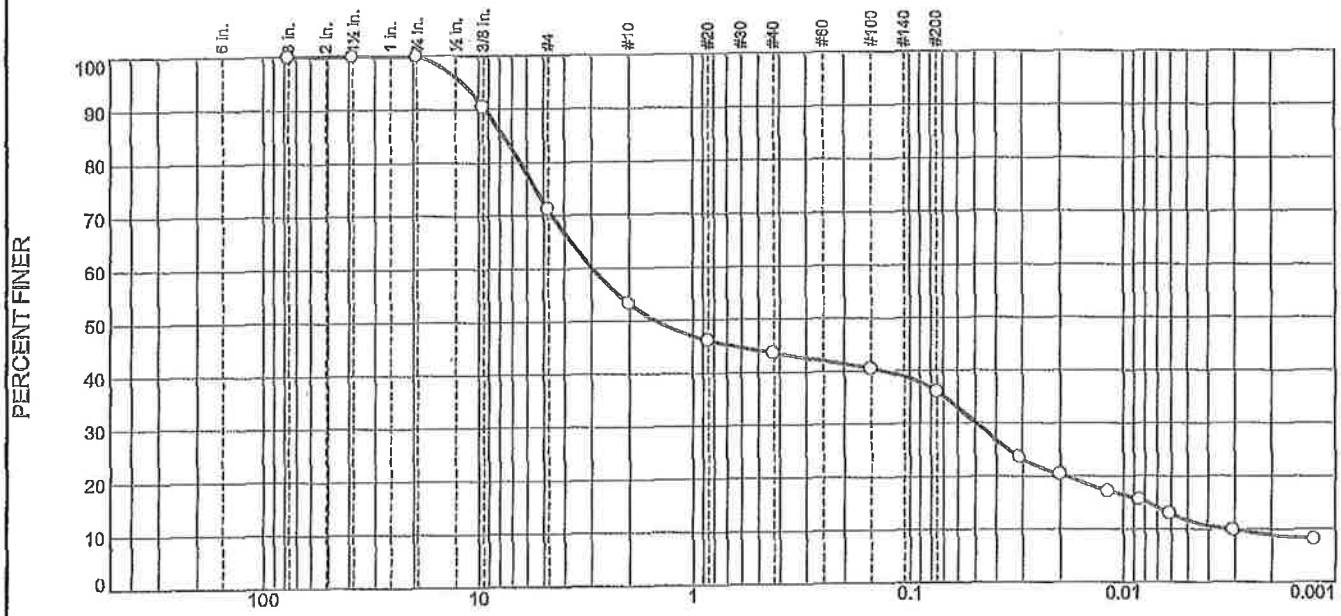
SYMBOL	SOURCE	SAMPLE NO.	DEPTH	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
●	ATW-935	Bag	3.4-7.9	10.4	20	33	13	SC
■	ATW-942	Bag	2.1-6.0	10.6	15	26	11	SC
▲	ATW-945	Bag	1.3-8.0	4.4	NP	NV	NP	GP-GM

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No.: 07-1300-0300 **Figure** RPY-F

Tested By: RPY **Checked By:** GPL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	28.8	17.9	9.7	7.5	24.4	11.7

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	90.6		
#4	71.2		
#10	53.3		
#20	46.2		
#40	43.6		
#100	40.5		
#200	36.1		
0.0310 mm.	23.6		
0.0200 mm.	20.4		
0.0118 mm.	17.2		
0.0084 mm.	15.6		
0.0061 mm.	13.0		
0.0030 mm.	9.8		
0.0013 mm.	8.1		

* (no specification provided)

Material Description

Brown Clayey Sand with Gravel

Atterberg Limits (ASTM D 4318)

PL= 13 LL= 28 PI= 15

Classification

USCS (D 2487)= SC AASHTO (M 145)= A-6(1)

Coefficients

D_{90}= 9.2870 D_{85}= 7.6547 D_{60}= 2.9738
D_{50}= 1.5035 D_{30}= 0.0491 D_{15}= 0.0077
D_{10}= 0.0032 C_u= 921.15 C_c= 0.25

Remarks

Moisture Content: 8.2%
USCS: Clayey sand with gravel
L.R. Kimball ID: 030612.2

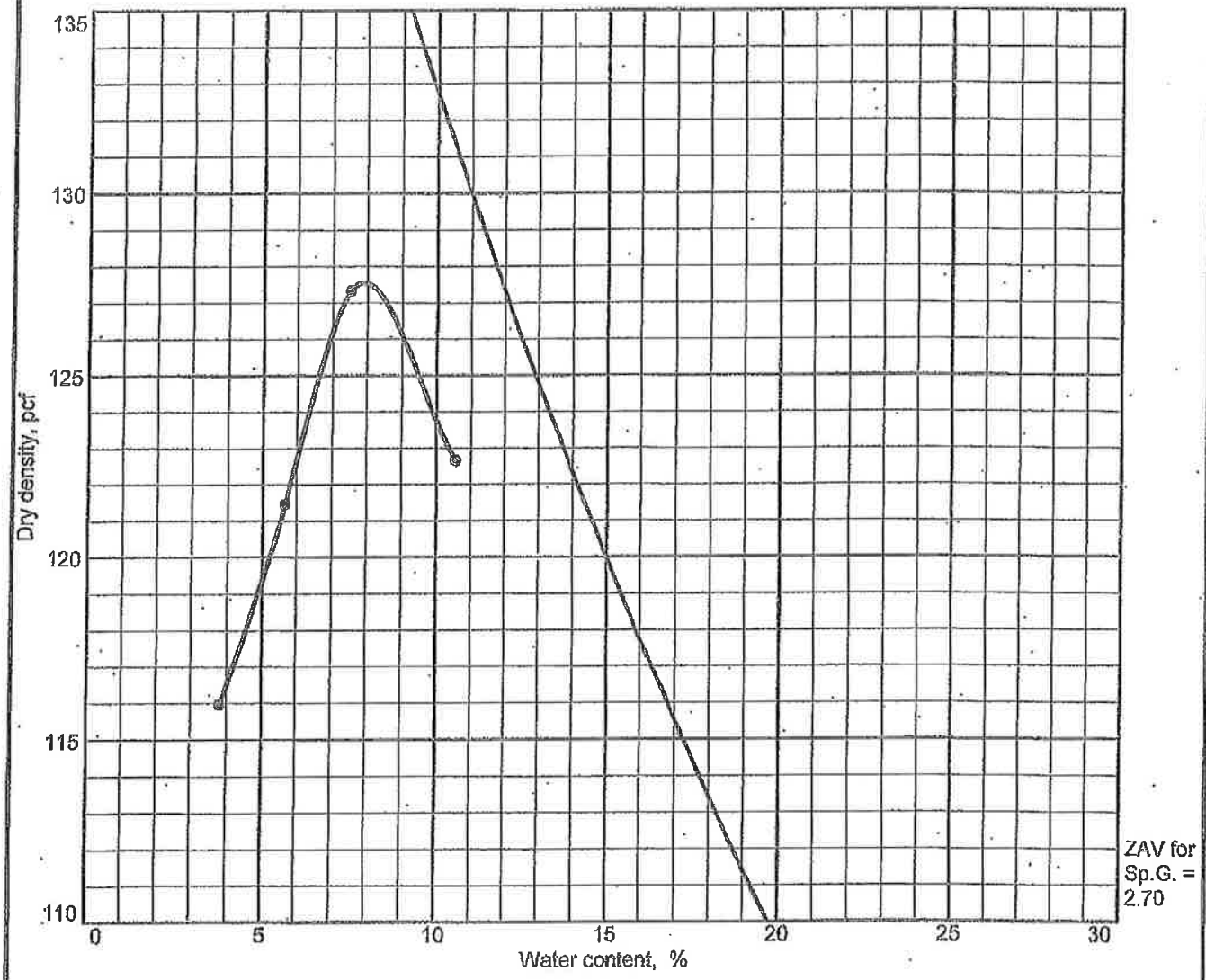
Date Received: 3-6-12 **Date Tested:** 3-8-12
Tested By: BG,BPG
Checked By: RPY
Title: Geotechnician

Source of Sample: ATW-952 **Depth:** 4.9-7.5 **Date Sampled:** 3-6-12
Sample Number: Bag

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No: 07-1300-0300 **Figure** RPY-F

Moisture-Density Relationship Curve



Test specification: PTM 106 Method B

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	L.L.	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
4.9-7.5	SC	A-6(1)	8.2	--	28	15	0.0	36.1

TEST RESULTS

Maximum dry density = 127.6 pcf

Optimum moisture = 7.9 %

MATERIAL DESCRIPTION

Brown Clayey Sand with Gravel

Project No. 07-1300-0300 **Client:** PennDOT District 10-0

Project: I80 Westbound Concrete Section

Date: 3-8-12

● **Source:** ATW-952 **Sample No.:** Bag **Elev./Depth:** 4.9-7.5

Remarks:

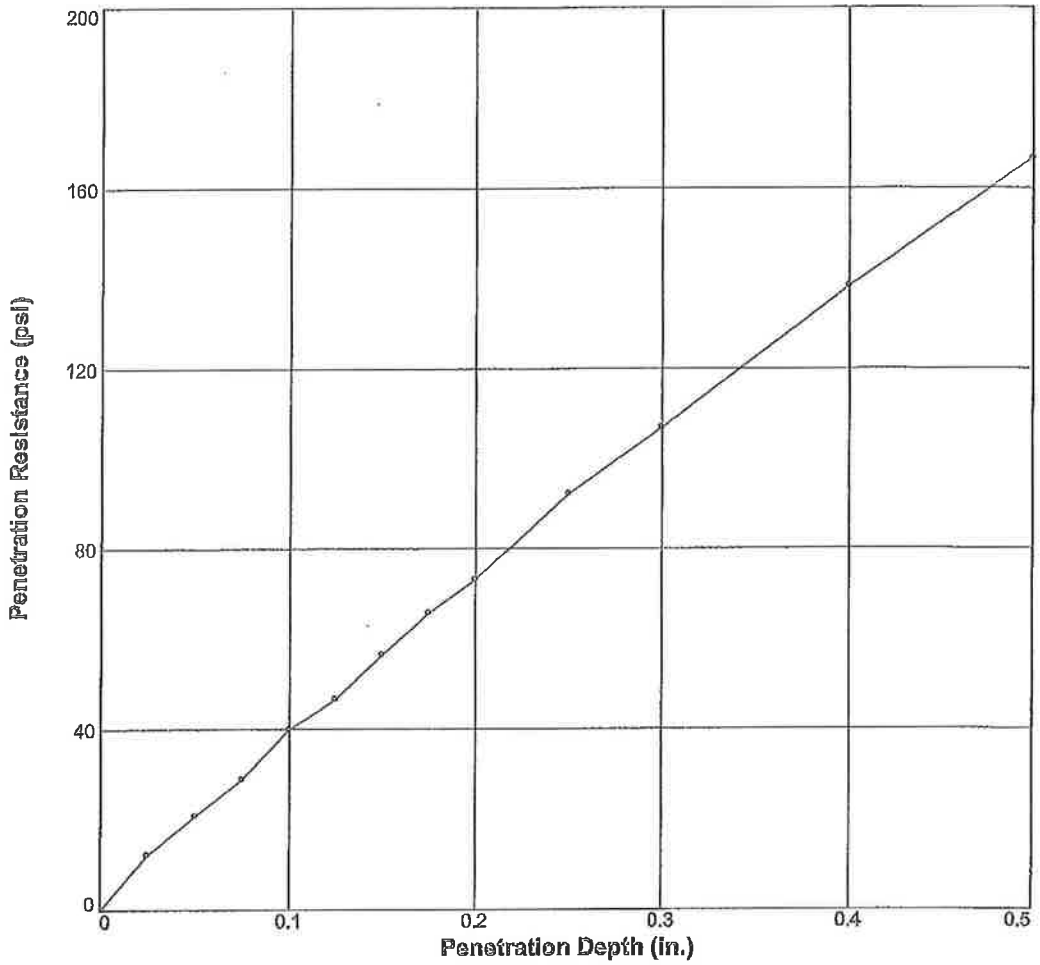
L.R. Kimball ID: 030612.2

L. ROBERT KIMBALL & ASSOCIATES, INC.

Ebensburg, Pennsylvania

Figure RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	126.9	99.5	7.8	124.8	97.8	14.0	4.0	4.9	0.000	110	1.8
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Brown Clayey Sand with Gravel	SC	127.6	7.9	28	15

Project No: 07-1300-0300

Project: I80 Westbound Concrete Section

Source of Sample: ATW-952 **Depth:** 4.9-7.5

Sample Number: Bag

Date: 3-6-12

Test Description/Remarks:

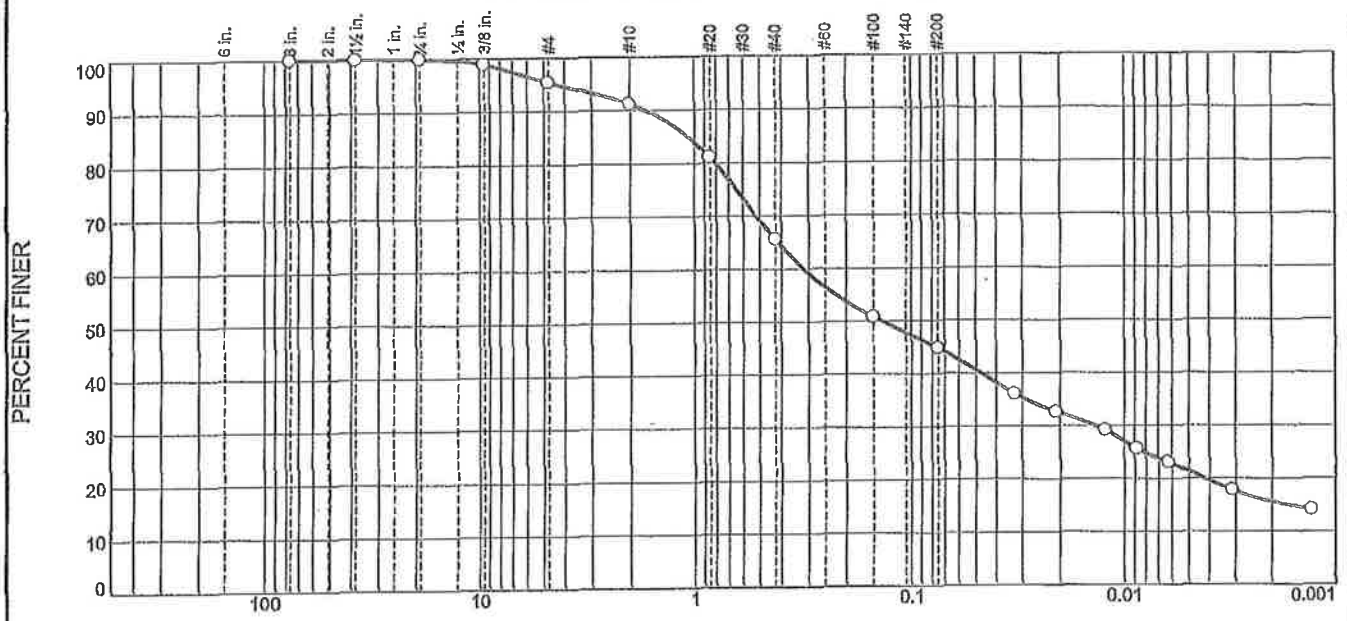
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT

L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW952

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.6	4.2	25.6	20.8	23.4	21.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3.0	100.0		
1.5	100.0		
.75	100.0		
.375	98.9		
#4	95.4		
#10	91.2		
#20	81.1		
#40	65.6		
#100	50.8		
#200	44.8		
0.0325 mm.	36.2		
0.0208 mm.	32.7		
0.0122 mm.	29.2		
0.0087 mm.	25.7		
0.0062 mm.	23.1		
0.0031 mm.	17.8		
0.0013 mm.	14.2		

* (no specification provided)

Material Description

Dark Brown Clayey Sand

Atterberg Limits (ASTM D 4318)

PL= 14 LL= 27 PI= 13

Classification

USCS (D 2487)= SC AASHTO (M 145)= A-6(2)

Coefficients

D_{90}= 1.6941 D_{85}= 1.0720 D_{60}= 0.3149
D_{50}= 0.1366 D_{30}= 0.0134 D_{15}= 0.0017
D_{10}= C_u= C_c=

Remarks

Moisture Content: 11.4%
USCS: Clayey sand
L.R. Kimball ID: 030612.1

Date Received: 3-6-12 **Date Tested:** 3-8-12

Tested By: BG,BPG

Checked By: RPY

Title: Geotechnician

Source of Sample: ATW-956 **Depth:** 4.9-5.6 **Date Sampled:** 3-6-12

Sample Number: Bag

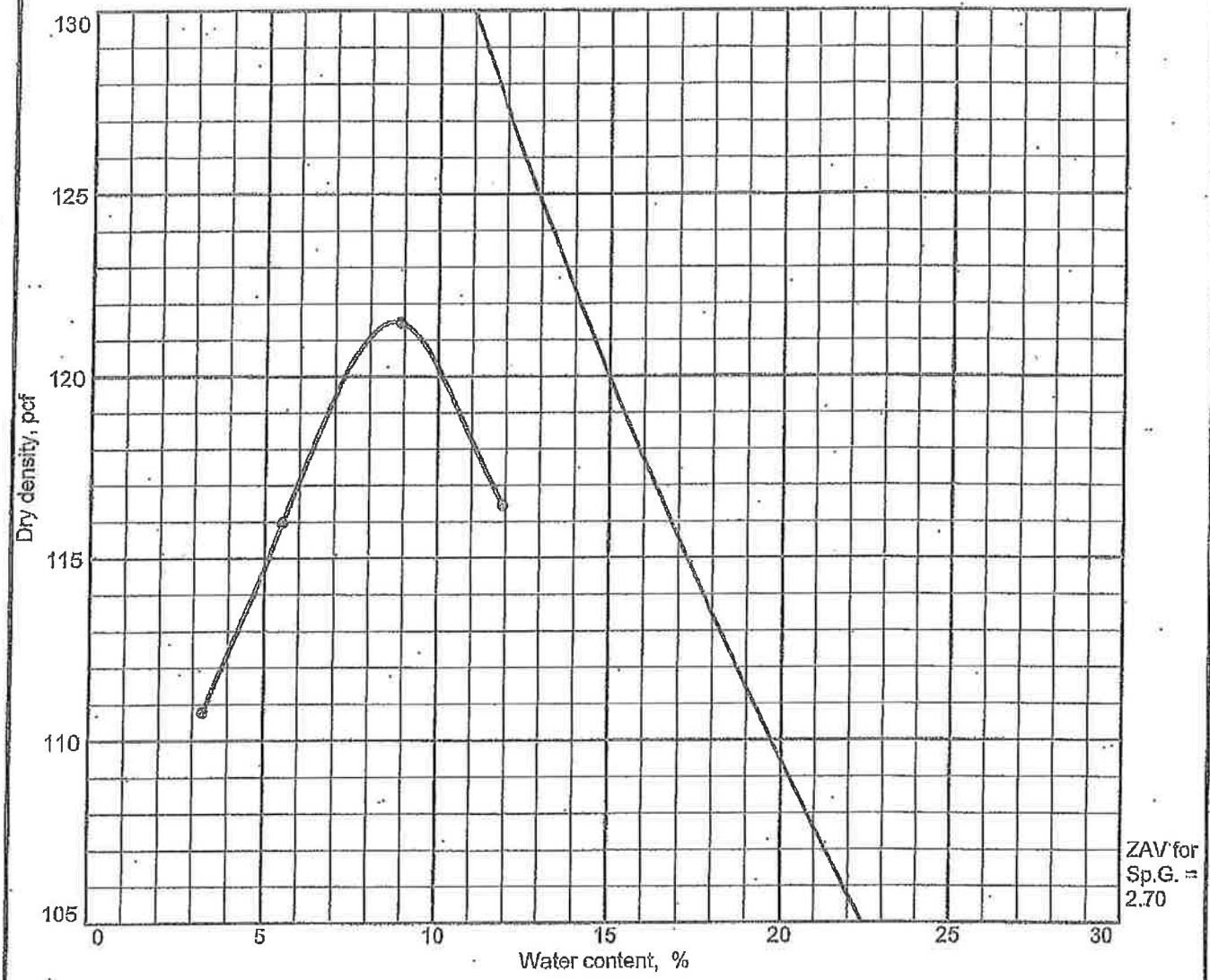
L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0

Project: I80 Westbound Concrete Section

Project No: 07-1300-0300 **Figure** RPY-F

Moisture-Density Relationship Curve



Test specification: PTM 106 Method B

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/4 in.	% < No.200
	USCS	AASHTO						
4.9-5.6	SC	A-6(2)	11.4	--	27	13	0.0	44.8

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 121.5 pcf Optimum moisture = 8.7 %	Dark Brown Clayey Sand

Project No. 07-1300-0300 **Client:** PennDOT District 10-0

Project: I80 Westbound Concrete Section

Date: 3-8-12

Source: ATW-956 **Sample No.:** Bag **Elev./Depth:** 4.9-5.6

L. ROBERT KIMBALL & ASSOCIATES, INC.

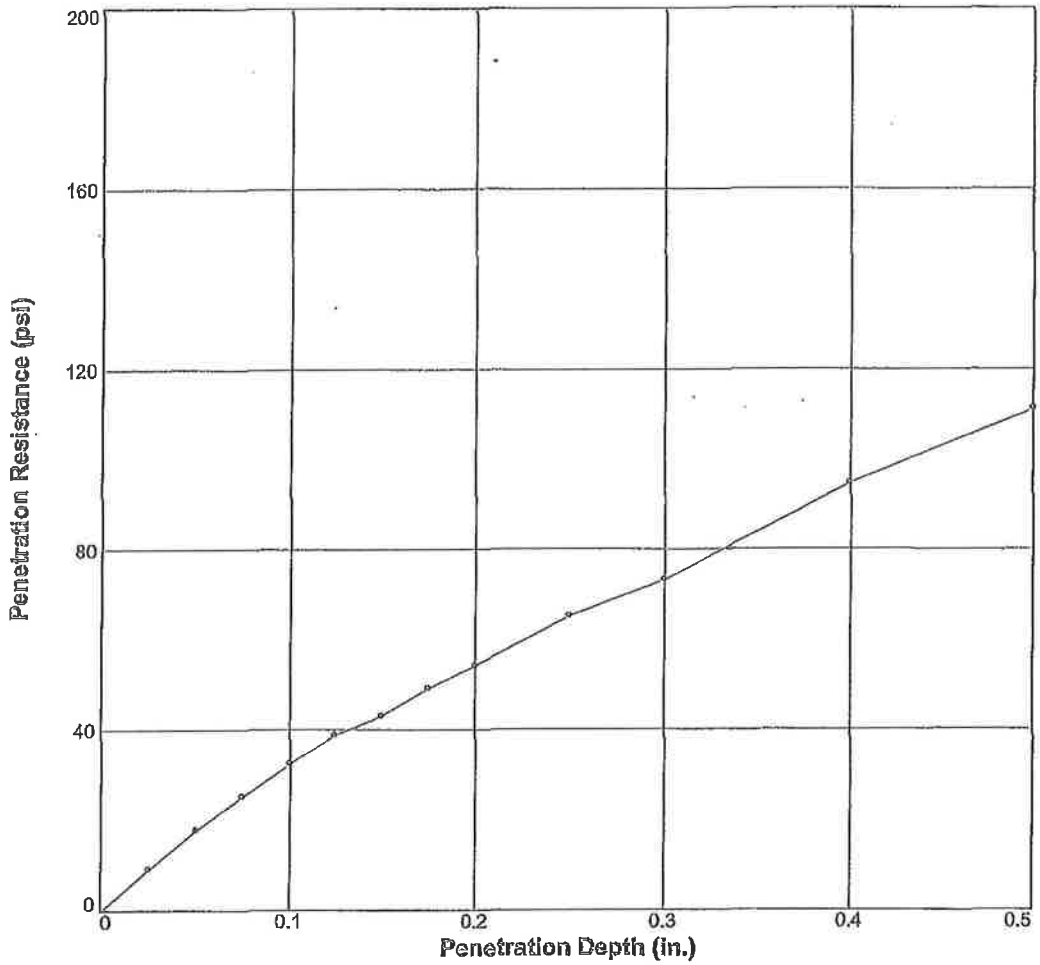
Ebensburg, Pennsylvania

Remarks:

L.R. Kimball ID: 030612.1

Figure RPY-F

BEARING RATIO TEST REPORT
ASTM D 1883-07



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	120.2	98.9	8.7	117.9	97.1	15.0	3.3	3.6	0.000	10	1.9
2 △											
3 □											

Material Description	USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Dark Brown Clayey Sand	SC	121.5	8.7	27	13

Project No: 07-1300-0300

Project: I80 Westbound Concrete Section

Source of Sample: ATW-956 **Depth:** 4.9-5.6

Sample Number: Bag

Date: 3-6-12

Test Description/Remarks:

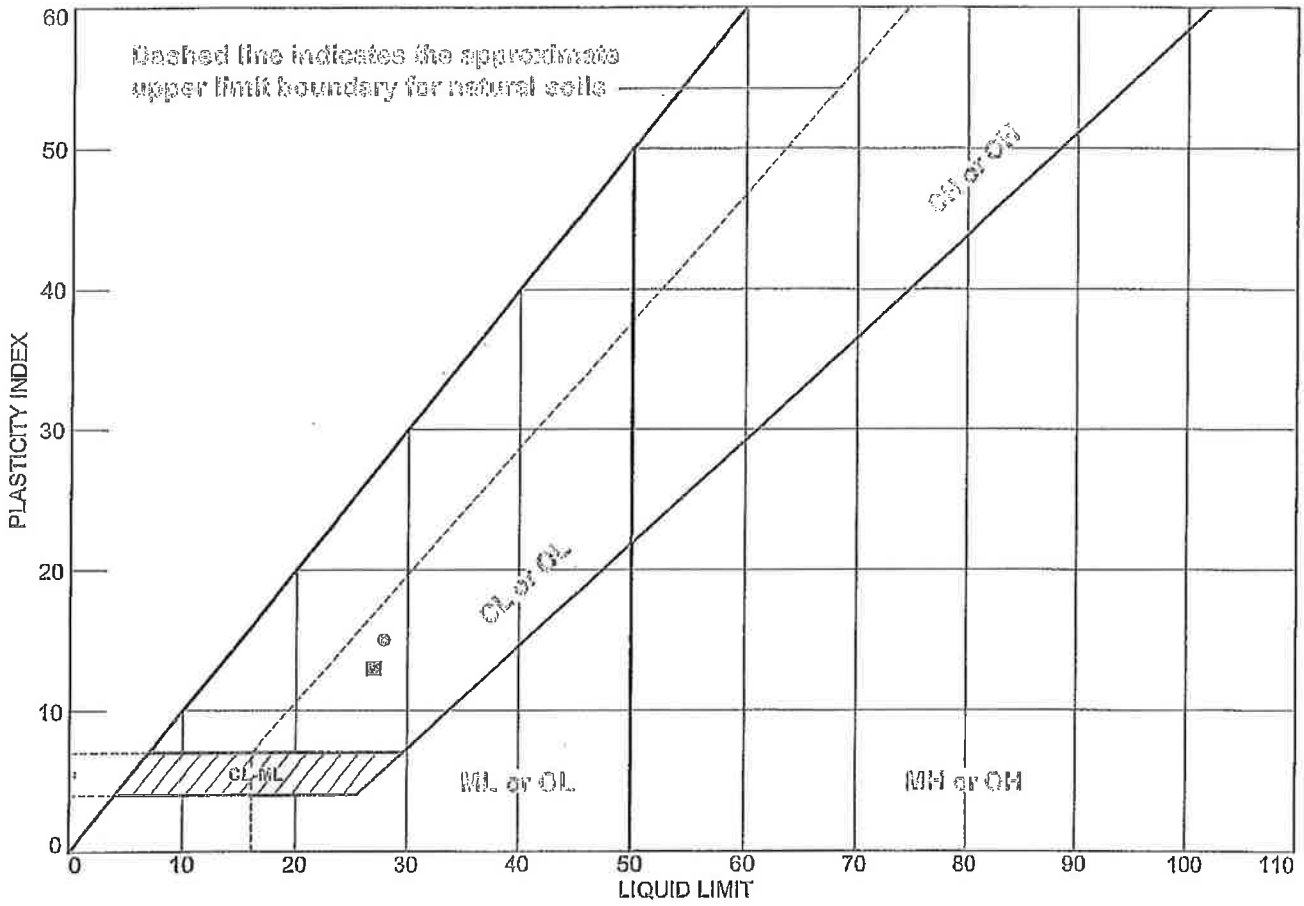
Soaked, PTM 106 Method B

BEARING RATIO TEST REPORT

L. ROBERT KIMBALL & ASSOCIATES, INC.

Figure CBRATW956

LIQUID AND PLASTIC LIMITS TEST REPORT



SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	NATURAL WATER CONTENT (%)	PLASTIC LIMIT (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USCS
⊕	ATW-952	Bag	4.9-7.5	8.2	13	28	15	SC
⊠	ATW-956	Bag	4.9-5.6	11.4	14	27	13	SC

L. ROBERT KIMBALL & ASSOCIATES, INC.
Ebensburg, Pennsylvania

Client: PennDOT District 10-0
Project: I80 Westbound Concrete Section
Project No.: 07-1300-0300 **Figure** RPY-F

Tested By: BG **Checked By:** RPY

APPENDIX D

Geotechnical Treatment Details and Special Provisions

I-80 WB Mainline Reconstruction
Jefferson County, PA

Header:
SECTION 208 – SPECIAL ROLLING

Provision Body:
SECTION 208 - SPECIAL ROLLING

208.1 DESCRIPTION - This work is the special rolling of embankments as indicated or as directed.

208.2 MATERIAL - Use acceptable pneumatic-tired equipment for special rolling, capable of varying the load from 267 kN (30 tons) to 445 kN (50 tons). Use a roller constructed to transmit the load through four wheels, equally spaced over the roller width, mounted on two or four axles in line, allowing oscillation of the individual wheels or pairs of wheels. Use a roller with tires capable of operating at inflation pressures ranging from 0.62 MPa (90 pounds per square inch) to 1.03 MPa (150 pounds per square inch). Provide charts or tabulations showing the contact areas and contact pressures for the full range of tire inflation pressures and loadings for the particular tires furnished.

208.3 CONSTRUCTION – Adjust the roller load and tire inflation pressures for contact pressures to approximately the maximum supporting value of the layer being rolled. When the special rolling of any layer shows an area to be unstable or non-uniform, satisfactorily stabilize the area by providing additional compaction on these areas or by removing the unsuitable material, replacing it with suitable material, and re-compacting.

Operate the roller in a systematic manner so the number of passes can be readily determined and recorded. Operate the roller at a speed of not less than 4.0 km/h (2.5 miles per hour).

Perform special rolling only in the presence of the Representative who will approve or disapprove the stability of the embankment and recommend corrective measures.

208.4 MEASUREMENT AND PAYMENT - Hour

No measurement and payment will be made for idle equipment time because of repairs, servicing, loading or unloading ballast, increasing or decreasing tire pressure, bad weather, or for any other similar reason.

Rock Cap for Soil Cuts and Soil Embankment

Description- This work is the placement of a minimum 18-inch thick (1.5 foot) layer of rock at the top of all roadway subgrade areas within the travel and passing lanes of the westbound lanes of I-80. Rock material will be obtained from available quantities within the excavation of the project including rubblization and reuse of existing concrete pavement.

I. Material:
   a. Selected Borrow Excavation, 206 Rock (max. stone dimension of 12 inches) must meet section 206.2 (a) l.d. Exclude all rock types except sandstone or limestone. Rock must be able to be readily placed in an 18-inch maximum lift thickness. For sandstone, individual grains must be visibly evident without the aid of magnification, and fines must be limited. The 206 Rock must offer resistance to crushing. Rubblized concrete may be used provided the length is no more than twice the width. 206 Rock must be approved by the District Geotechnical Engineer.
   b. Class 4, Type A Geotextile meeting Section 735 requirements
   c. Class 4, Type B Geotextile meeting Section 735 requirements
   d. Subbase (NO. 2A)

II. Construction:
   a. Excavate and remove the existing pavement structure to the bottom of subbase elevation. Excavate and remove the existing subgrade to a depth of eighteen (18) inches below proposed pavement subbase within the travel and passing lanes. Prior to placement of rock, place a Class 4 Type B geotextile on the top of existing subgrade. Overlap and secure in accordance to Section 212. If the entire fill is being constructed of rock meeting Section 206.s (a) l.d, this layer of geotextile is not required. The Project Engineer must approve the elimination of this layer of geotextile.
   b. Place the rock layer in accordance with Section 206 and fine grade the rock cap to within 1.5 inches of final subgrade elevations using material meeting Section 703.2 requirement for Subbase (NO. 2A) to choke off the voids in the rock material until filled. Compact in accordance with Section 206.3 (b)1 and revise the fifth bullet to read: Compact the rock material using an initial compaction based on non-movement of the material under compaction with a vibratory padfoot soil compactor with blade and equivalent to a Caterpillar Model 825F and with final compaction and sealing with a smooth drum vibratory roller with the same centrifugal force capabilities as the Caterpillar Model 825F.

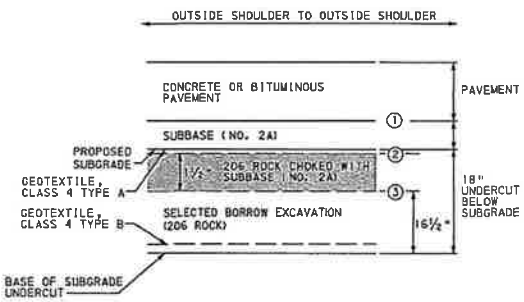
c. Prior to placement of the Subbase (NO. 2A) layer, place a Class 4 Type A geotextile on the top of the rock layer. Overlap and secure in accordance to Section 212.

III. Measurement and Payment

a. Geotextile, Class 4, Type A-Square Yards
b. Geotextile, Class 4, Type B-Square Yards
c. Class 1 Excavation-Cubic Yards
d. Selected Borrow Excavation, 206 Rock-In accordance with Section 206 Embankment – Cubic Yards
e. Subbase (NO. 2A) material is incidental to Selected Borrow Excavation, 206 Rock.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	JEFFERSON	0080	540	1 OF 1

REVISION NUMBER	REVISIONS	DATE	BY

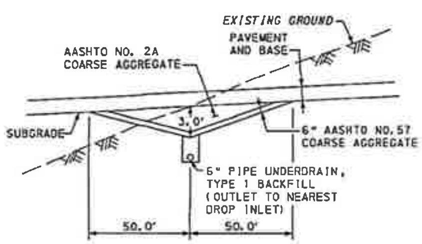


TYPE 1 SUBGRADE UNDERCUT DETAIL

(NOT TO SCALE)

COMPACTION AT POINTS ① ② ③

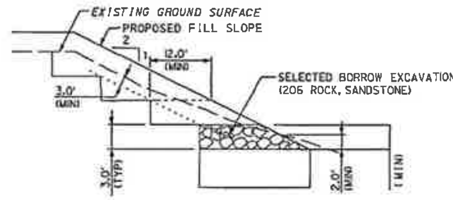
1. ALL EXCAVATION PAID FOR AS CLASS 1 EXCAVATION.
2. A MINIMUM OF 4" SUBBASE (NO. 2A) AGGREGATE MUST BE IN PLACE OVER THE GEOTEXTILE BEFORE EQUIPMENT BE PERMITTED TO PASS OVER IT.
3. A REFERENCE POINT FOR UNDERCUTING IS SUBGRADE ELEVATION. APPLY UNDERCUTTING TREATMENT AT LOCATIONS DIRECTED BY THE ENGINEER. PLACE GEOTEXTILE, CLASS 4, TYPE A AND GEOTEXTILE, CLASS 4, TYPE B LAYERS ACCORDINGLY OR AS DIRECTED BY THE ENGINEER.
4. FINE GRADE 206 ROCK TO WITHIN 1½" OF FINAL SUBGRADE ELEVATION WITH SUBBASE (NO. 2A) TO CHOKE OFF VOIDS IN ROCK MATERIAL UNTIL FILLED.
5. UNDERDRAIN AND OUTLET PIPE TO BE INSTALLED AS DIRECTED BY THE ENGINEER.



SOIL/ROCK TRANSITION DETAIL

(NOT TO SCALE)

LOCATION

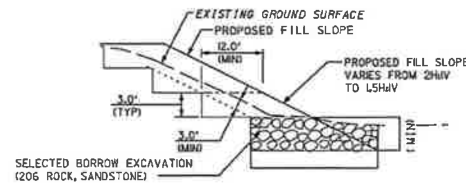


TYPE I WIDENED EMBANKMENT DETAIL

(NOT TO SCALE)

NOTES:
1. FOR NEW EMBANKMENTS OF 206 ROCK (PUB. 408M), FILL BENCHES SHOULD BE CUT FROM TOP DOWN BEFORE PLACING EMBANKMENT.
2. FOR NEW EMBANKMENTS OF SOIL, GRANULAR MATERIAL OR SHALE (PUB. 408M), FILL BENCHES MAY BE CUT FROM BOTTOM UP DURING PLACEMENT OF EMBANKMENTS. IN THAT CASE, SUITABLE MATERIAL FROM BENCHES SHOULD BE BLENDED WITH NEW FILL FOR COMPACTION.

LOCATION



TYPE II WIDENED EMBANKMENT DETAIL

(FOR FULL HEIGHT EMBANKMENTS)
(NOT TO SCALE)

NOTES:
1. FOR NEW EMBANKMENTS OF 206 ROCK (PUB. 408M) FILL BENCHES SHOULD BE CUT FROM TOP DOWN BEFORE PLACING EMBANKMENT.
2. FOR NEW EMBANKMENTS OF SOIL, GRANULAR MATERIAL OR SHALE (PUB. 408M) FILL BENCHES MAY BE CUT FROM BOTTOM UP DURING PLACEMENT OF EMBANKMENTS. IN THAT CASE, SUITABLE MATERIAL FROM BENCHES SHOULD BE BLENDED WITH NEW FILL FOR COMPACTION.
3. AREAS OF UNDERCUT AT EMBANKMENT TOE ARE IN ADDITION TO FILL BENCH EXCAVATION SHOWN IN DETAIL.
4. FOR BENCHES CUT FROM THE BOTTOM UP, MAXIMUM CUT HEIGHT IS 8.0 FEET. (NOMINAL) OR TRIM EXISTING SLOPE ABOVE BENCH TO MAINTAIN STABILITY.
5. FILL BENCH CONFIGURATIONS AND NOMINAL SLOPES SHOWN ON THE CROSS SECTIONS ARE FOR ESTIMATES OF QUANTITIES. ACTUAL QUANTITIES AND CONFIGURATION WILL BE DETERMINED BASED ON FIELD CONDITIONS.

LOCATION

GEOTECHNICAL DETAILS

DES: DES | DWN: DM | CKD: DES

GEOSYNTHETIC REINFORCED SLOPE DESIGN AND CONSTRUCTION GUIDELINES

1. **DESCRIPTION** - This work consists of furnishing the design, materials and construction of geosynthetic reinforced slope, to the lines and grades shown on the drawings, and as directed by the Engineer. This work includes providing a geosynthetic supplier representative on-site at the initiation of the construction of the embankment, and as required by the Engineer. Materials include, but are not limited to, all geosynthetic reinforcements, reinforced fill, erosion control blanket, and seed and soil supplements.

2. **REFERENCE DOCUMENTS**

ASTM Standards:

D4354 Practice for Sampling of Geosynthetics for Testing
D4439 Terminology for Geotextiles
D4595 Test Method of Tensile Properties of Geotextile by the Wide Width Strip Method
D4759 Standard Practice for Determining the Specification Conformance of Geosynthetics
D4873 Guide for Identification, Storage, and Handling of Geotextiles
D5262 Standard Test Method for Valuation of Unconfined Tensile Creep Behavior of Geosynthetics
D5321 Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method

Geosynthetic Research Institute (GRI):

GG1 Geogrid Rib Tensile Strength
GG4 (a and b) Standard Practice for Determination of the Long-Term Design Strength of Geogrids
GG5 Standard Test Method for "Geogrid Pullout"
GT6 Geotextile Pullout
GT7 Determination of Long-Term Design Strength of Geotextiles

U.S.DOT Federal Highway Administration (FHWA):

FHWA/HI-95-038	Geosynthetic Design and Construction Guidelines, May 1995
FHWA/SA-93-025	Guidelines for Design, Specification and Contracting of Geosynthetic Mechanically Stabilized Earth Slopes on Firm Foundations
FHWA/RD-89-043	Reinforced Soil Structures Volume 1, Design and Construction Guidelines, November 1990
FHWA/RD-95-016	Durability of Geosynthetics for Highway Applications

OTHER:

Koerner, R.M., "Designing with Geosynthetics", Third Edition, 1994.

Bonaparte, R., and Berg, R.R., "Long-Term Allowable Tension for Geosynthetic Reinforcement", Proceedings of Geosynthetics 1989, Vol. 1, San Diego, February 1989.

Mitchell and Villet, "Reinforcement of Earth Slopes and Embankments", NCHRP Report No. 290, Transportation Research Board, 1987.

"Design Guidelines for Use of Extensible Reinforcements (Geosynthetic) for Mechanically Stabilized Earth Walls in Permanent Applications", Task Force 27, Report, In-Situ Soil Improvement Techniques, AASHTO, August 1990.

3. GEOSYNTHETIC REINFORCEMENT SUPPLIER

The geosynthetic supplier shall design the reinforced slope, provide geogrid and/or geotextile materials, and provide a representative as described in subsequent sections of these guidelines. The supplier shall provide documentation of experience on similar previously constructed geosynthetic slope reinforcement projects. The contractor shall name the geosynthetic manufacturer(s) and supplier with the bid.

Geogrid and geotextile manufacturers and suppliers, are listed in the most recent Specifier's Guide, Geotechnical Fabrics Report, published by Industrial Fabrics Association International, St. Paul, MN.

4. SUBMISSIONS

4.1 Design Submittal. Submit six (6) sets of detailed design calculations, construction drawings, shop drawings, construction damage test documentation, and all necessary soil and geosynthetic test results for approval by the Department within thirty (30) days of authorization to proceed, and at least sixty (60) days prior to the beginning of reinforced slope construction. The calculations and drawings shall be prepared and sealed by a professional engineer licensed in the Commonwealth of Pennsylvania. The reinforced slope design and materials must be approved by the Department's Chief Geotechnical Engineer, and all decisions concerning the approval will be final.

4.2 Material Submittals. Along with the Design Submittal (Section 4.1), submit six (6) sets of Manufacturer's certification and required test results that demonstrate that the geosynthetic reinforcements meet the requirements set forth in the respective sections of these provisions, and as indicated in Table A. Six (6) sets of inspection verification samples shall be submitted as part of the material submission. These samples shall be of sufficient size (minimum 0.3m x 0.3m) to permit direct comparison and verification of geosynthetic reinforcement placed, to those required by design. Included shall be all primary and secondary geosynthetic reinforcements intended for use in the reinforced slope. Accompanying the samples shall be product data sheets, for both the primary and secondary reinforcements, identifying all pertinent information relative to the design and construction of the reinforced slope. Sampling of any geosynthetic reinforcements shall be in accordance with ASTM D4354, "Standard Practice for Sampling of Geosynthetics for Testing".

Once approved, any changes to these materials (primary or secondary reinforcements, or any fill materials), will require resubmission and approval by the Department's Chief Geotechnical Engineer. The same lead times (30/60 days - Section 4.1) required for original design approval, will prevail for resubmissions.

5. MATERIAL

5.1 Geosynthetic Reinforcement - Primary. Consisting of either a geogrid or geotextile, meeting the requirements of Table A and Section 6 of these guidelines, and as follows:

The geosynthetic reinforcement (geotextile or geogrid) shall consist of either a polypropylene (PP), polyester (PET) or high density polyethylene (HDPE) polymer. Geotextile reinforcements can be either of woven or non-woven construction, except woven slit films are not permitted.

5.2 Geosynthetic Reinforcement - Secondary. Consisting of either a geogrid or geotextile meeting the requirements of Section 5.1, and as follows:

Geogrids must be of biaxial construction. Where a wrap is required, only a biaxial geogrid may be used for the secondary reinforcement. Geotextiles used for secondary reinforcement may not be wrapped, however, they may be permitted to drape down the slope face a distance not greater than is necessary to reach the layer of secondary reinforcement directly below.

5.3 Wire Forms. When incorporated as part of the geosynthetic reinforced slope, wire forms shall be corrosion protected to last the required design life of the slope.

5.4 Reinforced Fill. As required is Pub 408, Section 206.2, and as required in Section 6.4.

5.5 Erosion Control Blanket (ECB). As required in Pub. 408, Section 806.2(a)2 or Section 806.2(a)3, and as follows:

Constructed of biodegradable organic fiber, or a combination of photodegradable synthetic fibers and biodegradable organic fibers. The blanket shall have a minimum weight of 0.68 kilograms per square meter.

5.6 Seed and Soil Supplements. As required in Pub 408, Section 804.2.

TABLE A			
Design Parameter	Test Method		Minimum Required Factor of Safety [a]
	Grid	Fabric	
Ultimate Tensile Strength, T_{ult}	ASTM D4759 GRI:GG1	ASTM D4759 ASTM D4595	–
Creep	ASTM D5262 GRI:GG4	ASTM D5262 GRI:GT7	2.0
Installation Damage	GRI:GG4 [b]	GRI:GT7 [b]	1.5 [c]
			2.0 [d]
Degradation			
- Biological	-	-	[e]
- Chemical	-	-	[e]
Pullout	GRI:GG5	GRI:GT6	1.5 [f]
			2.0 [g]
Allowable Tensile Strength	–	–	3.0 [h]
			4.0 [i]
External Stability			
- Sliding	-	-	1.5 [j]
- Deep Seated	-	-	1.5 [j]
- Compound	-	-	1.5 [j]
- Internal	-	-	1.5 [j]

[a] Values indicated represent minimum requirements; higher values may be necessary to satisfy all design and construction requirements

[b] With modifications indicated in Section 6.5.(b).3

[c] Valid for 50 mm top size reinforced fill material (see Section 6.5.(b).3)

[d] Valid for 100 mm top size reinforced fill material (see Section 6.5.(b).3)

[e] See Section 6.5.(b).4

[f] Valid for 50 mm top size reinforced fill material (see Section 6.5.(b))

[g] Valid for 100 mm top size reinforced fill material (see Section 6.5.(b))

[h] Valid for granular soils (see Section 6.5.(c))

[i] Valid for fine grained soils (see Section 6.5.(c))

[j] FS = 2.0 if laboratory shear strength tests not run on site specific materials (See Section 6.1(b))

6. REINFORCED SLOPE DESIGN REQUIREMENTS

The overall design requirements for reinforced slopes are similar to those for unreinforced slopes. The factor of safety must be adequate for both the short-term and long-term conditions, and for all possible modes of failure.

Failure modes of reinforced slopes (Berg, et al., 1989) include:

1. Internal, where the failure plane passes through the reinforcing elements;
2. External, where the failure surface passes behind and underneath the reinforced mass;
3. Compound, where the failure surface passes behind and through the reinforced soil mass.

In many cases, the stability safety factor will be approximately equal in two or all three modes.

The following provides design procedure details for reinforced soil slopes. The procedure assumes that the slope will be constructed on a stable foundation.

6.1 Establish the geometric, load, and performance requirements for design (Figure 6.1).

6.1.(a) Geometric and load requirements.

1. Slope height, H.

2. Slope angle, β.

3. External (surcharge) loads:

   - Surcharge load, q (17 kPa)
   - Temporary live load, Δq (if applicable)

6.1.(b) Performance requirements.

1. External stability and settlement.

   - Horizontal sliding of the reinforced mass along its base, $FS_{min} = 1.5$*
   - External, deep-seated failures (for failure surfaces passing behind and beneath the reinforced mass), $FS_{min} = 1.5$*

2. Compound failure modes (for failure surfaces passing behind and then through the reinforced mass).

   - Compound failure surfaces, $FS_{min} = 1.5$*

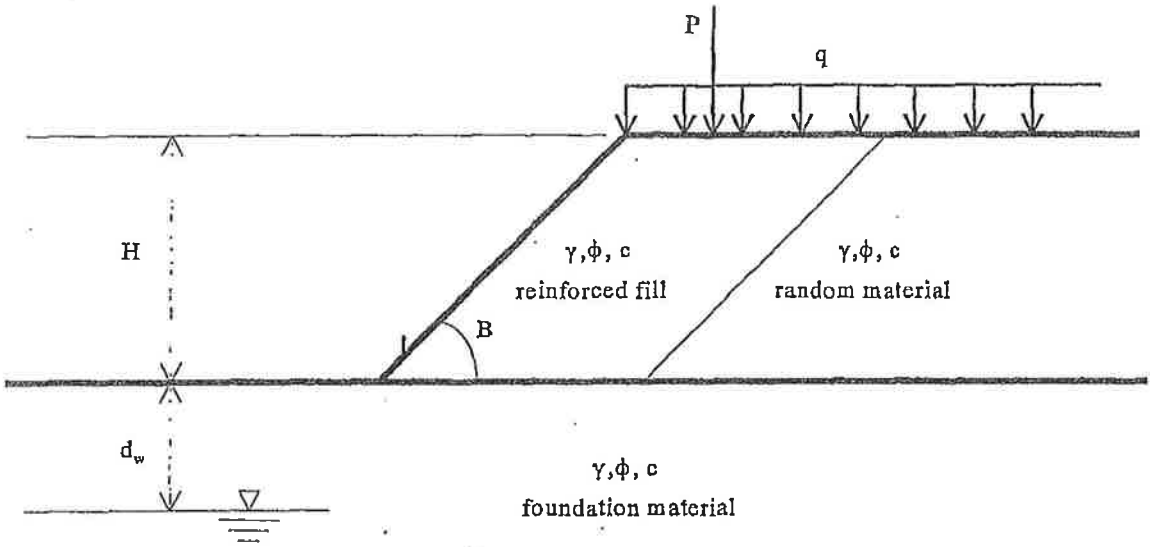


Figure 6.1 Geometric and loading requirements for geosynthetic reinforced slope

3. Internal stability. (for failure surfaces passing entirely within the reinforced mass; does not include pullout)

   - Internal failure surfaces, $FS_{min} = 1.5$*

* Soil strength parameters must be based upon laboratory shear strength testing of actual materials to be used in reinforced slope construction (including reinforced fill, foundation material, and fill behind the reinforced mass). If soil strength parameters are obtained by other means, then required factors of safety are $FS_{min} = 2.0$.

6.2 Foundation Material. If not provided, determine the engineering properties of the reinforced fill foundation material.

6.2.(a) Determine foundation soil profile below the slope's base and along the alignment. Subsurface borings shall be conducted every 30 to 60 meters, depending on the homogeneity of the subsurface profile. Borings shall be deep enough to evaluate potential deep-seated failures. Minimum required exploration depth is twice the design height of the slope, or to refusal.

6.2.(b) Determine the foundation soil strength parameters (c_u, ϕ_u or c' and ϕ'), unit weight (moist and saturated), and consolidation parameters (C_c, C_r, c_v and σ'_p).

6.2.(c) Locate the groundwater table, d_w.

6.2.(d) For slope and foundation failure repairs, identify the cause of instability and locate the previous failure surface.

6.3 **Random Material.** If not provided, determine the engineering properties of the material behind the reinforced fill (if applicable).

6.3.(a) Determine existing slope soil profile along the alignment. Subsurface borings shall be conducted every 30 to 60 meters, depending on the homogeneity of the subsurface profile. Borings shall be deep enough to evaluate potential deep-seated failures. Minimum required exploration depth is twice the design height of the slope, or to refusal.

6.3.(b) Determine the existing slope soil strength parameters (c_u, ϕ_u or c' and ϕ'), unit weight (wet and dry), and if applicable, consolidation parameters (C_c, C_r, c_v and σ'_p).

6.3.(c) Locate the groundwater table, d_w, (important if water seeps from slope).

6.3.(d) Chemical composition. The chemical composition of the random fill material shall be assessed for effect on reinforcement durability (pH, chlorides, oxidation agents, etc.). A pH range of 3 to 9 is required.

6.4 Required properties of reinforced fill.

6.4.(a) Gradation, plasticity index, soundness and unit weight.

Sieve Size	Percent Passing
50 mm*	100 - 75
4.75 mm	100 - 20
0.425 mm	0 - 60
0.075 mm	0 - 50

* 100 mm top size may be used, however, a modified factor of safety for installation damage (see Section 6.5.(b)) and overall geosynthetic safety factor (see Section 6.5.), are required.

Plasticity Index (PI) $\leq$ 20 (AASHTO T-90)
Soundness: Magnesium Sulfate soundness loss less than 30% after 4 cycles.

Unit Weights: Dry unit weight for compaction control and moist and saturated (where applicable) unit weights for analyses, shall be determined for the fill soil.

6.4.(b) Compaction characteristics and placement requirements. Soil fill shall be compacted to 97% of maximum dry density (γ_d) at plus or minus two percentage points (+/- 2%) of the optimum moisture content, W_{opt}, according to AASHTO T-99, except the top one meter of fill shall be compacted to 100% of maximum dry density. Fill material shall be placed in loose 0.2 meter lifts.

6.4.(c) Shear strength parameters, (c_u, ϕ_u or c' and ϕ'). Residual shear strength parameters shall be used in stability analyses. Effective stress strength parameters shall be used for granular soils with less than 15% passing the 0.075 mm sieve. Parameters shall be determined using direct shear or consolidated-drained (CD) triaxial tests.

For all other soils, residual effective stress and total stress strength parameters shall be determined. Strength parameters shall be used in the analyses to check stability for the immediately-after-construction and long-term cases. Use CD direct shear tests (sheared slowly enough for adequate sample drainage), and consolidated-undrained (CU) triaxial tests with pore water pressures measured for determination of effective stress parameters. Use CU direct shear or triaxial tests for determination of total stress parameters.

6.4.(d) Chemical composition. The chemical composition of the fill and retained soil shall be assessed for effect on reinforcement durability (pH, chlorides, oxidation agents, etc.). A pH range of 3 to 9 is required.

6.5 Reinforcement Design Parameters. Geosynthetic reinforcement design strength shall be determined according to the test methods and standard practices indicated. Geosynthetic design strength shall be determined by testing and analysis methods that account for long-term dimensional stability (e.g., grid/soil stress transfer) and durability of the full geosynthetic structure. Dimensional stability is characterized by the geosynthetic's ability to sustain long-term load in-service without excessive creep strains.

6.5.(a) Design tensile strength (T_d). $T_d \leq T_a$ @ 10% total strain, (kN/m).

6.5.(b) Allowable geosynthetic tensile strength. Allowable tensile strength (T_a) of the geosynthetic shall be determined using a partial factor of safety approach. Reduction factors are used to account for installation damage, degradation (chemical and biological), and to control potential creep deformation of the polymer. No seams or connections are permitted. Geosynthetics must be continuous in direction of reinforcement. That total reduction factor is based upon the mathematical product of these factors. The allowable long-term geosynthetic tensile strength, T_a, is obtained from:

$$T_a = T_{ult} / FS_{ov}$$

with:

$$FS_{ov} = FS_{cr} \times FS_{id} \times FS_{cd}$$

where:

T_a = allowable geosynthetic tensile strength, (kN/m), for use in stability analyses;
T_{ult} = ultimate geosynthetic tensile strength, (kN/m);
FS_{ov} = overall factor of safety against geosynthetic failure;
FS_{cr} = partial factor of creep deformation, ratio of T ult to creep-limiting strength, (dimensionless);
FS_{id} = partial factor of safety for installation damage, (dimensionless);
FS_{cd} = partial factor of safety for chemical and biological degradation, (dimensionless)

6.5.(b).1 Ultimate strength values shall be based upon minimum average roll values (MARV) determined in accordance with ASTM D4759, using GRI:GG1 - Geogrid Rib Tensile Strength for grids, and ASTM D4595 - Test Method of Tensile Properties of Geotextile by Wide Width Method for fabrics.

6.5.(b).2 Long-term tension-strain-time polymeric reinforcement behavior (creep) shall be determined from results of controlled laboratory creep tests, conducted on unconfined samples, for minimum duration of 10,000 hours for a range of load levels on samples of the finished product. Testing shall be conducted according to ASTM D5262, Standard Test Method for Valuation of Unconfined Tensile Creep Behavior of Geosynthetics, using GRI:GG4 - Standard Practice for Determination of the Long-Term Design Strength of Geogrids, and/or GRI:GT7 - Determination of Long-Term Design Strength of Geotextiles. Samples shall be tested unconfined in the direction in which the load will be applied.

Creep test data at a given temperature may be directly extrapolated over time up to one order of magnitude, in accordance with standard polymeric practices. Accelerated testing is required to extrapolate 10,000-hour creep test data to a minimum 75-year design life. Procedures for test acceleration are discussed in GRI:GG4(1990, 1991) and GRI:GT7 (1992) Standard of Practice. Accelerated testing is used to extrapolate to a 75-year design life and to ensure that the failure mechanism, ex. Ductile to brittle transition, does not change.

Total strain of the reinforcement shall be less than 10% over the design life of 75 years. Formulation of FS_{cr}, ratio of ultimate strength to creep-limiting strength, is defined in ASTM D5262. The required minimum factor of safety for creep is 2.0. A default factor of safety for creep is not permitted.

6.5.(b).3 Installation Damage. The effect of installation damage on geosynthetic reinforcement shall be determined from the results of full-scale construction damage tests. Values must be substantiated by construction damage tests for the selected geosynthetic material with project-specific, representative, or a more severe backfill source. Placement and compaction techniques, and evaluation of susceptibility to construction damage, are to be consistent with the proposed construction, and as described in GRI:GG4 and GRI:GT7 Standards of Practice, except that

$$* FS_{id} = 1.2\, T_{orig} / (T_{exh} - 2\,\sigma) \quad \text{for 50 mm top size reinforced fill}$$

where:

σ = statistical standard deviation for exhumed strength (T_{exh}) of reinforcement
T_{exh} = average exhumed strength of reinforcement
T_{orig} = average original (undamaged) strength of reinforcement
FS_{id} = factor of safety for installation damage

$$* FS_{id} = 1.4\, FS_{id} \text{ (GRI) for 100 mm top size reinforced fill}$$

Documentation of installation damage testing shall be submitted with the Design Submittal (Section 4.1). If appropriate testing has not been conducted, a default factor of safety of 3.0 for 50mm top size reinforced fill material, or 5.0 for 100 mm top size reinforced fill material, shall be used for installation damage. Minimum allowable installation damage factor of safety (FS_{id}) is 1.50 for 50mm top size reinforced fill material, and 2.0 for 100 mm top size reinforced fill material.

6.5.(b).4 Chemical and Biological Degradation. Chemical durability of geosynthetics is primarily a function of the pH of the surrounding environment - the reinforced fill and the random material. Unless other soil chemical composition conditions indicate otherwise, if the pH requirements for these materials is met, as indicated in Sections 6.3.(d) and 6.4.(d), then no factor of safety for chemical durability is required durability. If materials do not meet pH requirements, or are otherwise unsuitable, then the chemical durability of the reinforcement must be evaluated and recommendations supported testing and/or documentation of past performance in a similar environment.

Polymers used for geosynthetics are generally not susceptible to biological degradation by microorganisms such as fungi and bacterial. No factor of safety is required for biological durability, unless conditions warrant otherwise.

6.5.(c) Pullout Resistance:

$FS_{min} = 1.5$ for granular soils,
and $FS_{min} = 2.0$ for cohesive soils.

Minimum reinforcement embedment length (L_e) is two meters (2 meters). The above factors of safety apply for both short term and long term conditions.

6.6 Unreinforced Stability. Perform a stability analysis using PASTABLM, to determine safety factors and driving moments for potential failure surfaces. Use both circular arc and sliding wedge methods, and consider failure through the toe, through the face (at several elevations), and deep seated below the toe.

Determine the size of the critical zone to be reinforced by examining the full range of potential failure surfaces with safety factors less than or equal to the slope's target safety. Surfaces that just meet the target factor of safety roughly envelope the limits of the critical zone to be reinforced.

Critical failure surfaces extending below the toe of the slope indicate deep foundation and edge bearing capacity problems that must be addressed prior to design completion.

6.7 Internal Stability. Orientation of the reinforcement tensile force along the failure plane influences the calculated slope safety factor. Geosynthetics are extensible - the inclination of the reinforcement force used for design, is tangent to the failure surface.

6.7.(a) Calculate the total reinforcement tensile, T_s, required to obtain the required factor of safety for each potential failure circle inside the critical zone (Section 6.6) that extends through or below the toe of the slope (see Figure 6.2). Use the following equation:

$$T_s = (FS_r - FS_u) \times M_d / D$$

where:

*T_s = sum of required tensile force per unit width of reinforcement (considering rupture and pullout) in all reinforcement layers intersecting the failure surface, (kN/m);

M_d = driving moment about the center of the failure circle, (kN-m);

D = the moment arm of T_s about the center of failure circle; D = radius (R) of circle for geosynthetic (extensible reinforcement, i.e. assumed to act tangentially to the circle), (m);

FS_r = target minimum slope safety factor, (dimension less) - Section 6.1.(b);

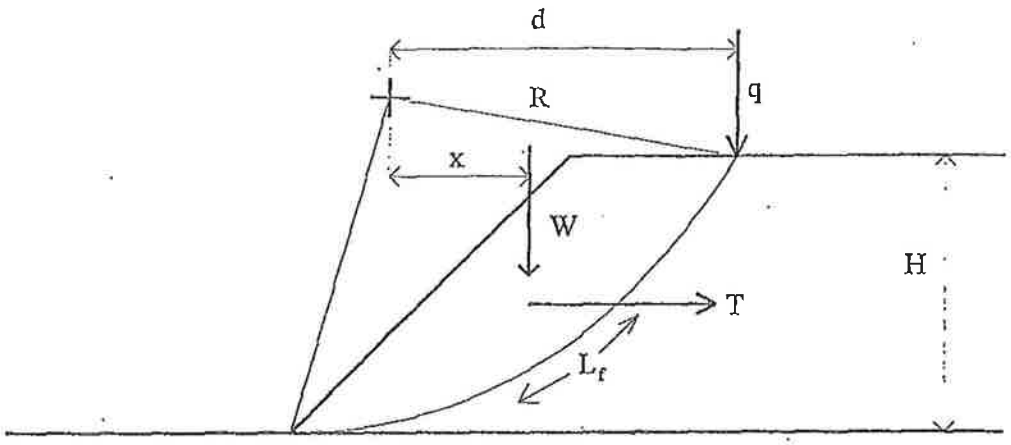
FS_u = unreinforced slope safety factor, (dimension less).

* The largest T_s calculated establishes the required design tension, T_{max}.

6.7. b) Determine the distribution of reinforcement. To determine the number of reinforcement configurations (tensile strength and length) permitted for any design section and segment, see Table B. A design segment is defined as a continuous length of slope having a uniform reinforcement section. Minimum length of design segments is 30 meters.

TABLE B

Design Segment Height H (meters)	Maximum Number of Reinforcement Configurations per Segment
$H \leq 3$	1
$3 < H < 6$	2
$H \geq 6$	3



1. Using PASTABLM, locate the most critical surface through the toe of the slope, and determine M_R

$$FS_u = \frac{M_R}{M_D} = \frac{\tau_f L_f R}{(wx + qd)}$$

where:
- FS_u = unreinforced factor of safety
- M_R = resisting momment
- M_D = driving momment
- τ_f = shear strength of soil
- L_f = length of failure surface
- R = radius of slip circle (failure plain)
- w = weight of soil above failure sueface
- x = moment arm for driving momemt due to weight of soil (w)
- q = surcharge load (if present)
- d = moment arm for driving momemt due to surcharge load (q)

2. After determining the critical failure surface and corresponding factor of safety, calculate M_R as follows:

$$M_R = FS_u (wx + qd)$$

3. Determine the total required tensile reinforcement, T

$$T = \frac{FS_r M_D - M_R}{R} = \frac{FS_r M_D - FS_u M_D}{R} = \frac{(FS_r - FS_u) M_D}{R}$$

where: FS_r = required factor of safety

4. Required strength of geosynthetic reinforcement, T_d

$$T_d = T/S_v$$

where: S_v = vertical spacing of primary reinforcement

Figure 6.2 Determination of required geosynthetic reinforcement

For design segments with two or three reinforcement configurations, use a factored T_{max} in each zone for determining spacing or reinforcement requirements in Section 6.7.(c). The total required tension in each zone is found from the following equations.

For two zones:

$$T_{bottom} = 3/4\ T_{max}$$

$$T_{top} = 1/4\ T_{max}$$

For three zones:

$$T_{bottom} = ½\ T_{max}$$

$$T_{middle} = 1/3\ T_{max}$$

$$T_{top} = 1/6\ T_{max}$$

6.7.(c) Determine reinforcement vertical spacing, S_v (see Figure 6.3). For each zone, calculate the design tension (T_d) requirements for each reinforcing layer, based on an assumed or desired vertical spacing of reinforcement (S_v). If the allowable reinforcement strength is known, calculate the maximum vertical spacing (S_v) and number of reinforcing layers (N) required for each zone based on:

$$T_d = T_a R_c = T_{zone} S_v / H_{zone} = T_{zone} / N$$

where:

T_d = design geosynthetic tensile strength, (kN/m);
T_a = allowable geosynthetic tensile strength, (kN/m);
R_c = percent coverage of reinforcement, in plan view (R_c = 1 for continuous sheets);
S_v = vertical spacing of reinforcement; should be a multiple of reinforced fill compaction layer thickness for ease of construction;
T_{zone} = maximum reinforcement tension required for each zone; T_{zone} equals T_{max} for low slopes ($H \leq 6$ m), and is equal to T_{top}, T_{middle}, and T_{bottom} for high slopes ($H > 6$ m);
H_{zone} = height of zone;
N = number of reinforcement layers in zone.

The maximum vertical spacing for primary reinforcement (S_{vp}) is 1.5 meters. For secondary reinforcement, the maximum vertical spacing (S_{vs}) is 0.5 meters.

6.7.(d) For critical, complex or multiple reinforcement length/strength structures, and when checking a complex design, analyses shall be repeated for potential failure at the bottom of each reinforcement zone of a multiple reinforcement system, or as necessary to ensure adequate reinforcement distribution.

6.7.(e) Determine required reinforcement lengths. The required minimum embedment length, L_m, of each reinforcement layer beyond the most critical sliding surface found in Section 6.6 (i.e., circle found for T_{max}) must be sufficient to provide adequate pullout resistance. For the method illustrated in Figure 6.2, use:

$T_u = T_a \times FS$

$$L_m = T_a FS_p / F^* \alpha \sigma'_v 2$$

where:

L_m	=	required embedment length, (m);
T_a	=	allowable geosynthetic tensile strength, (kN/m);
FS_p	=	target minimum pullout safety factor;
F^*	=	the pullout resistance factor (interaction coefficient), determined in accordance with GRI Test Method GG5 for Geogrids, or GT6 for Geotextiles;
α	=	a scale effect correction factor = 0.60;
σ'_v	=	the effective vertical stress at the soil-reinforcement interfaces, (kPa).
C	=	reinforcement effective unit perimeter (C = 2 for geogrids and geotextiles)

Minimum value of L_m is two meters (2 m). For cohesive soils, check L_m for both short- and long-term pullout conditions. For long-term design, use ϕ_r' with $c_r = 0$. For short-term evaluation, use ϕ_r from consolidated-undrained tests and $c_r = 0$, or run pullout tests.

The pullout resistance factor, F*, shall be determined using **residual** shear forces obtained during geosynthetic pullout testing (i.e. pullout has initiated and shear load remains constant or decreasing, while strains/deflections continue to increase). Testing for evaluation of F*, shall be consistent with the field application. For conditions where the geosynthetic reinforcement is in direct contact with soil both sides, pullout testing shall be conducted in the same manner. For conditions where the geosynthetic reinforcement is in direct contact with another geosynthetic on one or both sides (e.g. from a face wrap), then the pullout testing shall be conducted with the primary geosynthetic reinforcement in direct contact, on both sides, with the adjacent geosynthetic reinforcement. The adjacent geosynthetic shall be placed in direct contact with soil in the top and bottom portions of the pullout box. The soil placed in the pullout box shall be consistent with material from the reinforced mass.

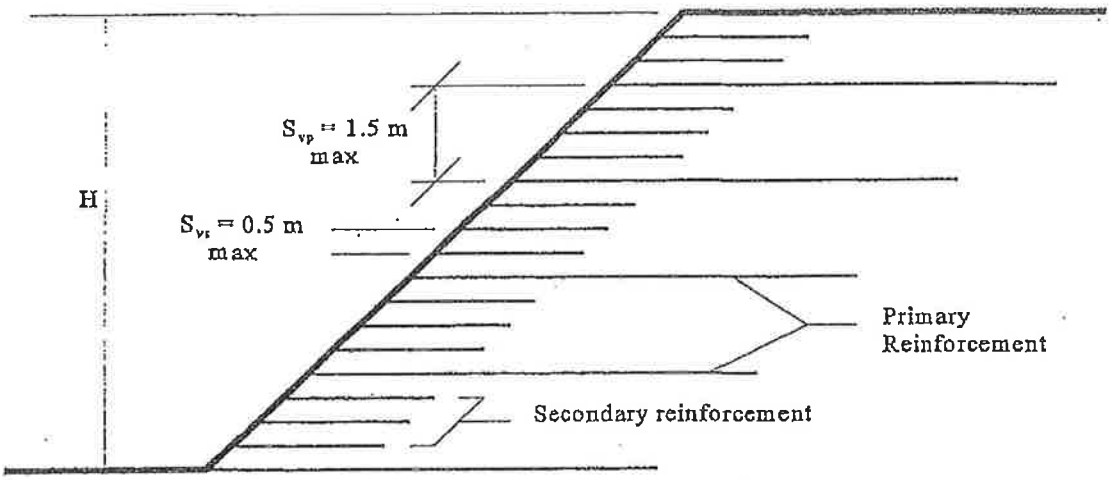


Figure 6.3 Spacing Requirements for Geosynthietic Reinforced Slope

Consider a uniformly increasing stress transfer rate, from each end of the reinforcement. The distribution is triangular, with T = 0 at the end of the reinforcement, to $T = T_{max}$ at some point a distance "x" from each end of the reinforcement. The distance "x" will vary from approximately one to three meters, depending upon the backfill material, the reinforcement type and modulus, and the magnitude of the required tensile force. Calculations of T_s for a given failure surface shall use this distribution for any reinforcement layer where the failure surface passes through the development length "x" of the reinforcement. The following relationships shall be considered in determining the development length "x" to be used for design:

Factor	Development Length, x
As soil shear strength increases	decreases
As reinforcement modulus increases	decreases
As soil/geosynthetic direct shear resistance increases	decreases
As reinforcement tensile force decreases	decreases

The minimum value of "x" at each end of the reinforcement is the greater of 20 percent of the total length, or one meter.

6.7.(f) Pullout Capacity. Pullout coefficients are used in stability analyses to compute mobilized tensile force in each reinforcement layer.

The ultimate pullout resistance per unit width (P_r) of reinforcement is given by:

$$P_r = F^* \cdot \alpha \cdot \sigma'_v \cdot L_e \cdot C \cdot$$

where:

- L_e = the embedment or adherence length in the resisting zone behind the failure surface, (m);
- C = the reinforcement effective unit perimeter ($C = 2$ for geogrids and geotextiles);
- F^* = the pullout resistance (or friction-bearing-interaction) factor; determined in accordance with GRI Test Method GG5 (Geogrids) or GT6 (Geotextiles);
- α = a scale effect correction factor;
- σ'_v = the effective vertical stress at the soil-reinforcement interfaces, (kPa);

The embedment length, L_e, shall be greater than or equal to the required embedment length, L_m (section 6.7(e)), and the minimum embedment length of two meters (2m).

6.7.(g) Total Length of Reinforcement. The total length of the primary geosynthetic reinforcement is determined by the maximum length of the critical zone as indicated in Section 6.6, Unreinforced Stability. The length indicated shall envelope the limits of the failure zone that just meets the target factor of safety. This length shall be used as the required primary reinforcement length, for the full height of the reinforced slope.

6.7.(h) Secondary Reinforcement/Erosion Control. Secondary reinforcements shall be designed in a manner consistent with the methods used to determine primary reinforcement requirements, except that a discrete height of the slope equivalent to the vertical spacing of the secondary reinforcement (S_{vs}), need only be considered. Short (minimum 2 m) lengths of secondary reinforcement layers shall be used, with a maximum vertical spacing of 0.5 meter or less, for face stability and compaction quality. For slopes steeper than 1.5:1, the slope face must be wrapped an open grid geosynthetic, consisting of either a uniaxial or biaxial geogrid. The wrap material can be either the primary or secondary reinforcement. In addition to the wrap, an erosion control blanket (ECB) must be placed on the slope face, as required in Section 5.4. Unless otherwise indicated, slopes 1.5:1 and shallower do not require a face wrap, but still require a secondary reinforcement. Analyses must be performed to ensure slope face stability.

6.8. External Stability. External stability of a reinforced soil mass depends on the soil mass's ability to act as a stable block and withstand all external loads without failure. External stability failure possibilities include sliding, deep-seated overall instability, local bearing capacity failure at the toe (lateral squeeze-type failure), as well as compound failures initiating internally and externally through the short- and long-term conditions.

6.8.(a) Sliding resistance. The reinforced mass must be wide enough at any level to resist sliding along the reinforcement. A wedge-type failure surface defined by the reinforcement limits (the length of the reinforcement from the toe) identified in 6.7.(e) can be checked to ensure it is sufficient to resist sliding from the following relationships:

Resisting Force	=	FS x Sliding Force
$(W + P_a \sin \phi) \tan \phi_{sg}$	=	FS $P_a \cos \phi$

with: $W = \frac{1}{2} L^2 \gamma \tan \beta$ for $L \leq H$

$W = (LH - Hs/(2\tan\beta)) \gamma$ for $L > H$

where:

- W = weight of reinforced mass (kN);
- L = length of bottom reinforcing layer in each zone where there is a reinforcement length change (m);
- H = height of slope (m);
- FS = factor of safety for sliding (≥ 1.5);
- Pa = active earth pressure (kPa);
- ϕ_{sg} = angel of shearing friction between soil and geosynthetic;
- β = slope angel;
- γ = unit weight of backfill (kN/m^3);
- ϕ_{sg} = soil-geosynthetic direct shear resistance (determined in accordance with GRI Test Method GS6 - Interface Friction Determination by Direct Shear Testing);
- ϕ = angle of internal friction for reinforced fill material.

6.8.(b) Deep-seated global stability. Potential deep-seated failure surfaces behind the reinforced soil mass must be evaluated. PASTABLM computer program shall be used.

6.8.(c) Local bearing failure at the toe (lateral squeeze). Evaluate bearing capacity at the toe of the slope. High lateral stresses in a confined soft stratum beneath the embankment could lead to a lateral squeeze-type failure. This must be analyzed if the slope is on a soft foundation.

6.8.(d) Foundation settlement. The magnitude of foundation settlement should be determined using ordinary geotechnical engineering procedures. If the calculated settlement exceeds specified minimums, then foundation soils must be improved through modification or removal and replacement with suitable material.

6.9 Requirements for subsurface water control. Uncontrolled subsurface water seepage decreases slope stability and ultimately can result in slope failure. Hydrostatic forces on the rear of the reinforced mass, and uncontrolled seepage into the reinforced mass, reduces pullout capacity of the geosynthetic, and creates erosion at the face. When designing subsurface water drainage features, the water source, permeability of natural and fill soils, flow rate, filtration, placement, and outlet details shall be addressed. Unless otherwise

specified, place drains at the rear of the reinforced mass, as indicated. Lateral spacing of outlets is dictated by site geometry, expected flow, and existing standards. Outlet design shall address long-term performance and maintenance requirements.

7. CONSTRUCTION

7.1 Excavation. Excavate subgrade to the lines and grade shown on the Drawings. Subgrade surface shall be free from deleterious materials, loose or otherwise unsuitable soils. Proof roll the subgrade with 5 passes of a 90 kN static wheel roller to provide a uniform and firm surface. Any soft areas, as determined by the Engineer, shall be excavated and replaced with suitable Embankment Material. The subgrade shall be inspected by the District Geotechnical Engineer prior to placing embankment fill or reinforcement.

7.2 Geosynthetic Reinforcement.

7.2.(a) Delivery Storage and Handling. Check the geosynthetic materials upon delivery to ensure that the proper material has been received. During all periods of shipment and storage, protect the geosynthetic materials from temperatures greater than 60°C, and from debris that may damage the material. Following manufacturer's recommendations, protect all geosynthetic materials from sunlight. At the time of installation the geosynthetic reinforcement shall be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during installation, manufacture, transportation, or storage. Replace any geosynthetic materials damaged at no additional cost to the Department.

7.2.(b) On-Site Representative. The Manufacturer shall provide a qualified and experienced representative on-site at the initiation of the project, for a minimum of three days, to assist the Contractor at the start of construction. The representative shall also be available on an as needed basis, as requested by the Engineer, during construction.

7.2.(c) Geosynthetic Placement. The geogrid reinforcement shall be installed in accordance the Manufacturer's recommendations except where superseded by these provisions. The geogrid reinforcement shall be placed within the layers of the compacted soil as shown on the drawings prepared by the manufacturer. Prior to placement of a layer of reinforcement (primary or secondary), scarify the layer of compacted fill on which the reinforcement is to be placed.

Both primary and secondary geosynthetic reinforcements shall be placed in continuous longitudinal strips in the primary direction of reinforcement - perpendicular to the slope face. Splicing of any geosynthetic reinforcement (primary or secondary), is prohibited. If wire forms are used, they shall be placed on the exterior (outside) of all primary and secondary reinforcement lifts and/or wraps. Adjacent strips of reinforcement shall be overlapped a minimum of 0.15 meter along roll edges parallel to the reinforcement direction. For applications involving geometries with curves, overlap of adjacent reinforcements shall be sufficient to provide the minimum 0.15 meter overlap for the full length of the reinforcements (i.e. in plan view, 100 percent coverage the full length of the reinforcements).

Place only that amount of geosynthetic reinforcement required for immediately pending work to prevent undue damage. After a layer of geosynthetic reinforcement has been placed, the next succeeding layer of reinforced fill shall be placed and compacted as appropriate. The process shall be repeated for subsequent layers of geosynthetic reinforcement and soil.

Geosynthetic reinforcement shall be placed to lay flat and pulled tight prior to backfilling. After a layer of geosynthetic reinforcement has been placed, suitable means, such as pins or small piles of soil, shall be used to hold the geosynthetic reinforcement in position until the subsequent soil layer can be placed.

Under no circumstances shall rubber-tired or track-type vehicles be allowed on the geosynthetic reinforcement before a minimum of 0.2 meter of fill has been placed. Turning of tracked vehicles on geosynthetic reinforced fill is strictly prohibited. Sudden braking and sharp turning of any vehicle over geosynthetic reinforcement, is prohibited.

During construction, the surface of the fill should be kept approximately horizontal. Geosynthetic reinforcements are to be placed within three inches of the design elevations and extend the length as indicated on the drawings. Correct orientation of the geogrid reinforcement shall be documented by the Contractor and verified by the Engineer.

7.3 Embankment Material Placement. Embankment materials shall be placed in accordance with PennDOT Publication 408, Section 206.3(b) "Placement and Compaction".

Embankment materials shall be placed in 0.2 meter loose lift thicknesses. Backfill shall be graded away from the slope crest and rolled at the end of each work day to prevent ponding of water on surface of the reinforced soil mass.

7.4 Erosion Control Blanket (ECB). Blanket the slope face by placing the ECB on top of the primary or secondary reinforcement (as applicable). Surface coverage shall be 100 percent, with a 0.15 meter overlap between adjacent layers. Placement shall be in accordance with manufacturer's instruction.

7.5 Vegetation. Hydroseed the ECB with two (2) applications, as required in Section 5.5.

7.6 Testing Submittals.

7.6.(a) Manufacturing Quality Control Geosynthetic. The purpose of the QC testing program is to verify that the geosynthetic being supplied to the project is representative o the geogrid used for performance testing described above. The geosynthetic manufacturers shall have a manufacturing quality control program that includes QC testing no less frequently than each 20,000 square meters of production. The testing shall include:

Tensile Modulus and Strength	ASTM D 4595 or GRI:GG1
Specific Gravity	ASTM D 1505
Melt Flow Index (HDPE, PP)	ASTM D 1238
Carboxyl End Group (PET)	ASTM D 2455
Coating Thickness (if applicable)	ASTM D 374C

Samples not satisfying the specifications shall result in the rejection of the applicable rolls at no cost to the Owner. At the Manufacturer's discretion and expense, additional testing of individual rolls may be performed to more closely identify the noncomplying rolls and/or to qualify individual rolls.

The Manufacturer shall certify the quality of the rolls of geosynthetic reinforcement. As a minimum, the Manufacturer shall provide quality control certificates for each batch of resin and each shift's production. These quality control certificates shall be signed by an officer of the Manufacturer (such as the production manager), and supplied to the Engineer at least two (2) weeks priors to installation of the structural geogrid.

The quality control certification shall include:

1. Roll numbers and identification
2. Sampling procedures
3. Result of quality control tests, including a description of test methods used.

7.6.(b) Laboratory Testing Using Site Specific Embankment Materials.

7.6.(b.)1 pH. Mandatory pH testing is required according to EPA SW-846 Method 9045 on at least one sample from each borrow source and at a minimum of one test every 2000 cubic meters. Additional pH testing may be required by the Engineer.

7.6.(b)2 Soil-Reinforcement Direct Shear Resistance. Site specific embankment material-geosynthetic interaction tests shall be performed. Submit test results with design submittal.

7.6(b)3 Strength and Unit Weight. The drained strength and unit weight parameters are based upon laboratory tests performed on the existing embankment materials. Embankment materials from sources other than the existing embankment shall be tested in the laboratory to confirm that their actual strength and unit weight are consistent with those values used in the design. Submit test results with the Design Submittal.

8. METHOD OF MEASUREMENT

Measurement of Geosynthetic Reinforced Slope is on a vertical square meter basis for each face.

Payment shall cover reinforced slope design, required and discretionary laboratory tests, geosynthetic reinforcements, all fill materials (reinforced and unreinforced), placement of reinforcements and all fill materials, subgrade preparation, erosion control blanket and placement, and seeding and soil supplements. Excavation of unsuitable subgrade materials as directed by the DGE beyond the limits of excavation shown on the drawings, shall be paid under a separate pay item.

Quantities of reinforced soil embankment, as shown on the Plans, may be increased or decreased at the direction of the Engineer, based on construction procedures and actual site conditions.

9. BASIS OF PAYMENT

9.1 The accepted quantities of geosynthetic reinforced embankment will be paid for per vertical square meter, complete, in place.

The material supplier representative will be paid for per man day, including all transportation, lodging, per diem and incidental expenses.

9.2 Payment will be made under:

Pay Item	Pay Unit
Geosynthetic Slope System	Vertical Square Meter of Face
Material Supplier Representative	Man Day

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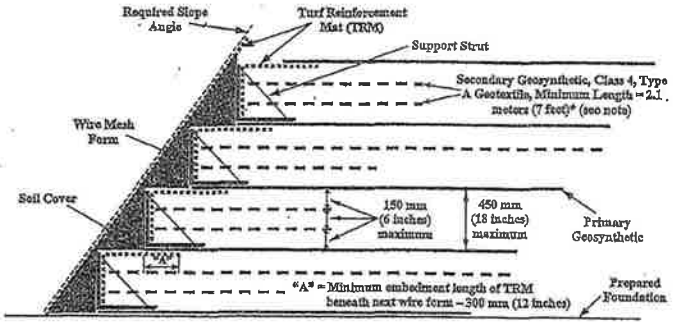
DISTRICT	COUNTY	ROUTE	SECTION	SHEET
10-0	JEFFERSON	0080	540	2 OF 2

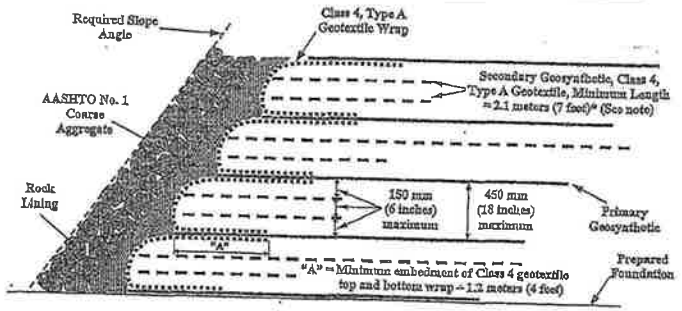
REVISION NUMBER	REVISIONS	DATE	BY



Detail 1 Legend
- Primary Reinforcement
- Secondary Geosynthetic
- Turf Reinforcement Mat (TRM)
- Wire Mesh Form
- Wire Mesh Support Strut

* Note: For slopes constructed with reinforced fill containing more than 15 percent fines, extend the length of every fourth layer of secondary geosynthetic a minimum of the length of the adjacent primary reinforcement, starting with the second layer of secondary geosynthetic placed.

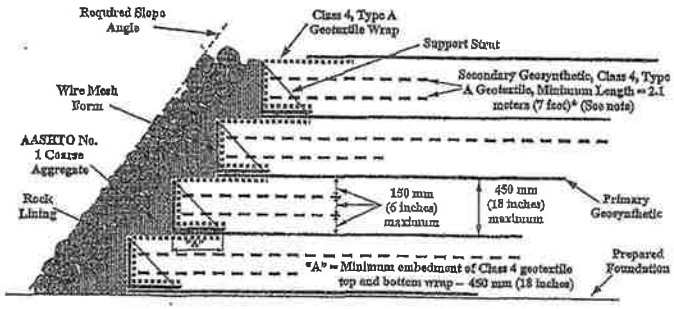
Detail 1 – Type A Slope
N.T.S.



Detail 3 Legend
- Primary Reinforcement
- Secondary Geosynthetic
- Class 4, Type A Geotextile Wrap

* Note: For slopes constructed with reinforced fill containing more than 15 percent fines, extend the length of every fourth layer of secondary geosynthetic a minimum of the length of the adjacent primary reinforcement, starting with the second layer of secondary geosynthetic placed.

Detail 3 – Type C Slope
N.T.S.



Detail 2 Legend
- Primary Reinforcement
- Secondary Geosynthetic
- Class 4, Type A Geotextile Wrap
- Wire Mesh Form
- Wire Mesh Support Strut

* Note: For slopes constructed with reinforced fill containing more than 15 percent fines, extend the length of every fourth layer of secondary geosynthetic a minimum of the length of the adjacent primary reinforcement, starting with the second layer of secondary geosynthetic placed.

Detail 2 – Type B Slope
N.T.S.

GEOTECHNICAL DETAILS - GEOSYNTHETIC REINFORCED SLOPE

DES: DES | DWN: DM | CKD: DES

D-4279A (6-08)

RAILROAD CROSSING
DATA FOR CONTRACTOR

Date: August 27, 2012

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PART A - Project Information & Description to be completed by the District

(Instructions: The District is to complete Part A then submit the D-4279A form to the Railroad for completion of Part B of this form. Submission of the D-4279A form to the Railroad should occur during the Final Design phase of the project. Information provided on this form could be used in the preparation of the written agreement between the State and the Railroad Company, if required, that addresses the 12 items as per 23 CFR 646.216 (d) (2))

PROJECT INFORMATION: Project Title: I-80 JEFFERSON CONCRETE WB

County: JEFFERSON | Municipality: WASHINGTON TOWNSHIP
Route/Section: 0080/540 | Road Name: I-80
AAR/DOT No.: 148 658 X | RR Mile Post: 210.25 | Type of Crossing: Highway over RR
MPMS No.: 94915 | ECMS No.: 94915 | PUC Doc. No.: A-92845 (July 24, 1967)
Project Funding: 80 (%) Federal 20 (%) State 0 (%) Local

PROJECT DESCRIPTION: *(This description shall clearly indicate the following: 1. Proposed construction activities, 2. By whom the construction activities will be performed (Contractor or Department forces), 3. If use of railroad property will be required of the Department's contractor, and 4. If construction activities will be contained within existing or proposed temporary construction easements, required right-of-way, or aerial easements.)*

For the reconstruction of WB lanes and shoulders, overlay of the Eastbound pavement, preservation of WB structure, as indicated on the approved drawings for STATE ROUTE I-80, SECTION 540, in Jefferson COUNTY Washington TOWNSHIP from approximately 1.8 miles west of the I-80/SR 830 interchange at segment 0881 offset 1640 to approximately the Jefferson/Clearfield County line at segment 0961 offset 0876 (WB limits) Work includes beam spall repairs to the WB structure beams in spans 1, 2, 4 and 5, and concrete repairs to the substructures within the Buffalo & Pittsburgh Railroad property limits. No work will be performed on span 3 over the Buffalo & Pittsburgh Railroad track. All construction activities will be performed by Department's Contractor force within the highway right-of-way and aerial easements.

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PART B - Information to be completed by Railroad.

(Instructions: The Railroad is to complete Part B of this form and return to the District with any supporting documents for inclusion in the Department's bid contract.)

General Information

Railroad Owner: BUFFALO & PITTSBURGH RAILROAD, INC.
Railroad Operator: BUFFALO & PITTSBURGH RAILROAD, INC.

1. (a) When and under what conditions will the contractor be allowed to work over the tracks or within the track area? Railroad Protective Services (Flagging) are required when working within 25 feet of either rail and/or over the tracks. Contact the Roadmaster.

2. (a) Describe the work which will be performed by railroad forces at the job site.
Railroad Protective Services (Flagging)

(b) How many railroad employees will be assigned to work at the job sites? 1

3. (a) Will your company permit blasting as a means of demolition of the existing bridge? ☐ Yes ☒ No
If so, under what constraints?

(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

(c) If a shield is required, what vertical clearance from the top of the rail to underside of shield will you require and what design load do you want specified for the shield? min. 22'-0"; contact Michael Yaros, Roadmaster

4. What identifying name and/or number would you prefer to be utilized in reference to this project?
I-80 JEFFERSON CONCRETE WB, SR 0080 SEC 540, B&P RR MP 210.25, JEFFERSON COUNTY

5. Is it necessary to move C & S line prior to construction? ☐ Yes ☒ No
How many working days required for C&S line relocations? _____

Train Movements/Speeds

6. Will temporary track outages be permitted during construction? ☐ Yes ☒ No
If so, under what conditions? _____

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

8. Total Number of current Daily Train Movements and Speed of Trains at crossing.
Number of Passenger Trains 0 — Number of Freight Trains 2
Number Switching Trains 0 — Total Daylight Thru Trains (6AM to 6PM) 2
Typical Speed Range (mph) 35 mph — Maximum Time Table (mph) 35 mph

Watchmen/Flagmen Requirements

9. Will your company require a watchmen/flagmen? ☒ Yes ☐ No
If "Yes" please complete the following.
(a) Is a watchmen/flagmen required at all times or just when track is active? all times

(b) How much advance notice is required to be provided to your company for scheduling of a watchmen/flagmen? 4 days weeks/days/hrs

(c) What are your company's current costs for protective services? $590.72 /day $73.84 /hour

(d) In cases where the Department's project only involves state and/or local funding, will you accept payment for protective services directly from the Department's contractor provided the required services are less than 5 working days? ☐ Yes ☑ No

Railroad Insurance Requirements

10. Is this an operating or non-operating Railroad? ☒ Operating ☐ Non-Operating
If a non-operating railroad, do you waive the Railroad Insurance coverage requirements? ☐ Yes ☒ No
If waived, do you need to be additionally insured on the project general liability insurance? ☐ Yes ☒ No

11. Does this involve the Right-of-Way of a National Railroad ☐ Yes ☒ No

12. List the types of Railroad Insurance coverage and coverage limits required to be obtained by the Contractor?

	Coverage Type	Cover Limits
a.	Railroad's Protective Public Liability Insurance	$2,000,000 / $6,000,000
b.	Contractor's Public Liability and Property Damage Insurance	$2,000,000
c.	Contractor's Protective Public Liability and Property Damage	$2,000,000
d.		
e.		

13. If a temporary grade crossing is required, what procedures are necessary to obtain same? *(Explain or attach copy of Railroad procedures.)*
Contact the property manager

14. Describe any special license or permit fees required of the contractor.
Contact the property manager

15. Is a Right of Entry Permit/Agreement required to be obtained by the contractor? ☐Yes ☒No
(Completion of this information does not replace or satisfy the requirements outlined in 23 CFR 646.216(e)(2)(iii) pertaining to Railroad property interest.)
If "Yes" please complete the following.

(a) Right of Entry Permit Requirements: *(Explain when an Entry Permit is required by the Department's contractor and conditions/restrictions of the permit or attach copy of Railroad procedures.)*

(b) Process for obtaining a Right of Entry Permit: *(Explain the process involved for a Department's contractor to obtain an Entry Permit from the Railroad or attach copy of Railroad procedures.)*

(c) Timeframes associates with a Right of Entry Permit: *(Explain Entry Permit processing time lines or attach copy of Railroads procedures.)*

(d) Costs of a Right of Entry Permit: *(Explain to required fee(s) to accompany Entry Permit.)*

Railroad Contact Information

16. Railroad representative for contact by the Department's contractor for insurance requirements.
Name: William V. Gentilman
Title: Property Manager
Address: Buffalo & Pittsburgh Railroad, Inc., PO Box 336, Warren, PA 16365
Telephone Number: 814-726-3552

17. Railroad representative for contact by the Department's contractor for Railroad Protective Services.
Name: Michael Yaros
Title: Roadmaster
Address: Buffalo & Pittsburgh Railroad, Inc., 201 North Penn Street, PO Box 477, Punxsutawney, PA 15767
Telephone Number: 814-726-3552

Railroad Specifications/Design Standards

18. Does the Railroad have Standard Special provisions that are to be included with the Department's construction bid contract? ☐ Yes ☒No
If "Yes" please indicate where an electronic version can be obtained or attach a copy to this completed form when returned to the District.

(Sheet 3 of 3)