2015

WSDOT Cost Recovery Plan – Materials Laboratory

Baseline Data CY 2013

Washington State Department of Transportation

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Organization 306500

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Section 1

Cost Recovery Plan Summary

Materials Laboratory Cost Recovery Center

MATERIAL LAB CHARTER

The State Materials Laboratory (SML), which includes the Bituminous, Chemical, Electrical, Physical Testing and Soils Laboratories, serves as the central testing laboratory for the Washington State Department of Transportation. These AASHTO Accredited laboratories perform various tests to ensure the materials used meet the appropriate American Society for Testing Materials, American Association of State and Transportation Officials, or Department specifications. The Materials Lab also provides materials testing and research to further the field of transportation and provide new and enhanced solutions for long-lasting and cost-effective design, construction and maintenance.

FUNDING SOURCES AND CUSTOMER BASE

The Cost Recovery plan for FY15 is largely unchanged from the FY14 plan. The primary funding sources for the cost recovery center are 59% State, 35% Federal and 6% local with State funds increasing significantly; Federal and Local funds are declining.

Our customer base is 59% I-Program I, P-Program 35%, Local Programs 3% and all others 4%. All are showing slight increases except for Local Programs which dropped sharply in CY 2013.

BILLING METHODOLOGY

Our billing methodology remains unchanged for FY15. The only significant change for FY15 is a cost savings measure to reassign a portion of non-capitalized testing equipment from TEF to the materials labs. The rationale and methodology are explained in detail below.

COST RECOVERY RATES

Although individual Cost Recovery Rates will fluctuate in FY15 due to fluctuations in equipment rental rates and usage levels, the change in the weighted mean for all rates is a net-zero. In short, anticipated increases in the cost of labor will be offset by decreases in the cost of Travel, Equipment, and overhead; and by an anticipated increase in hours billed for FY15.

PROPOSED BUDGET

The Mats Lab's proposed FY 2015 budget is $21.8 million: up $523K from the $21.3 million authorized for FY 2014. The cost of labor and the addition of one "direct charge" FTE are the primary budget drivers. Allocations for FY15 are reduced in almost every other category.

ALLOWABLE COSTS

Labor accounts for approximately 81% of Mats Lab expenditures; Equipment and Travel constitute 12% and 2% respectively. All other categories of expenditures comprise the remaining 5%. Based on workload estimates, we expect to spend $459K more for Direct Labor, $165K more for Indirect Labor $625K more overall. The increases in labor costs are primarily due to an anticipated 2% cost rate increase. Total FTEs, which includes non-perm labor and overtime, are expected to increase by the equivalent of one "direct charge" FTE only. Non-Labor expenditures are expected to decrease approximately $102K in FY 2015.

RATE DRIVERS

In FY15, the AVERAGE rate will consist of: 50% direct labor, 31% indirect labor, 10% indirect non-labor, and 9% direct travel and equipment charges.

There are offsetting pressures on the FY15 cost recovery rates. Consequently, no overall rate change is currently being recommended for FY15.

Key Drivers on all Rates

Driver	Delta $$	% Rate Chg	$$ Rate Chg
Negative Drivers (rates up)			
Cost rates up 2%	$345,807	1.6%	$1.75
Increase Non-Labor Overhead	$177,029	0.8%	$0.90
Positive Drivers (rates down)			
Increased Direct Charges (Recoveri	-$223,601	-1.0%	-$1.13
Decrease Direct Equipment	-$244,179	-1.1%	-$1.24
Decrease Direct Travel	-$34,924	-0.2%	-$0.18
Net Drivers	$20,131	$0	$0.10

COSTS BILLED

We expect to bill $21.8 million in FY 15 to cover our operating budget. This is up $300K from $21.5 million in CY 13. We split Costs Billed (i.e. Lab Revenue) into four separate Cost Recovery Centers: Construction Materials ($6.9 million), Geotechnical ($7.6 million), Pavement ($1.5 million) and Region Labs ($6 million). This reflects a 5% drop in demand for Construction Materials work and an increase in Geotechnical and Regional Work of 8% and 3% respectively.

The $21.8 in revenue is expected to come from one of four funding sources: Improvement $12.7 million, Preservation $7.7 million, Local Programs $.7 million and Other Programs $.9 million. This is relatively unchanged from FY 14.

FTEs

FTE levels are stable for FY15. We are holding the line at 69.8 indirect FTEs and increasing direct FTEs from 109 to 110 to handle the slight anticipated increase in demand for services.

EQUIPMENT

TEF equipment rates will fluctuate on an individual basis but overall remain relatively stable for FY15. The same may be said for equipment utilization rates. Changes in either can affect individual rates up or down. As stated, overall rates will remain unchanged for FY 2015.

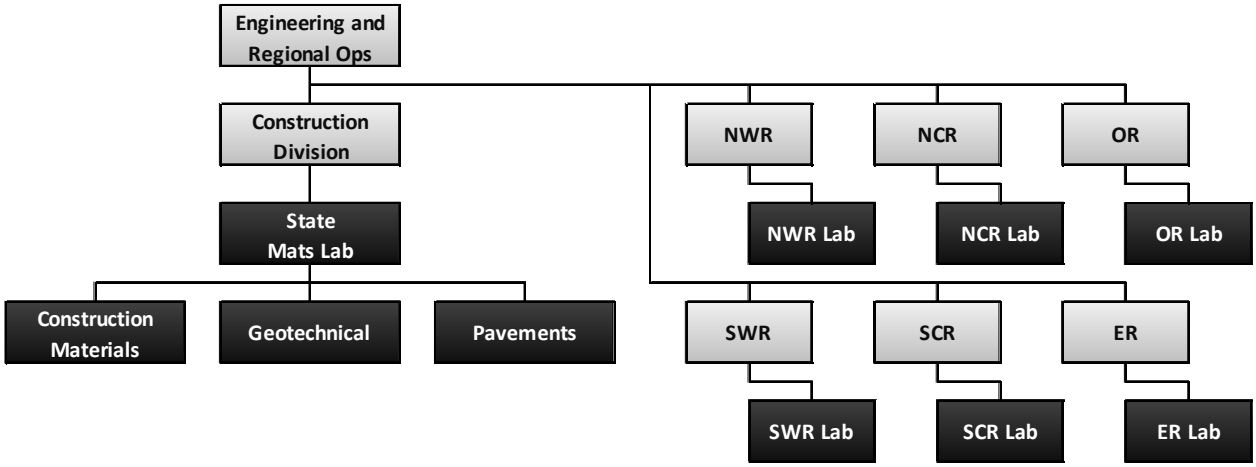
OVERSIGHT

In FY 15, we will incorporate specific guidelines for Cost Recovery Center Oversight which will clarify the process for reviewing expenditures, rates, potential inefficiencies, and under/over recovery balances. The Guidelines also clarify the procedures for rate adjustments and over/under billing reconciliation.

Section 2

Organization Chart

Materials Laboratory



The HQ-based State Materials Lab is headed by the State Construction Engineer and comprised of three revenue centers: 1) Construction Materials, headed by the State Materials Engineer, 2) Geotechnical, headed by the State Geological Engineer and 3) Pavements, headed by the State Pavement Engineer. The State Materials Lab comprises about 76% of WSDOT's materials lab assets. The remaining 24% is divided among six smaller "Region Materials Labs" that perform a relatively narrow scope of work in proximity to construction projects. These labs are region assets and the Region Materials Engineers who head them report to their respective Region Administrators. The decentralized reporting structure notwithstanding, cost recovery rates and operating budgets are developed managed at the State Lab. The ongoing effort to develop and implement cost savings measures are almost always done in collaboration with the region materials labs.

Section 3

Billing Methodology

Materials Laboratory

Introduction

Cost recovery rates for Materials Lab Testing and Services are developed in two phases:

- Creation of *schedules*, which include common factors and calculations, and
- Computation of *rates*, which combine the various schedules to form the final cost recovery charges.

This submission for cost recovery rates evaluated as of January 30, 2014, derives the schedules schematically and presents the format for the rate calculations.

The overall schedule and rate structure is unchanged from the previous submittal. In the discussion which follows, the rationale for the calculations will be presented and the sources of the particular information will be identified.

These cost recovery rates apply to all organizations within the State Materials Laboratory and to the six Region Labs. Within this consolidated organization, many common tasks or activities are performed with different grade levels of staff depending on the available personnel within the organization. A major functional element is the weighted labor matrix for each activity. The information for this matrix is provided by analysis of each organization based on its own history and practices. From this combination, a weighted labor rate is computed. This weighted rate combined with other elements from the schedules forms the final cost recovery rate.

Summary of Cost Recovery Rates

Cost recovery rates are computed for each of a number of identified activities in the consolidated materials organization. Some of these activities are performed at the State and Region Labs; others are performed at the State or the Region Labs, but not both.

There is a summary of the numerical designations of the various activities and the work involved for reference at the end of this section. Regardless of location, the basic structure is comprised of the weighted labor rate for the activity together with the appropriate overhead and/or equipment cost factors. *Three elements are common to all rates: the weighted labor cost, the non-chargeable labor cost, and the non-labor overhead cost.*

The weighted labor cost for each activity is determined using a “labor rate matrix” that combines the staff level and classes used for each activity, wherever they are performed. This weighted labor cost is unique for each activity, even though it may vary by only a minor amount from another activity. The non-chargeable labor cost is the same for all activities and is itself, derived from a labor rate matrix combining all the overhead personnel for the materials organization. The non-labor overhead is also the same for all activities and is based on the computed

overhead items other than labor which support the total Materials organization. In compiling the various cost recovery rates, the first three items, then, are the same throughout:

- Weighted (Direct) Labor Cost
- Non-chargeable (Indirect) Labor Costs (Schedule 1)
- Non-labor (Indirect) Overhead Cost (Schedule 2)

A significant number of the cost recovery rates are comprised of only these three elements. The actual rates, however, vary because the labor rate matrix which determines the labor cost is specific for each category of service provided.

The cost recovery rates which contain only these three elements shown in the table below:

Rates Comprised Solely Of Direct and Indirect Labor and Overhead

Rate Code	Service Provided and Additive
R-2	Drafting and Data Analysis (including GIS)
R-3	Analysis, Reporting and Review
R-5	Materials Inspection, Region
R-6R	Prestress Inspection, Region
R-6	Prestress Inspection, Service Center, No Travel
R-7	Assurance Sampling and Inspection
R-8	Plant Inspection, Production, PCC & ACP
R-8P	Plant Inspection, Preliminary, PCC & ACP
R-9	Equipment Inventory and Repair
R-10	Geotechnical Fieldwork
R-11	Field Investigation (without Equipment)
R-12	Membrane Resistivity, Soil pH & Resistivity
R-16	Traffic control
R-21	Geotechnical and Engineering Review
R-26	Pavement Rating

A second group of rates adds to the three initial elements of direct labor, indirect labor and overhead, two new elements to recover equipment and/or travel costs associated with the service provided. This second group, shown in the table below, references the applicable Travel and Equipment cost schedules.

Rates Which Include a Direct Charge for Travel and/or Equipment

Rate Code	Service Provided and Additive
R-1	Laboratory Testing, HQ and Region, Equipment Cost (Schedule 18)
R-4	Materials Inspection, HQ, No Travel Vehicle Assigned Cost (Schedule 6)
R-4T	Materials Inspection, HQ with Travel Subsistence and Lodging (Schedule 4) Vehicle Assigned Cost (Schedule 6)
R-5T	Materials Inspection, Region with Travel Subsistence and Lodging (Schedule 4)
R-6T	Prestress Inspection, HQ, In-State Travel Subsistence and Lodging (Schedule 4) Vehicle Assigned Cost (Schedule 6)
R-6RT	Prestress Inspection, Region with Travel Subsistence and Lodging (Schedule 4)
R-6CSL	Crosshole Sonic Testing Vehicle Assigned Cost (Schedule 6) Equipment Cost (Schedule 15)
R-6CSLT	Crosshole Sonic Testing with travel Subsistence and Lodging (Schedule 4) Vehicle Assigned Cost (Schedule 6) Equipment Cost (Schedule 15)
R-8NWR	Plant Inspection with trailer, one operator Cost for Plant Inspection, NWR (Schedule 17)
R-8NWR2	Plant Inspection with trailer, two operators Cost for Plant Inspection, NWR (Schedule 17)
R-15P(1)	Pavement Coring, Single Operator Drill (Schedule 10)
R-15P(2)	Pavement Coring, Two Operators Core Drill (Schedule 10)
R-17P(1)	Pavement Roughness Testing, Profilometer, Single Operator Equipment Operated Cost (Schedule 12)
R-17NTP(1)	Pavement Roughness Testing, Profilometer Operator, No Travel Operated Cost (Sched12)
R-17P(2)	Pavement Roughness Testing, Profilometer, Double Operator Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule 12)
R-17NTP(2)	Pavement Roughness Testing, Profilometer, Double Operator, No Travel Equipment Operated Cost (Schedule 12)
R-18	Pavement Friction Testing Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule14)
R-18NT	Pavement Friction Testing, No Travel Equipment Operated Cost (Schedule14)
R-18SONT	Pavement Friction Testing, Single Operator, No travel Equipment Operated Cost (Schedule 14)
R-18WT	Pavement Friction Testing, Single Operator, Travel Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule 14)
R-20	Deflection Testing Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule 13)
R-20NT	Deflection Testing Equipment Operated Cost (Schedule 13)

The 3rd and final group of rates is the "R-23" series used for drilling activities. The series combines the use of equipment in various configurations, both with and without travel (subsistence and lodging). Travel costs for drilling services are calculated using a 4-day, 10-hour work week (schedule 4b).

Summary of Labor Activities Associated With Individual Rates

R-1	Lab Testing - Sample determinations made in Region or Headquarters Lab. Performed by regular testing personnel including section head and supervisor. May include sample tests performed by progress sampler or Region Fabrication Inspector where no test report is issued.
R-2	Drafting and Data Analysis - Preparation of graphic material or computation of numerical data directly performed by the individual to include lab supervisors or lab technicians or drafters.
R-3	Analysis, Reporting and Review - Engineering analysis and review including preparation of engineering and Geotechnical reports, review of engineering plans and specifications, interpreting and analyzing field data. Performed generally by engineering personnel, section heads supervisors, Materials Engineer, and their principal assistants. May involve either office or field work and includes preparation and presentation of training. Also includes acceptance certification and review and Materials Engineer's and Section Head's activities in directing and performing field tests and studies.
R-4	Materials Inspection (Headquarters) No Travel - In plant or onsite inspection of fabricated materials by personnel of the Service Center inspection organization. Made within the local area not requiring overnight travel.
R-4T	Materials Inspection (Headquarters) Travel - Inspection as for rate R-4 but involving reimbursed overnight travel either in-state or out-of -state.
R-5	Materials Inspection (Region) - Inspection of Materials for acceptance by the Region Fabrication Inspector. Typically involves in-plant pre-cast or warehouse sampling.
R-5T	Materials Inspection (Region), Travel - Inspection as for rate R-5 but involving reimbursed overnight travel.
R-6R	Prestress Inspection- Inspection of pre-stressed concrete products during fabrication. Performed by an inspector assigned to a Region Materials Organization.
R-6RT	Prestress Inspection, Travel- Inspection as for rate R-6 but involving reimbursed overnight travel.
R-6	Prestress Inspection (Headquarters) No Travel - Inspection of pre-stressed concrete products by the staff of the HQ Fabrication Inspection section within the permanent duty station area.
R-6T	Prestress Inspection with Travel - As above but on travel status.
R-6CSL	Crosshole Sonic Logging - Inspection with CSL equipment of concrete poured shafts.
R-6CSLT	Crosshole Sonic Logging with Travel - As above but on travel status.
R-7	Independent Assurance Inspection and Sampling - Activities of the Region Independent Assurance Inspector and assistants in conducting the independent assurance sampling and inspection duties set forth by the Construction Manual.
R-8	Plant Inspection, Production PCC and ACP - Inspection at an asphalt or concrete plant for work assigned to a specific contract. This type work would replace an inspection directly responsible to a specific project engineer.
R-8P	Plant Inspection, Preliminary PCC and ACP - Inspection of a Concrete or asphalt plant for qualification of the facility for acceptance for state work. Does not involve sampling and testing of materials during production.
R-8NWR	Plant Inspection with Trailer, one operator-Provide acceptance for HMA at paver's asphalt plant with one tester.
R-8NWR2	Plant Inspection with Trailer, two operators - Same as above except with two testers.

R-9	Equipment Maintenance and Repair - Self-explanatory, may be chargeable directly to a construction project in the case of excessive or unusual damage or calibration. May also be chargeable to TEF through a specific equipment number with concurrence from Equipment Supt. Lab Testing equipment excluded.
R-10	Geotechnical Fieldwork - Field reading observation or test of a Geotechnical nature made by Technical level personnel.
R-11	Field Soils Investigation without Equipment - Inspection, evaluation and/or hand sampling for a soils or pavement investigation by technician personnel.
R-12	Membrane Resistivity, Soil pH, Soil Resistivity - Self-explanatory.
R-15P(1)	Pavement Coring, Single Operator - Inspection, evaluation and sampling requiring core drilling to obtain samples and/or data.
R-15P(2)	Pavement Coring, Two Operators – Same as above except with two operators.
R-16	Traffic Control - Flagging and sign erection connected with other activities such as chloride sampling, pavement coring, drilling, or FWD operation.
R-17P2	Pavement Roughness Testing, Video/Profiler (Double Operator) - Performed by Headquarters Pavement section using the video/ profiler unit either pre-and post-construction or statewide inventory.
R-17P2NT	Pavement Roughness Testing, Video/Profiler (Double Operator) No Travel - Same as above except no travel.
R-17P1	Pavement Roughness Testing Video/Profiler(Single Operator) - Same as above
R-17P1NT	Pavement Roughness Testing, Video/Profiler, (Single Operator.) No Travel - Same as above, except no travel.
R-18WT	Pavement Friction Testing - Operation of friction test vehicle by HQ Pavement section either pre - and post- construction or statewide inventory.
R18NT	Pavement Friction Testing, No, Travel – Same as above except no travel.
R-18SOWT	Pavement Friction Testing, Single Operator, with Travel – Same as above except with single operator.
R-18SONT	Pavement Friction Testing, Single Operator, No Travel – Same as above but no travel.
R-20	Deflection Testing - Pavement investigation using a Falling Weight Deflectometer (FWD).
R-20NT	Deflection Testing, No Travel – Same as above except no travel.
R-21	Geotechnical and Engineering Review - Technical evaluation and study by the Region Materials Engineer and Assistant involving complex study and technical details.
R-23	Drilling and Exploration Rates - Varies according to the combination of, series personnel, and travel status.
R-26	Pavement Rating – Rating the condition of the pavement surface from digital images from the Pavement Condition Collection Van.

Section 4

Schedule of Proposed Rates

Materials Laboratory

The Schedule of Proposed Rates below compares FY14 rates with rates proposed for FY15. Changes up or down by 5% or more are explained in the far right column. Changes to individual rates may be caused by fluctuations in individual TEF equipment rates, equipment utilization rates, and or a change in the mix of job classifications of individuals performing the activity.

Proposed 2015 Rate Schedule

Activity	Rate	FY 14		FY 15		% Change	Key Drivers
	Derivation	Reg	OT	Reg	OT	Rate	for Increase/Decrease Exceeding 5%
Lab Testing	R-1	108.92	121.53	108.24	120.07	-1%	
Geotechnical Fieldwork	R-10	96.11	110.86	97.22	110.34	1%	
Field Soils Investigation w/o Equip	R-11	100.27	110.88	102.87	116.41	3%	
Soil ph & Resis	R-12	98.72	114.75	102.11	118.26	3%	
Pavement Coring, Single Operator	R-15P1	135.76	150.69	124.93	138.99	-8%	Equipment usage level up
Pavement Coring, Two Operators	R-15P2	116.14	131.07	111.19	125.25	-4%	
Traffic Control	R-16	90.60	102.64	90.63	101.61	0%	
Pavement Roughness Testing	R-17P1	300.14	312.64	231.02	243.03	-23%	Equip rate reduction due to depreciated van
Pavement Roughness Testing, No Travel	R-17P1NT	287.67	300.17	218.19	230.21	-24%	Equip rate reduction due to depreciated van
Pavement Roughness Testing, Two Operators	R-17P2	202.06	214.56	168.39	180.40	-17%	Equip rate reduction due to depreciated van
Pavement Roughness Testing, Two Operators, No Travel	R-17P2NT	189.59	202.09	155.56	167.58	-18%	Equip rate reduction due to depreciated van
Pavement Friction Testing, Two Operators, with Travel	R-18	120.78	131.11	141.99	152.08	18%	Equipment rate up, Usage level down.
Pavement Friction Testing, Two Operators, No Travel	R-18NT	108.31	118.64	129.16	139.26	19%	Equipment rate up, Usage level down.
Pavement Friction Testing, Single Operator, No Travel	R-18SONT	129.53	139.86	169.66	179.76	31%	Equipment rate up, Usage level down.
Pavement Friction Testing, Single Operator, with Travel	R-18SOWT	142.00	152.33	182.49	192.58	29%	Equipment rate up, Usage level down.
Drafting and Data Analysis	R-2	94.24	108.05	98.64	113.21	5%	Change in mix to direct labor component
Deflection Testing	R-20	169.78	188.75	170.49	188.62	0%	
Deflection Testing, No Travel	R-20NT	157.31	176.28	157.67	175.79	0%	
Geotechnical & Engineering Review	R-21	112.17	113.32	113.46	114.56	1%	
Pavement Rating	R-26	89.59	101.15	92.11	103.76	3%	
Analysis, Reporting, and Review	R-3	109.51	118.96	109.61	118.43	0%	
Analysis, Reporting, and Review	R-3/2	54.76	59.48	54.80	59.22	0%	
Analysis, Reporting, and Review	R-3NB	41.95	41.95	41.91	41.91	0%	
Analysis, Reporting, and Review	R-3NW	50.67	50.67	50.74	50.74	0%	
Analysis, Reporting, and Review	R-3X2	219.02	237.92	219.21	236.86	0%	
Analysis, Reporting, and Review	R-3X5	547.56	594.81	548.03	592.16	0%	
Materials Inspection, HQ , No Travel	R-4	108.76	116.96	111.62	119.27	3%	
Materials Inspection, HQ, w/Travel	R-4T	121.23	129.43	124.45	132.09	3%	
Materials Inspection, Region	R-5	103.46	121.43	104.41	121.38	1%	
Materials Inspection, Region W/travel	R-5T	115.93	133.90	117.24	134.21	1%	
Prestress Inspection, HQ, No Travel,	R-6	98.01	113.61	100.60	115.98	3%	
Crosshole Sonic Testing	R-6CSL	112.54	127.44	122.49	136.58	9%	Equipment rate up, Usage level down.
Crosshole Sonic Testing with travel	R-6CSLT	125.01	139.91	135.32	149.41	8%	Equipment rate up, Usage level down.
Prestress Insp., HQ, In-State Travel,	R-6T	110.48	126.08	113.43	128.80	3%	
Assurance Inspection and Sampling	R-7	100.22	116.96	101.14	116.87	1%	
Plant Inspection, Production	R-8	98.51	114.45	95.45	108.59	-3%	
Plant Insp w/trailer, one operator	R-8NW	150.71	164.07	152.98	165.48	2%	
Plant Insp w/trailer, two operators	R-8NW2	121.98	135.34	123.49	135.99	1%	
Plant Insp., Preliminary, PCC & ACP	R-8P	100.74	117.76	97.53	111.61	-3%	
Equipment Inventory and Repair	R-9	95.58	110.08	96.69	110.41	1%	

Drilling Rate Summary and Comparison

Proposed 2015 Rate Schedule

Activity	Rate Derivation	FY 14 Reg	FY 14 OT	FY 15 Reg	FY 15 OT	% Change Rate	Key Drivers for Increase/Decrease Exceeding 5%
Test Drilling, No Travel, Truck Mounted Drill	R-23NT-01	128.48	141.76	124.19	136.55	-3%	
Test Drilling, No Travel, Heavy Duty Drill	R23NT-02	120.95	134.22	116.07	128.43	-4%	
Test Drilling, No Travel, Dutch Cone	R23NT-03	149.68	162.96	169.68	182.04	13%	Equipment rate up, Usage level down.
Test Drilling, No Travel, Skid Drill	R23NT-04	122.56	135.84	118.21	130.57	-4%	
Test Drilling, No Travel, Skid Drill - Water	R-23NT-05	124.11	137.39	125.75	138.10	1%	
Test Drilling, No Travel, Drilling Inspector	R-23NT-06	94.14	107.42	94.63	106.99	1%	
Test Drilling, No Travel, Field Exploration Supervisor	R-23NT-07	98.73	112.01	98.28	110.64	0%	
Test Drilling, No Travel, Extra Person on Crew	R-23NT-08	94.14	107.42	94.63	106.99	1%	
Test Drilling, with Travel, Truck Mounted Drill	R-23WT-01	140.95	154.23	137.01	149.37	-3%	
Test Drilling, with Travel, Heavy Duty Drill	R-23WT-02	133.42	146.69	128.90	141.25	-3%	
Test Drilling, with Travel, Dutch Cone	R-23WT-03	162.15	175.43	182.50	194.86	13%	Equipment rate up, Usage level down.
Test Drilling, with Travel, Skid Drill	R23WT-04	135.03	148.31	131.03	143.39	-3%	
Test Drilling, with Travel, Skid Drill - Water	R23WT-05	136.58	149.86	138.57	150.93	1%	
Test Drilling, with Travel, Drilling Inspector	R23WT-06	106.61	119.89	107.46	119.81	1%	
Test Drilling, with Travel, Field Exploration Supervisor	R23WT-07	111.20	124.48	111.10	123.46	0%	
Test Drilling, with Travel, Extra Person on Crew	R23WT-08	106.61	119.89	107.46	119.81	1%	

The overall rate-change percentage is calculated by applying the individual rate changes based on their proportionate share of the total. While individual rates fluctuate up or down slightly, we do not currently recommend an overall rate adjustment for FY 15.

Approximate Weighted Mean Rate Change

Most Representative Rates		% Chg	FTEs	Mtplr	Extension
Lab Testing	R-1	-0.6%	22.0	20%	0%
Drafting and Data Analysis	R-2	4.7%	5.0	5%	0%
Analysis, Reporting, and Review	R-3	0.1%	33.2	30%	0%
Materials Inspection, HQ , No Travel	R-4	2.6%	10.2	9%	0%
Materials Inspection, Region	R-5	0.9%	0.8	1%	.0%
Prestress Inspection, HQ, No Travel,	R-6	2.6%	0.7	1%	.0%
Assurance Inspection and Sampling	R-7	0.9%	4.3	4%	.0%
Plant Inspection, Production	R-8	-3.1%	1.0	1%	.0%
Equipment Inventory and Repair	R-9	1.2%	0.1	0%	.0%
Geotechnical Fieldwork	R-10	1.2%	1.7	2%	.0%
Field Soils Investigation w/o Equip	R-11	2.6%	1.0	1%	.0%
Soil ph & Resis	R-12	3.4%	0.0	0%	.0%
Pavement Coring	R-15	-4.3%	1.2	1%	.0%
Traffic Control	R-16	0.0%	1.7	2%	.0%
Pavement Roughness Testing	R-17	-17.9%	1.6	1%	-.3%
Pavement Friction Testing	R-18	17.6%	0.6	1%	.1%
Deflection Testing	R-20	0.4%	0.0	0%	.0%
Geotechnical & Engineering Review	R-21	1.2%	0.3	0%	.0%
Test Drilling, with Travel, Skid Drill	R-23	-3.0%	17.3	16%	-.5%
Pavement Rating	R-26	2.8%	1.3	1%	.0%
Aggregate Rate Adjustment			110.33		**0%**

Section 5

Total Revenues to Allowable Costs Analysis

Materials Laboratory

Funding Sources & Customer Base

Materials Lab operations are funded with State, Federal and Local dollars. While the local funding source is small by comparison, $1.4 million recovered in CY 2013, it creates additional revenue for the Department and reduces the cost of Mats Lab services to WSDOT projects.

Material Lab Funding Sources

	CY 12		CY 13		Delta	
Source	Recoveries	Percentage	Recoveries	Percentage	Recoveries	Percentage
State	10,876,060	53%	13,097,137	59%	2,221,077	6%
Federal	7,864,752	39%	7,673,496	35%	-191,255	-4%
Local	1,610,468	8%	1,402,847	6%	-207,621	-2%
Total	20,351,279	100%	22,173,480	100%	1,822,201	0%

The vast majority of work performed at the Mats Labs support the Department's Improvement (I) and Preservation (P) programs. In CY 13, we observed a slight increase in recoveries and hours charged in both programs. The local program customer base dropped significantly in CY 13 which is indicative of increasingly scarce funds in the municipalities.

Material Lab Customer Base (Recoveries)

	%	CY12	%	CY 13	%	Delta
By Program	Total	Expenditure	Total	Expenditure	Change	Expenditure
Improvement	57%	$ 11,634,786	59%	$ 13,006,766	2%	$ 1,371,980
Preservation	32%	$ 6,609,067	34%	$ 7,474,116	2%	$ 865,049
Local Programs	7%	$ 1,471,758	3%	$ 755,820	-4%	$ (715,938)
Other	3%	$ 635,669	4%	$ 936,779	1%	$ 301,110
Total	100%	$ 20,351,279		$ 22,173,480		$ 1,822,201

Increases in recoveries for CY 13 were not due to higher demand for services. Increases were due to:

- A 6% rate increase effective January 1, 2013 to avoid an end-of-biennium under-recovery situation, and;
- Termination of the TSRA as of July 1, 2013, leading to higher labor costs for the last six months of the year.

Hours direct charged by local municipalities declined by 8,241 between CY12 and CY 13. This decline was largely offset by increases in I, P and other programs resulting in a net decrease of 3,757 in chargeable hours.

Material Lab Customer Base (Hours Billed)

	%	CY12	%	CY 13	%	Delta
By Program	Total	Hours	Total	Hours	Change	Hours
Improvement	57%	115,831	59%	117,678	2%	1,848
Preservation	32%	65,028	34%	67,815	2%	2,787
Local Programs	7%	14,225	3%	5,984	-4%	-8,241
Other	3%	6,096	4%	7,978	1%	1,882
Total	100%	203,212	100%	199,455		-3,757

Changes in Demand for Services

The Mats Lab cannot influence the volume of testing and engineering services demanded. We do, however, attempt to balance the business objective of operating "lean" with that of maintaining capacity to meet peak demand. We accomplish this by cross org charging staff during the slow season and using overtime and project staff strategically during the construction season.

The table below illustrates some the changes in the top five recovery sources within the I-Program. SR520/Medina to SR522 continued as our number one customer and the Columbia River Crossing Project is noticeably missing from the CY 2013 list. In short, demand for Mats Lab Services remains strong: total recoveries for our largest Program-I customers increased 20% between CY 12 and CY 13.

Changes in Top Five I-Program Customers for CY13

CY 2012	Dollars	CY 2013	Dollars
Sr520/Medina To Sr202 - Transit And Hov	$832,180	Sr520/Medina To Sr202 - Transit And Hov	$1,050,530
Columbia River Crossing Project- Vancouver	$714,539	I-90/Snowshed To Keechelus Dam Phase 1c-Replace Snowshed	$941,528
I-90/Snowshed To Keechelus Dam Phase 1c-Replace Snowshed	$581,597	I-405/Ne 6th St To I-5 Widening & Express Toll Lanes	$703,001
I-90/Keechelus Dam Vicinity-Build Wildlife Bridge/Add Lanes	$577,747	I-5/M St To Portland Ave - Hov	$612,142
I-5/Sr 16/Eb Nalley Valley - Hov	$478,763	Sr 99/Tunnel Alternative, Tunnel Design Build	$510,554
Total	3,184,825		3,817,755

Workload Projection Assumptions

Although the Materials Lab's workload correlates strongly with the I & P programs, in any given year there are independent variables that influence our workload. Modest declines are expected in the Construction Materials section due to a decline in demand for Fabrication Inspection and Documentation Services. This is offset by slight uptick in services demanded for the Geotechnical and Pavement section and a significant increase in the Regions.

Workload Assumptions (Direct Charged FTEs)

	FY14 Allocation	FY15 Allocation	Delta	% Delta
State Material Lab				
Construction Materials	38.5	34.6	-4	-10%
Geotechnical	37.3	38.1	1	2%
Pavements	6.9	7.5	1	9%
Subtotal	82.7	80.3	-2	-3%
Region Labs	26.5	30.0	4	13%
Total	109.2	110.3	1	1%

Recoveries by Revenue Center

	FY14 Allocations	FY15 Allocation	Delta	% Delta
State Material Lab				
Construction Materials	$7,525,916	$6,859,166	-666,750	-9%
Geotechnical	$7,287,770	$7,553,321	265,551	4%
Pavements	$1,342,845	$1,489,909	147,064	11%
Subtotal	$16.156.530	$15.902.395	-254,135	-2%
Region Labs	$5,170,638	$5,947,356	776,718	15%
Total	$21,327,169	$21,849,752	522,583	2%

Summary of Planned Expenditures

To date in FY 2014, Labor has accounted for approximately 81% of Mats Lab expenditures; Equipment and Travel has constituted 12% and 2% respectively. All other categories of expenditures have made up the remaining 5%.

Labor

According to workload estimates, we expect to spend $459K more for Direct Labor, $165K more for Indirect Labor and $625 more overall. The increases in labor costs are primarily due to anticipated cost rate increases. Total FTEs, which includes non-perm labor and overtime, are expected to increase by one "direct charge" FTE only.

Labor Expenditures

	FY14 Allocation	FY15 Allocation	Delta	% Delta
Hours				
Direct	195,451	197,484	2,033	1%
Indirect	125,174	124,985	-189	0%
Total	320,625	322,469	1,844	1%
FTEs				
Direct	109.2	110.3	1	1%
Indirect	69.9	69.8	0	0%
Total	179.1	180.2	1	1%
Average Cost Rate				
Hourly	$ 53.32	$ 54.39	$ 1.07	2%
Annual Expenditure				
Direct	10,420,973	10,880,001	459,029	4%
Indirect	6,673,981	6,839,609	165,628	2%
Total	17,094,953	17,719,610	624,657	4%

FTE Breakdown

The FTE breakdown was summarized using the Labor Rate Analysis forms submitted by the Regions and HQ Sections in December, 2013. Data is displayed by Region and HQ for total, Non-chargeable, and Direct-charge FTE's.

Total FTEs engaged in production work which includes testing, analysis, reporting, review, drafting, data analysis, source approval, materials inspection, and test drilling is 110. Note that the correction for conservative bias in our FY15 workload estimates effectively moves 10.5 FTEs from "Overhead" to "Direct Charge" status. In the three years since we began correcting for the persistent conservative bias in our workload estimates our cost recovery estimates have become much more accurate.

Distribution of FTES

Region FTEs	Region FTEs	Region OH	Region Direct	HQ FTEs	HQ OH	HQ Direct	Total FTEs	Total OH	Total Direct
Initial Estimate	50.2	22.4	27.8	130.0	53.8	76.2	180.2	76.2	104.0
Bias Correction	0.0	-2.2	2.2	0.0	-4.1	4.1	0.0	-6.4	6.4
Adjusted Estimate	50.2	20.2	30.0	130.0	49.7	80.3	180.2	69.8	110.3

Non Labor

Non Labor expenditures are expected to decrease approximately $102K in FY 2015.

Non Labor Expenditures

	FY14 Allocation	FY15 Allocation	Delta	% Delta
Non-Labor Direct				
Equipment	1,643,359	1,399,180	-244,179	-15%
Travel	444,167	409,243	-34,924	-8%
Subtotal	2,087,526	1,808,423	-279,103	-13%
Non-Labor Indirect				
Recurring	2,056,430	2,296,718	240,288	12%
Non-Recurring	88,259	25,000	-63,259	28%
Subtotal	2,144,689	2,321,718	177,029	8%
Total	4,232,215	4,130,141	-102,074	-2%

Line Item Adjustments in the Non-Labor Expenditures

We backed out approximately ($104K) from our FY14 baseline for discontinued expenditures and added $224 for new expenditures in FY15. The most significant change for FY15 is the reassigning of a significant portion of non-capitalized lab testing equipment from the Tranportation Equipment Fund (TEF) to the individial labs. This change is intended to save WSDOT equipment lease charges by allowing the using organization decide what equipment to replace and on what schedule (see explanation below).

Line Item Adjustments

Reductions to Baseline	Increases to Baseline	Obj Code	FY 15 Line Item Adjustments	FY 15 Non Recurring
Phase 2 Renovation Project				
Supplies		EA	$ (2,750)	
Purchased Services		ER	$ (21,000)	
Fire Protection		EZ	$ (5,800)	
Archetectural Fees		JK	$ (21,709)	
Contract Employee Charges		ER	$ (37,000)	
Building Repair		EF	$ (7,788)	
Employee Settlement		EN	$ (7,747)	
Total Reductions			**$ (103,794)**	
	WDXRF Maintenace Contract	ER	$ 17,745	
	Building Weatherization/Maintenance	JF	$ 25,000	$ 25,000
	Non-Cap Testing Equipment Purchases (80% of Leases)	JA	$ 181,218	
	Total Increases		**$ 223,963**	**$ 25,000**
Net Adjustments for FY 2015			**$ 120,169**	**$ 25,000**

Summary of Costs Billed

Comparison with Prior Year

We expect the summary of costs billed to track fairly closely with the demand for Mats Lab services.

Costs Billed by Revenue Center

	CY13 Actuals	FY15 Allocation	Delta	% Delta	Comment
State Material Lab					
Construction Materials	$7,219,171	$6,859,166	-360,005	-5%	Doc Charges/Fab Insp.
Geotechnical	$6,989,383	$7,553,321	563,938	8%	Fish Passages
Pavements	$1,551,069	$1,489,909	-61,160	-4%	Research Dollars
Subtotal	$15,759,622	$15,902,395	142,773	1%	
Region Labs	$5,763,847	$5,947,356	183,509	3%	Various Factors
Total	$21,523,469	$21,849,752	326,282	2%	

Costs Billed to Customer

By Program	% Total	CY 13 Expenditure	% Total	FY 15 Est. Expenditure	% Change	Delta Expenditure
Improvement	59%	$ 13,006,766	58%	$ 12,672,856	-1%	$ (333,910)
Preservation	34%	$ 7,474,116	35%	$ 7,647,413	1%	$ 173,297
Local Programs	3%	$ 755,820	3%	$ 655,493	0%	$ (100,327)
Other	4%	$ 936,779	4%	$ 873,990	0%	$ (62,789)
Total		$ 22,173,480		$ 21,849,752		$ (323,728)

COST RECOVERY CENTER BUDGET FOR 2015

The Mats Lab's proposed FY 2015 budget is $21.8 million: up $539K from the $21.3 million authorized for FY 2014. The cost of labor is the primary budget driver. Allocations for FY15 are reduced in most other categories.

Proposed FY 2015 Budget

Obj Code	Description	Direct	Indirect	Total
BE	Allowances		7,209	7,209
EA	Supplies and Materials		399,963	399,963
EB	Communications		87,551	87,551
EC	Utilities		202,597	202,597
EE	Repairs, Alterations and Maintenance		29,950	29,950
EF	Printing Services		2,194	2,194
EG	Employee Prof Development & Training		45,798	45,798
EH	Rents, Leases, Furn, Equip, & Software	1,533,102	574,155	2,107,257
EJ	Subscriptions		286	286
EP	Insurance		46,987	46,987
ER	Purchased Services		157,527	157,527
ES	Vehicle Maint & Operating Costs		6,676	6,676
EY	Sofware Maint & Leases		127,214	127,214
EZ	Other Goods and Services		17,233	17,233
GA	In-State Subsistence and Lodging	370,405	32,403	402,808
GB	In-State Air Transportation		4,329	4,329
GC	Private Automobile Mileage		1,760	1,760
GD	Other Travel Expenses		9,206	9,206
GF	Out-of-State Subsistence and Lodging	38,838	8,300	47,139
GG	Out-of State Air Transportation		3,215	3,215
GN	Motor Pool Services	92,600	82,275	174,875
JA	Non Capitalized Assets		230,357	230,357
JB	Minor Cap IT		51	51
JC	Furnishings, Equipment and Software		25,339	25,339
JG	Highway Construction		6	6
TA10	Wages-Overtime	812,789		812,789
TA11	Wages-Regular	10,066,094	6,839,609	16,905,703
TA13	Wages-Penalty	1,118		1,118
TE76	Goods and Services		9,083	9,083
TOTAL		**$ 12,914,947**	**$ 8,951,269**	**$ 21,866,216**

Proposed Change in Methodology for 2015

Reassignment of Non-Capitalized Equipment from TEF to Materials Labs

RECOMMENDATION

The State Materials Lab has proposed that TEF transfer ownership of approximately $1.2 million in non-capitalized equipment with annual lease costs of $260,000 to the Materials Labs on July 1, 2014, subject to FHWA approval of this cost recovery plan.

We believe that we can reduce our net annual lease expenditures by 20%- 25% by assuming responsibility for the maintenance, repair and replacement of this equipment. Mats Lab assumes an estimated net annual savings to the Department in the range of $40 - $60 thousand, excluding potential administrative savings. Mats Lab estimates a net-zero impact to TEF with this change. While the leases for the reassigned equipment will be discontinued, so will TEFs responsibility for its maintenance, repair and replacement.

MATERIALS LAB ASSUMPTIONS

1) Materials Laboratories can use cost recoveries with Federal participation to replace non-capitalized equipment because it is not depreciated. (Note that this is not the case with capitalized equipment.)
2) Equipment will be replaced only when it is no longer functional, therefore extending useful life.
3) Laboratory Managers will have maximum flexibility as to when, where, and what equipment to replace.
4) There will be no restrictions on substitution of equipment.
5) Each materials laboratory will be allocated a budget. Each will have a vested interest to manage and maintain their equipment. The end result would be the extension of useful life for equipment owned by them.
6) The State lab has staff proficient in equipment repair. Use of this resource will lessen the need to rely on expensive external repair services.
7) The Minor Capital inventory system can be used effectively to track and account for the reassigned testing equipment.

BACKGROUND

According to the TEF inventory system, the Materials Laboratories across the state use approximately $4.3 million in laboratory equipment ($1.8M capitalized /$2.5M non-capitalized).

Materials Laboratories lease this equipment from TEF. TEF lease rates are based on a set of suppositions about operating costs, expected life of the unit, and replacement cost of non-capitalized equipment. *While leasing is effective for high-dollar capital equipment, it is less practical for low-dollar non-capitalized equipment*.

RATIONALE FOR RECOMMENDATION:

The variability of equipment usage rates across the state makes it impractical to assign a single replacement cycle that is optimal for all labs. The supervisors who use this equipment daily are in the best position to determine when a piece of equipment should be repaired, replaced or surplussed.

We will limit the TEF subclasses to be transferred to those with inventory values well below the $5,000 limit; this overcomes the concern about using cost recoveries, which contain Federal dollars, to replace the equipment when it is fully spent.

Our plan is to allot a budget to each lab that is approximately equal to 75% - 80% of the annual amount currently spent for associated TEF leases. The remaining 20% - 25%, which is $52 to $65 thousand, is the estimated annual savings to the Department and will be reflected by reduced budget allocations and lower cost recovery rates beginning in FY2015. We plan to account for this equipment in the Minor Capital system which will give materials laboratories across the state more control and management of their assets.

OVERSIGHT

An oversight team comprised of WSDOT managers from OTEF, Accounting, Purchasing, and Program Management met with the State Materials Engineer and Business Manager to discuss this proposal on December 10. The group reached consensus in support of the plan, providing the following criteria are met:

1) The State Materials Engineer will provide oversight to ensure that equipment purchased regionally meets all test specifications.
2) Funds will be used to replace existing equipment, not to expand inventory or purchase new categories of equipment, unless approved in advance by the State Materials Engineer or designee.
3) The State Materials Engineer, with assistance from the Business Manager will develop and implement a process to:
    a. Ensure that equipment is properly accounted for in the minor cap inventory system and
    b. Guard against “inventory creep”.
4) The Business Manager was instructed to incorporate and highlight these changes in the FY 2014 cost recovery plan to be presented to the Cost Recovery Governance Group/FHWA in January 2014.
5) The State Materials Engineer acknowledged and agreed to all of the terms specified by the oversight team.

WSDOT APROVAL

The plan to reassign non capitalized testing equipment to the materials lab has been internally approved by the Accounting & Finance Service Director and the WSDOT Chief Engineer, subject to FHWA approval of the 2015 cost recovery plan.

ADJUSTMENTS TO BUDGET FOR FY 15

Step 1: Estimate TEF lease rates for ALL non cap testing equipment in FY 2015 ($424,993)

Step 2: Estimate TEF lease rates for non-cap equipment that will remain in TEF ($198,471). The amount remaining is $226,522. *Reduce TEF lease allocation, object code EH15, by $226,522*.

Step 3: Multiply the $226,522 reassigned by 80% ($181,218). *Allocate $181, 218 to material labs under object code JA.* (Individual lab allocations are calculated using the non-cap inventory values for HQ and each region.)

The expectation is a net savings in FY 15 of $45,304 due to the benefits outlined in the plan.

Reassigning Subset of Non-Cap Equipment to the Materials Labs

Non-Cap Equipment Budget for FY15

Lab	2015 Leases Obj EH15	2015 Leases Obj EH15	2015 Budget Obj JA	2015 Combined	Annual Savings
SML	$ 78,874	$ 52,369	$ 21,204	$ 73,573	$ 5,301
NWR	$ 111,083	$ 39,377	$ 57,365	$ 96,741	$ 14,341
NCR	$ 26,385	$ 11,466	$ 11,936	$ 23,401	$ 2,984
OR	$ 62,208	$ 23,212	$ 31,196	$ 54,409	$ 7,799
SWR	$ 56,505	$ 29,638	$ 21,494	$ 51,132	$ 5,373
SCR	$ 44,256	$ 19,919	$ 19,470	$ 39,389	$ 4,867
ER	$ 45,682	$ 22,490	$ 18,554	$ 41,044	$ 4,638
	$ 424,993	**$ 198,471**	**$ 181,218**	**$ 379,689**	**$ 45,304**

Section 6

Analysis of Change in Rates from Prior Plan Year

Materials Laboratory

As stated before, all rates contain three elements: 1) direct labor to cover the employee's time to perform the work, 2) indirect labor to cover a portion of time of employees who are unable to charge their work to specific projects and 3) indirect non-labor for goods and services not attributable to specific tests or services. The indirect charges, both labor and non-labor are charged evenly to ALL the rates and comprise only 10% of the most common hourly rate. Direct labor is also charged to ALL rates however, the amount of direct labor charged to an individual rate varies with the mix of classifications of the employees performing that activity. Currently, the direct labor component ranges from $48.22 to $75.83 per hour. Individual rates may vary from year to year when the mix of classifications for the people performing the service fluctuates.

Certain rates have additional charges for equipment leases and travel. When travel is applied to rates, it is applied uniformly to all the rates which include a travel component. When equipment is applied to rates variability typically exists. Year-to-year variability may be due to fluctuating TEF lease rates OR to changes in the number of hours that a piece of equipment is used, OR both.

In FY15, the AVERAGE rate will consist of: 50% direct labor, 31% indirect labor, 10% indirect non-labor, and 9% direct travel and equipment charges.

Factors that Affect the Rates

Key Drivers to the FY 2015 Rate Changes

There are offsetting pressures on the cost recovery rates and the net effect is that no overall rate change is currently recommended for FY15 at the time of plan submission.

Key Drivers on all Rates

Driver	Delta $$	% Rate Chg	$$ Rate Chg
Negative Drivers (rates up)			
Cost rates up 2%	$345,807	1.6%	$1.75
Increase Non-Labor Overhead	$177,029	0.8%	$0.90
Positive Drivers (rates down)			
Increased Direct Charges (Recoveri	-$223,601	-1.0%	-$1.13
Decrease Direct Equipment	-$244,179	-1.1%	-$1.24
Decrease Direct Travel	-$34,924	-0.2%	-$0.18
Net Drivers	$20,131	$0	$0.10

Section 7

Detail Supporting Schedules

Materials Laboratory

Summary of Schedules

Schedule	Description	FY-14 Rates	FY-15 Rates
1.	Non-chargeable Labor Cost	$ 34.09	$ 35.45
2.	Lab Overhead Cost	$ 10.97	$ 10.69
4b.	Per Diem, 4X10 Workweek	$ 12.23	$ 12.83
6.	Equipment Cost, Personnel Carrying Equipment, Materials Inspection	$ 4.57	$ 4.77
8.	Assigned Cost, Drilling Support Equipment	$ 4.50	$ 3.65
10.	Operated Cost Drilling Equipment Composite Rate		
a.	Truck-Mounted Drill	$ 29.16	$ 25.91
b.	Heavy Duty Drill	$ 21.78	$ 17.79
c.	Dutch Cone	$ 49.95	$ 71.40
d.	Skid Drill	$ 23.36	$ 19.93
e.	Skid Drill, Barge (Water Work)	$ 24.88	$ 21.15
g1.	Standard Core Drill, Single Operator	$ 38.48	$ 27.47
g2.	Standard Core Drill, Two Operators	$ 19.24	$ 13.73
12p1.	Pavement Roughness Measurement, Profilometer, Single Operator	$ 192.31	$ 125.26
12p2.	Pavement Roughness Measurement, Profilometer, Two Operators	$ 96.16	$ 62.63
13.	Operated Cost, Deflectometer Vehicle	$ 50.50	$ 40.50
14a.	Operated Cost Skid Test Truck & Trailer, Single Operator	$ 41.61	$ 20.20
14b.	Operated Cost Skid Test Truck & Trailer, Dual Operator	$ 20.80	$ 50.74
15.	Crosshole Sonic Logging	$ 11.26	$ 41.91
17a.	Plant Inspection, NWR, Single Operator	$ 56.33	$ 58.97
17b.	Plant Inspection, NWR, Dual Operator	$ 28.16	$ 29.49
18	Laboratory Equipment	$ 14.84	$ 13.53

Equipment Rate Summary

Class	Description	FY 2014	FY 2015
01 C 10	Caravan	$ 2.91	$ 2.94
01 C 30	Escape	$ 4.22	$ 3.60
02 C 04	Express	$ 4.46	$ 4.58
02 C 40	Van w/Road Profilometer	$ 28.90	$ 40.71
05 C 08	F250 4x4	$ 6.53	$ 6.50
05 C 08	F350 4x4	$ 6.53	$ 6.50
05 C 11	Colorado	$ 3.60	$ 3.54
05 C 20	F150 4x4	$ 4.57	$ 4.58
05 C 32	2500 Quadcab	$ 5.24	$ 5.31
8-1	Truck and Trailer; Skid Tester	$ 25.51	$ 25.67
8-23	Truck; Flatbed; Single Axle, without Crane	$ 7.51	$ 7.33
8-25	Truck, Flatbed; Tandem Axle, with Crane (currently d-final status)	$ 9.65	$ 9.28
8-53	Boom Truck	$ 12.33	$ 12.33
9-1	Truck, w/Earth Drilling Unit	$ 19.69	$ 19.76
9-2	Drill Unit; Track Mounted	$ 22.83	$ 22.87
9-3	Drill Unit, Trailer Mounted	$ 3.79	$ 4.12
9-4	Drill Unit; Skid Mounted	$ 10.62	$ 10.11
9-7	Drill Unit; Track Mounted	$ 16.59	$ 16.78
9-22	Truck; Drill Unit Support	$ 13.25	$ 12.30
9-30	Truck; Electronic Cone Penetrometer,	$ 7.08	$ 7.14
10-5	Tilt Trailer, 2 Axle, 40,000 Lbs	$ 1.95	$ 2.02
10-12	Tilt Trailer, 2 Axle, 24,000 Lbs	$ 1.48	$ 1.52
10-14	Utility Trailer, 3,000 GVW	$ 0.68	$ 0.76
20-11	Outboard Boat,	$ 1.83	$ 1.88
20-13	Barge Drill w/Pusher Skiff	$ 2.37	$ 2.41
21-26	Deflectometer, Trailer Mounted (currently in d-final status)	$ 0.77	$ 0.81

Schedule 1: Non-Chargeable Labor Costs

The distribution of the Non-chargeable Labor Rate is made by dividing the combined labor cost extension for Non-chargeable Labor by the total of production FTEs. The $35.45 per hour for indirect labor is up about $1.36 from FY 2014 levels. The increase is due solely to the cost of labor and NOT an increase in FTEs.

Calculation

Labor Cost Extension $3,911

Total FTEs Direct Charged 110.3 = $35.45 / hour

Class Code	CLASS	RANGE	SALARY Step L	Regular Cost Rate	OT Cost Rate	Bias-Adj Non Chargeable FTEs	Bias-Adj Chargeable Extension	Bias-Adj Non Chargeable Extension
WMS3	RME-NW	WMS3	8,432	75.83	75.83	0.8	0.1	62.55
WMS2	RME-Other	WMS2	7,480	69.95	69.95	2.6	1.7	183.37
WMS4	SML	WMS4	9,222	84.44	84.44	1.8	1.1	154.78
WMS2	AME-Rgn	WMS2	7,263	68.14	68.14	0.7	0.2	49.96
WMS3	SH-WMS3	WMS3	8,951	82.28	82.28	2.3	2.4	187.04
WMS2	ASH-WMS2	WMS2	8,023	74.51	74.51	1.9	1.0	140.00
530O	TE5/TTE5	69	7,082	66.63	66.63	7.2	12.2	479.99
530N	TE4	65	6,416	61.03	79.15	5.1	17.8	308.76
530M	TE3	61	5,813	55.97	72.12	7.6	14.5	425.26
530L	TE2	57	5,266	51.39	65.47	8.9	24.8	459.23
538T, 530K	TE1/TT3	53	4,770	47.23	59.44	6.2	18.9	294.34
538S	TT2	48	4,214	42.55	52.67	3.2	9.5	135.73
538R	TT1	42	3,631	37.67	45.57	0.4	3.0	15.54
515S	Chem4	66	6,575	62.37	62.37	0.3	0.7	21.72
515R	Chem3	60	5,668	54.75	54.75	0.3	0.7	19.07
515Q	Chem 2	54	4,888	48.22	48.22	1.0	0.7	49.94
532F	EE4	72	7,627	71.20	71.20	0.8	0.2	55.47
WMS2	Bus Mgr	WMS2	7,633	71.24	71.24	0.9	0.0	65.29
100V	AA4	46	4,014	40.88	50.25	0.0	0.0	0.00
143I	FA4	52	4,653	46.24	46.24	0.9	0.0	42.38
143L	FA1	40	3,459	36.22	43.48	1.4	0.0	49.80
100K	OAL	33	2,920	31.70	36.93	0.0	0.0	0.00
100J	OA3	31	2,789	30.60	35.33	1.6	0.2	50.48
100I	OA2	28	2,598	28.99	33.02	0.0	0.0	0.00
100T	Sec Sr	33	2,920	31.70	36.93	3.3	0.0	103.15
114H	PSS4	55	5,010	49.24	49.24	0.9	0.0	45.13
114G	PSS3	51	4,542	45.31	56.66	0.9	0.0	41.53
596I	MntSpec5	60	5,668	54.75	70.36	0.9	0.0	50.19
626J	MntMech1	42	3,631	37.67	45.57	0.9	0.0	34.53
262L	LAPP4	39	3,377	35.53	42.49	0.9	0.0	32.56
261C	LAP3	53	4,770	47.23	47.23	0.5	0.0	25.97
3286	ITS6	70	7,258	68.10	68.10	2.1	0.8	140.43
479M	ITS5	66	6,575	62.37	62.37	1.4	0.0	85.75
479L	ITS4	62	5,958	57.42	57.42	0.9	0.0	52.63
479K	ITS3	58	5,395	52.47	52.47	0.9	0.0	48.09
		Non Chargeable Time		**$ 35.45**	**Totals**	**69.8**	**110.3**	**$3,910.66**

Schedule 2: Laboratory Overhead

Materials lab overhead is defined as expenditures, other than labor, that cannot be directly charged to projects. The steps for determining Materials Lab overhead is summarized as follows:

1. Determine non-labor expenditures for the baseline year.
2. Subtract equipment and travel costs that were recovered through the rates in the baseline year.
3. Make line item adjustments for significant changes to the plan year from the baseline year.
4. Apply the Implicit Price Deflator (IPD) to expenditures carried forward from the previous fiscal year (i.e. excludes expenditures from step 2 & 3).
5. Add up the total annual overhead (i.e. inflation adjusted expenditures and line items).
6. Divide the total by the number of production FTEs (per schedule 1).
7. Divide the result by number production hours in a year (1,790) to determine the hourly overhead rate.

Lab overhead is down approximately $.30 from FY14 levels.

Lab Overhead Calculation

Overhead Calculation	
Previous Year Expenditures (Baseline)	4,203,285
Less Equip & Travel Recovered Through Rates	2,236,627
Unadjusted Overhead Costs	1,966,658
Plus/Minus Net Line Item Adjustments:	120,169
Adjusted Overhead Costs	2,086,827
Inflation (ECRF IPD, 1.19% for FY 2015)	24,833
Inflation Adjusted Overhead Costs	2,111,660
Divided by Number of Production FTEs	110.3
Overhead Cost per Production FTE	19,145
Divided by Production Hours in Year	1,790
Hourly Lab Overhead Rate	$10.69

Schedule 5: Per Diem

Schedule 5 Per Diem for Traveling Crews, *(four ten-hour days)*

	Breakfast	Lunch	Dinner	Total Subsistence	# Nights	Cost Per Night	Total Lodging	Total	Nightly	Hourly
Monday		18	28	46						
Tue - Wed	15	18	28	122						
Thursday	15	18		33						
				201.00	**3.00**	**104**	**312**	**513**	**171**	**$ 12.83**

Schedule 6: Materials Inspector Vehicles

Materials and Prestress Inspection Equipment rates have assigned cost for class 1 thru 5. Rate for cost recovery can be obtained by factoring assigned cost against expected work time and weighting based on the units assigned to inspector use.

Calculation

Assigned rate x number units x 2,000 hours:

1. Based on 2,000 hr./year/piece equipment.
2. Personnel engaged in materials and pre-stress inspection
3. Number of hours per labor-year.

Schedule 6, Materials Inspector's Vehicles

Status	Class	Make	Model	No. Rigs FY14	No. Rigs FY15	2013 Rate	2014 Rate	Assigned FY13 Rate	Assigned FY14 Rate	Cost Per Labor Hour
Active	01 C 10	Dodge	Caravan	4	2	2.91	2.94	23,280	11,760	
Active	01 C 30	Ford	Escape	9	9	3.54	3.6	63,720	64,800	
Active	05 C 11	Chev	Colorado	1	1	3.6	3.54	7,200	7,080	
Active	02 C 04	Chev	Express	1	1	4.46	4.48	8,920	8,960	
			Total Annual Lease Costs					**103,120**	**92,600**	**$ 4.33**

Schedule 8: Drill Crew Support Vehicles

Calculation

Cost per labor hour equals assigned rate x number of units x 2,000 hours, based on 2,000 hour/ year assigned time. Drilling rates calculated on basis of cost recovery for 2-person crew with inspector as separate charge.

1. Based on 2,000 hr./year/piece equipment.
2. Total personnel involved in test drilling (5 crews, driller and helper only, 3 Field Exploration Supervisors)
3. Number of hours per labor-year.

Schedule 8, Drill Crew Pickups

Status	Class	Make	Model	No.	2014	2015	Assigned Yearly Rate	FTEs Direct Charged	Cost Per FTE	Cost Per Labor Hour
Active	05 C 08	Ford	F250 4x4	1	6.53	6.50	13,000			
Active	05 C 08	Ford	F350 4x4	5	6.53	6.50	65,000			
Active	05 C 11	Chev	Colorado	1	3.60	3.54	7,080			
Active	05 C 20	Ford	F150 4x4	1	4.57	4.58	9,160			
Active	05 C 32	Dodge	2500 Quadcab	1	5.24	5.31	10,620			
			Total Annual Lease Costs		**105,180**	**104,860**	**104,860**	**14.56**	**7,202**	**$ 4.02**

Schedule 10: Drilling Equipment Operated and Assigned Cost

Assigned time is the percentage of available time that a piece of equipment is used. The available time for all equipment is considered to be 2,000 hours in a year. The figures below show the estimated percentage of available time various pieces of drilling equipment will be used in FY15.

Dutch Cone (B-61) 5%
Boat, barge and supporting 20%
Core Drills 15%
Truck Mounted Drill (BK-81) 50%
Heavy Duty Drills..... 100%
Skid Drills (09 – 04) 85%
Support Trucks..... 100%

The truck and track mounted drills have are used for the most demanding drilling assignments.

10a Truck Mounted Drill	Sub class	Description	2014	2015	Hours of Use	Hourly Cost	# in Crew	Per Hour Charge
Active	9-22	Support Truck	13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30	85.00	
Active			13.25	12.30	2,000	12.30		
		Roll Up - Supp Trk				**12.30**		
Active	09-01	**CME 55**	**19.69**	**19.76**	**1,000**	**39.52**		
						51.82	**2**	**$ 25.91**

The track-mounted CME drill (Subclass 9-2) requires a trailer (subclass 10-5). The trailer assigned cost is redistributed to an operated cost as follows:

10b - Heavy Duty Drill	Sub class	Description	2014	2015	Hours of Use	Hourly Cost	# in Crew	Per Hour Charge
Active	9-22	Support Truck	13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
		Roll Up - Supp Trk				**12.30**		
Active	10-5	Trailer	1.95	2.02	1,550	2.61		
Active	10-5	Trailer	1.95	2.02	1,550	2.61		
Active	10-5	Trailer	1.95	2.02	1,550	2.61		
Active	10-12'	Trailer	1.48	1.52	1,550	1.96		
		Trailer Roll Up				**2.45**		
Active	9-2	CME 850	22.83	22.87	2,000	22.87		
	9-2	CME 850	22.83	22.87	2,000	22.87		
	9-7	CME 300	16.59	16.78	2,000	16.78		
		Roll Up CME Drills				**20.84**		
						35.59	**2**	**$ 17.79**

The Dutch Cone is a self-contained unit and is only used for Dutch Cone work. Redistribution of the Dutch Cone assigned cost is based on 5% usage.

10c - Dutch Cone	Sub class	Description	2014	2015	Hours of Use	Hourly Cost	# in Crew	Per Hour Charge
Active	09-30	Dutch Cone	7.08	7.14	100	142.80		
						142.80	**2**	**$ 71.40**

While capable of significantly different production rates, the skid drill has costs similar to the truck mounted and heavy drills. It is used in terrain that is not conducive to vehicles with wheels.

10d - Skid Drill	Sub class	Description	2014	2015	Hours of Use	Hourly Cost	# in Crew	Per Hour Charge
Active	9-4	Drill	10.62	10.11	1,700	11.89		
Active			10.62	10.11	1,700	11.89		
Active			10.62	10.11	1,700	11.89		
		Roll Up - Drill				**11.89**		
Active	9-22	Support Truck	13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
		Roll Up - Supp Trk				**12.30**		
Active	8-53	Boom Truck	12.33	12.33	1,700	14.51		
Active	9-23	Boom Truck	13.91	13.81	1,700	16.25		
Active	9-23	Boom Truck	13.91	13.81	1,700	16.25		
		Roll Up - Boom Trk				**15.67**		
						39.86	**2**	**$ 19.93**

Water work activities require auxiliary floating and support equipment in addition to the drill unit. Estimated usage is 400 hours per year. This configuration was used extensively on I-520 and CRC but that work is beginning to subside.

10e - Tripod or Skid Drill, Water Work	Sub class	Description	2014	2015	Hours of Use	Adjusted Rate	# in Crew	Per Hour Charge
Active	9-4	Drill	10.62	10.11	1,700	11.89		
Active			10.62	10.11	1,700	11.89		
Active			10.62	10.11	1,700	11.89		
		Roll Up - Drill				**11.89**		
Active	9-22	Support Truck	13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
Active			13.25	12.30	2,000	12.30		
		Roll Up - Supp Trk				**12.30**		
Active	20-11	Outboard boat	1.83	1.88	400	9.40		
Active	8-23	Flatbed truck w/o crane	7.51	7.33	400	36.65		
Active	25-2	Generator	1.81	1.88	400	9.40		
Active	20-13	Barge, Pontoon	2.37	2.41	400	12.05		
		Roll Up - Water Wrk Eqp				**16.88**		
Active	10-5	Trailer	1.95	2.02	1,550	2.61		
Active	10-5	Trailer	1.95	2.02	1,550	2.61		
Active	10-5	Trailer	1.95	2.02	1,550	2.61		
Active	10-12'	Trailer	1.48	1.52	1,550	1.96		
		Trailer Roll Up				**2.45**		
Active	8-53	Boom Truck	12.33	12.33	1,700	14.51		
Active	9-23	Boom Truck	13.91	13.81	1,700	16.25		
Active	9-23	Boom Truck	13.91	13.81	1,700	16.25		
		Roll Up - Boom Trk				**15.67**		
						42.31	**2**	**$ 21.15**

Schedule 10G: Incidental Drilling - Region Pavement Coring

The Class 5 vehicles used to transport the core drills are distributed over the laboratory overhead leaving the recovered cost item to be the core drill itself. Depending on the operation, the core drill can be operated by either a single operator or with two operators. Core drill usage will increase in FY 15.

10g1 - Standard Core Drill	Sub class	Description	2014	2015	Hours of Use	Adjusted Rate	# in Crew	Per Hour Charge
	9-3	Trailer Mounted Drill	3.79	4.12	300	27.47	1.00	
						27.47	**1**	**$ 27.47**
10g2 - Standard Core Drill	**Sub class**	**Description**	**2014**	**2015**	**Hours of Use**	**Adjusted Rate**	**No in Crew**	**Per Hour Charge**
	9-3	Trailer Mounted Drill	3.79	4.12	300	27.47	2.00	
						27.47	**2**	**$ 13.73**

Schedule 12: Pavement Roughness Measurement

As with Core Drilling, the Profilometer vehicles can be operated by either one or two operators. These vans are extremely expensive so we have them specially insured at the full replacement cost of $800K, subject to a $100K deductible. The rate increase for FY15 is due to the anticipated replacement of a fully depreciated van with a new one, which will increase the TEF rates significantly.

Schedule 12 P-1, Pavement Roughness Measurement Profilometer Equipment, Single Operator

Status	Subclass	Description	2014	2015	Estimated Hours of Use	Adjusted Rate	No in Crew	Per Hour Charge
Active	02-40	Profilometer	28.9	40.71	500	162.84	1	162.84
Active	02-40	Profilometer	28.9	40.71	500	162.84	1	162.84
		Total Annual Lease Costs	**115,600**	**162,840**				**$ 162.84**

Schedule 12 P-2, Pavement Roughness Measurement Profilometer Equipment, Dual Operator

Status	Subclass	Description	2014	2015	Estimated Hours of Use	Adjusted Rate	No in Crew	Per Hour Charge
Active	02-40	Profilometer	28.9	40.71	500	162.84	2	81.42
Active	02-40	Profilometer	28.9	40.71	500	162.84	2	81.42
		Total Annual Lease Costs	**115,600**	**162,840**				**$ 81.42**

Schedule 13: Falling Weight Deflectometer Vehicle (FWD)

Schedule 13, FWD

Status	Subclass	Description	2012	2013	Hours of Use	Adjusted Rate	No in Crew	Per Hour Charge
D Final	21-26	FWD	0.77	0.81	40	40.50	1	40.50
		Lease Costs						**$ 40.50**

Schedule 14: Operated Cost Skid Test Truck and Trailer

Schedule 14 Skid Test

Status	Subclass	Description	2014	2015	Hours of Use	Adjusted Rate	No in Crew	Per Hour Charge
D Final	08-01	Truck, Skid Test	25.51	25.67	450	114.09	2	57.04
D Final	10-40	Trailer, Skid Test	5.97	6.40	450	28.44	2	14.22
		Total Annual Lease Costs	**62,960**	**64,140**				**$ 71.27**

Schedule 15: Crosshole Sonic Logging System

Schedule 15, Crosshole Sonic Logging System

Status	Subclass	Description	2014	2015	Hours of Use	Adjusted Rate	No in Crew	Per Hour Charge
Active	40-07	SL System	2.53	2.02	200	20.20	1	20.20
Active	40-07	SL System	2.53	2.02	200	20.20	1	20.20
Active	40-07	SL System	2.53	2.02	200	20.20	1	20.20
		Total Annual Lease Costs	**$10,120**	**$8,080**				**$ 20.20**

Schedule 16: NWR Charges for Density Gage Support

Schedule 16a, Nuclear Gauge Wipe Tests R-3NW (S839 - Used by NWR)

Subclass	Description	Cost	Cost Recov eru Rate (Std)	Cost Recovery Rate (OT)	Hrs to Complete	Per Unit Charge	OT Per Unit Charge
NA	Wipe Test Kit	21				21.00	21
NA	Cost Recovery Charge		108.34	118.96	0.25	27.09	29.74
						$ 48.09	**$ 50.74**

Schedule 16b, Nuclear Gauge Badge Tests, R-3NB (S840 - Used by NWR)

Subclass	Description	Cost	Cost Recov eru Rate (Std)	Cost Recovery Rate (OT)	Hrs Per Quarter	No of Badges	Per Unit Charge	OT Per Unit Charge
NA	Badges	80					19.95	19.95
NA	Cost Recovery Charge		108.34	118.96	24	130	20.00	21.96
							$ 39.95	**$ 41.91**

Schedule 17: NWR Rates for Plant Inspection

Schedule 17-1, Costs for Plant Inspection, Single Operator

Status	Subclass	Description	Qty	Assigned Rate	Annual Cost	Yearly Usage	Hourly Rate 1 Operator
Active	10-25	Lab Trailers	1	1.97	3,940		
Active	40-03	ACP Vacuum Test Kit	2	0.04	160		
Active	41-11	Portable Counter Top Oven	2	0.13	520		
Active	41-07	Gyratory Compactor	1	1.50	3,000		
Active	41-03	Sieve Shaker	1	0.16	320		
Active	41-19	Aggregate Test Kit	1	0.09	180		
Active	41-33	NCAT Asphalt Content Tester	1	0.36	720		
Active	40-02	Electronic Balance	2	0.05	200		
Active	42-02	SE Shaker	1	0.02	40		
		Utilities			440		
		Propane			50		
					9,570	**162**	**$ 58.97**

Schedule 17-2, Costs for Plant Inspection, Dual Operator

Status	Subclass	Description	Qty	Assigned Rate	Annual Cost	Yearly Usage	Hourly Rate 2 Operators
Active	10-25	Lab Trailers	1	2.78	3,940		
Active	40-03	ACP Vacuum Test Kit	2	0.13	160		
Active	41-11	Portable Counter Top Oven	2	0.19	520		
Active	41-07	Gyratory Compactor	1	1.24	3,000		
Active	41-03	Sieve Shaker	1	0.14	320		
Active	41-19	Aggregate Test Kit	1	0.14	180		
Active	41-33	NCAT Asphalt Content Tester	1	0.45	720		
Active	40-02	Electronic Balance	2	0.16	200		
Active	42-02	SE Shaker	1	0.10	40		
		Utilities		0.00	440		
		Propane		0.00	50		
					9,570	**162**	**$ 29.49**

Schedule 18, Laboratory Equipment Charges

Assigned Yearly Rate	Testing FTEs	Testing Hours	Cost Per Testing Hour
636,301	26.3	47,041	$ 13.53

Section 8

Cost Recovery Center Oversight

Materials Laboratory

WDSOT's State Materials Lab cost recovery centers will be operated out of subprogram P5, Fund 108, Appropriation A10 without expenditure authority. Quarterly meetings will be held to review the cost recovery performance including monitoring for ineligible charges, areas of inefficiencies, current over and under balances and appropriate rate adjustments.

The State Materials Lab cost recovery management team, Program Analysis and Management Services (PAMS), Budget and AFS will determine if the remaining anticipated expenditures and revenue is on track to bring over/under balances within a reasonable amount before fiscal year close. At the earliest point possible, If it is anticipated that the remaining activity is not enough to close the gap, a rate adjustment in an amount necessary to bring the gap within an acceptable amount will be immediately enacted upon formal approval from the Director of Budget and Financial Analysis. All rate adjustments will not require a formal re-approval by FHWA of the original plan if there is no change to methodology or unallowable costs.

At the end of each fiscal year of the State Materials Lab cost recovery center's billing cycle, any over or under balance will be reviewed with Capital Program Development and Management Office's (CPDM) PAMS organization and the Materials Lab cost recovery center management team. All under recoveries will reviewed with the director of CPDM (or delegate) and they will provide the appropriate charge codes within the Preservation program (Program P) to support the clearing of any remaining balance. The same process will be followed for any over recoveries. AFS will provide FHWA with a yearly federal over/under billing reconciliation for each cost recovery center detailing the total over/under billed amounts to all funding sources and amounts billed to the Federal Government. No FHWA adjustment or repayment will be required for the over/under payments.

Section 9

Certification of Cost Recovery Plan

Materials Laboratory

This is to certify that I have reviewed the cost allocation plan submitted herewith and to the best of my knowledge and belief:

1. All costs included in this proposal are used to establish cost allocations or billings for Fiscal Year 2015 are allowable in accordance with the requirements of the Federal award(s) to which they apply and 2 CFR Part 225, "Cost Principles for State and Local Governments." Unallowable costs have been adjusted for in allocating costs as indicated in the cost allocation plan.

2. All costs included in this proposal are properly allocable to Federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently.

I declare that the foregoing is true and correct:

Governmental Unit: Washington State Department of Transportation

Signature:_____

Name of Official: Bob Covington, CPA

Title: Director, Division of Accounting and Financial Services

Date of Execution: Month, Day, Year