Current Staffing and Support:

The Division of Energy, Mineral, and Land Resources' (DEMLR) Energy Program is currently staffed with a Program Supervisor, a Senior Environmental Specialist, a Senior Geologist/Hydrogeologist, and an Administrative Support Specialist. All personnel are located in the DEMLR central office in Raleigh, N.C. This Program is supported with nearly $350,000 in annual funding, along with around $18,000 of non-recurring funds. Respective monies cover employee salaries and benefits, travel, basic DEMLR-issued safety equipment (i.e hard hats, safety glasses, and steel toe boots), and other operational needs. Refer to **Tables Y-1** and **Y-2** for specifics.

The North Carolina Department of Transportation Division of Highways is made up of 14 Divisions statewide. Each Division has a similar staffing structure comprised of a Division Engineer, Division Maintenance Engineer, Division Construction Engineer, Division Operations Engineer and Bridge Engineers. Each Division is further divided into Districts. Most Districts are comprised of multiple counties. Each District has a District Engineer, Assistant District Engineer, County Maintenance Engineers, Engineering Technicians and Road Maintenance Supervisors. Multiple Clerical Support positions are located in the Division and Districts. Permitting of Access to state roads and work within NCDOT rights of way are already primary responsibilities of District Engineers. Residential, Commercial and Industrial development drives the volume of permits received and processed. The Division also has Engineering Technicians that are assigned to Resident Engineers. These Technicians inspect construction projects and are involved in contract administration. The District Engineer has the ability to utilize the construction technicians for permitting depending upon the needs.

NCDOT technical support units will also be heavily involved in the permitting and compliance aspects of the energy industry. The Structures Management Unit and Pavement Management Unit will assist Division and District personnel with condition and weight capability analysis and suggested methods of repair.

Current funding for the above positions comes from Highway Maintenance Allocations as well as the Transportation Improvement Program. Highway Maintenance Allocations also pay for equipment, materials and contract work associated with the maintenance of roads and bridges. The Transportation Improvement Program (TIP) is a blend of federal and state monies that pay for our larger construction projects and bridge replacements.

Future Staffing and Support:

Determining the future staffing needs is difficult at best, as estimating Energy Program workload is dependent on predicting the volume of future oil and gas activity in the state. Additionally, while the Energy Program is developing rules and policy to address state-wide operations, resources that are most likely to be exploited in the short term involve shale gas within the State's Triassic Basin areas. As a result, future staffing requirements addressed in this report assume a scenario where Triassic shale resources are explored, proven, and exploited, before other areas of the State (i.e. Coastal Plain) are seriously considered by industry.

The Energy Program would need to grow from its current staffing level of four to a total of 13 personnel to permit, oversee, and regulate expected oil and gas activities. These positions would include one Program Supervisor, three Senior Environmental Specialists, two Environmental Specialists, one Senior Geologist/Hydrogeologist, one Administrative Support Specialist, one Engineer, one Rules Coordinator, one Economist, one Public Information Specialist, and one Business Application Technology Specialist. Nine of these members would remain in the Raleigh Central Office to provide technical and administrative oversight and management. However, a team each comprised of one Senior Environmental Specialist and two (junior) Environmental Specialists would likely be assigned to DEMLR's Winston-Salem Regional Office and to the Fayetteville Regional Office. Members based within Regional Offices would provide local regulation and oversight to industry field operations.

NCDOT future staffing needs are also difficult to determine depending upon the volume of energy development and future workload of the individual offices. Future staffing requirements addressed in this report assume a scenario where Triassic shale resources are explored, proven, and exploited, before other areas of the State (i.e. Coastal Plain) are seriously considered by industry. The workload associated with the energy industry would be handled by current staff with additional consultant staff hired as needed. NCDOT is recommending a new position to serve as the Director of Energy operations. This position would serve as the coordinator for energy operations statewide and would assure uniformity and consistency in our permitting and compliance process. See Table Y-5 for staffing permitting costs due to the energy industry and Table Y-6 for staffing compliance costs.

Equipment Needs:

NCDOT Equipment needs include vehicles used for traveling to and from meetings, site investigations and other local travel needs. Other needs include Personal Protective Equipment such as steel toe boots, hardhats, safety vests and safety glasses. Electronic equipment including GPS receivers, digital cameras and laptops will be essential to effectively manage the workload associated with the Energy industry.

Table Y-5. Permitting Costs (annual costs)

Staff Costs				
Positions	Hrs/ Permit	Total Hrs (40 Permits /Year)	Rate /Hr ***	Total Costs
Energy Coordinator (New)	4	160	$97.36	$15,577.60
District Engineers	10	400	$91.95	$36,780.00
County Maintenance Engineers	6	240	$76.89	$18,453.60
Road Maintenance Supervisors	6	240	$61.66	$14,798.40
Assistant District Engineers	16	640	$54.09	$34,617.60
Engineering Technicians	30	1,200	$45.43	$54,516.00
Bridge Engineering	12	480	$81.13	$38,942.40
Pavement Engineering	4	160	$81.13	$12,980.80
Clerical Support	3	120	$32.45	$3,894.00
	TOTAL STAFF:			$230,560.40
				=$5,764.01/permit
Equipment Support				
Item	/Permit	Total		
Vehicles (Mileage @.565/mile)	600 mi.	24,000 mi.		$13,560
	TOTAL:			$244,120.40
				=$6,103.01/permit

***The hours associated with the positions above will be using primarily existing staff and supplemented with consultants as needed.**

****Monies associated with the above positions come from charging directly to construction projects or maintenance functions. Energy funding would be needed to accommodate the dollars needed for the hours and costs denoted above.**

*****Rates determined using a 2.25 salary multiplier which is a typical overhead and profit multiplier used when hiring consultants.**

Table Y-6. Compliance Costs (annual costs, based on a rate of 40 permits approved per year)

Positions	Total Hrs	Rate /Hr ***	Total Costs
Energy Coordinator (New)	1,920	$97.36	$186,931.20
District Engineers	208	$91.95	$19,125.60
County Maintenance Engineers	312	$76.89	$23,989.68
Road Maintenance Supervisors	624	$61.66	$38,475.84
Assistant District Engineers	2,080	$54.09	$112,507.20
Engineering Technicians	3,120	$45.43	$141,741.60
Bridge Engineering	624	$81.13	$50,625.12
Pavement Engineering	312	$81.13	$25,312.56
Clerical Support	416	$32.45	$13,499.20
	TOTAL STAFF:		$612,208.00
Equipment Support			
Item			
Vehicles (Mileage @.565/mile)	100,000 mi.		$56,500
Personal Protective Equipment			$2,000
GPS/Cameras (7each)			$1,400
Laptops (7each)			$2,100
	TOTAL:		$674,208

***The hours associated with the positions above will be using primarily existing staff and supplemented with consultants as needed.**

****Monies associated with the above positions come from charging directly to construction projects or maintenance functions. Energy funding would be needed to accommodate the dollars needed for the hours and costs denoted above.**

*****Rates determined using a 2.25 salary multiplier which is a typical overhead and profit multiplier used when hiring consultants.**