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Municipality/Organization: City of Dover

EPA NPDES Permit Number: NHR041037

MaDEP Transmittal Number: _____

Annual Report Number & Reporting Period: No. 8 March 10 – March 11

NPDES PII Small MS4 General Permit Annual Report


Part I. General Information

Contact Person: Douglas Steele **Title:** Community Services Director

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Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:  _____

Printed Name: J. Michael Joyal

Title: City Manager

Date: May 2, 2010

Part II. Self-Assessment

The City of Dover continued to implement the identified tasks in its Stormwater Phase II NPDES minimum control measures in year seven of the initial General Permit. The Best Management Practices that Dover has continued to implement include:

- Dover has completed mapping the stormwater system which was initiated prior to the NPDES permit. The City continuously updates the mapping as the system grows and as staff finds inconsistencies between maps and field inspections during catch basin cleaning. An employee who was restricted to light duty was utilized to accompany the catch basin cleaning contractor. The employee directed the contractor, performed inspections of each structure, located new previously unmapped structures using GPS.
- The City held one Household Hazardous Waste Collection Day for Dover residents in September 2010. This year's collection included the Towns of Rollinsford, Madbury, and Lee.
- Dover's recycling program includes weekly curbside pick up of recyclables as well the operation of a recycling center. The recycling center accepts many items including waste oil, white goods, tires, metal, C & D material, yard waste, computer monitors and other electronics, Freon containing appliances, used antifreeze and mercury containing items to reduce the waste stream and prevent the release of contaminants into the environment. Dover's recycling rate is 52% of the waste stream, and is nationally recognized as a leader.
- The City Engineers review all subdivision and site plan applications before the Planning Board. Their review includes storm water plans to insure the site meets all standards during construction and upon completion of the project. All projects are required to submit storm water O&M plans to insure long-term performance of storm water infrastructure. The City Engineering inspection team continued its inspection of construction sites for temporary erosion control during construction and the implementation of permanent stabilization and run off control measures. An electronic tracking system was implemented to monitor compliance of private sites with their Stormwater O&M plan using a grant from the Piscataqua Region Estuary Partnership. The system will provide the City of Dover with a tool to help insure stormwater O&M's are being implemented. The system was demonstrated at the Seacoast NH Stormwater Coalition meeting in order to share the technology with the other member communities. Compliance reporting of O&M annual activities by private site owners even though required is low. The City of Dover issued letters to remind owners of their obligation in the fall one before reports were due; however most did not file reports.
- The City continued to promote and implement its pet-waste program. A Scoop the Poop Pledge was given to each resident dog owner to sign at the time they registered their dog.

- Funding for the catch basin cleaning program increased in the FY 2010 budget to reflect the anticipated MS4 permit requirements of cleaning 50% of the system annually. The catch basin cleaning contractor cleaned 1264 basins during the summer and fall of 2010. The FY 2012 budget is currently under consideration by the Dover City Council and includes funding at the same level as FY2011. The 2012 budget should be enough to continue meeting the proposed EPA General Permit requirement that every catch basin is cleaned at least once in a two year period.
- The City of Dover hosts and is an active participant in the N.H. Seacoast Storm Water Coalition. The N.H. Seacoast Storm Water Coalition has accomplished much in the eight years to further the goal of improved stormwater quality. Issues such as Public awareness, training of staff, and other common needs of Coalition member communities have been worked on successfully in collaboration. The Coalition also provides a forum in which to share our individual program experiences both good and bad. The coalition has been awarded a NH Coastal Program grant to work on finding ways to help communities to lower fertilization rates on public recreation fields while maintaining the quality of the fields.
- An illicit connection was discovered on while doing field maintenance on a storm sewer line. The property owner at 93 Old Dover Point Road has been notified and the property will be connected to the sanitary sewer.

New activities aimed to achieve improved stormwater program performance and water quality improvement include:

- The Planning Department and Engineering Division adopted amendments to Dover's Subdivision and Site Review regulations that strengthen stormwater requirements as required by the MS4 General Permit. The new regulations strongly encourage the use of Low Impact Development techniques to address stormwater runoff. The amendments require all projects that propose to disturb an acre or more to submit plans to the Planning Board for review and approval. The amendments also give the City the authority to regulate projects that have less than an acre impact that are in close proximity of sensitive ecologic areas which could be potentially impacted. A Planning Board Subcommittee was formed to look at the use of Porous pavement. The purpose of the group was to better understand the benefits and limitations of porous pavement and report back to the Planning Board during the summer of 2010.
- The City invited the NROC (Natural Resource Outreach Coalition) program to help Dover review its stormwater program and identify ways it could be improved. Two key areas were targeted for action through a series of meetings facilitated by the NROC team with numerous stakeholders. The stakeholders included a mix of Dover residents, City staff, Dover Board and Commission members, the Strafford County Regional Planning Commission, the NHDES and the Cochecho River Watershed Association members are participating in the project which is being facilitated by the NROC team. The two areas selected were encouraging the use of Low Impact Development techniques in development and redevelopment projects, and exploration in

the establishment of a stormwater utility to provide a consistent adequate funding source to implement the City's stormwater program. Two presentations were prepared for targeted audiences. The first was geared to City staff to educate them on the two issues. The second presentation was aimed at the volunteer City Boards and Commissions and interested residents. This meeting was held in the evening and featured a pizza dinner. Both meetings were well attended and well received. They laid a firm foundation to move both issues forward. In 2009 NHDES awarded the City a grant to conduct a feasibility study to determine if the establishment of a stormwater utility is right for Dover. A consultant, GHD, has been selected to conduct the study following an RFQ. The Dover City Council established a Stormwater Ad Hoc Committee of interested stakeholders to participate in the feasibility study. The Committee is charged with the responsibility to make a recommendation at the conclusion of the feasibility study on whether to proceed with the establishment of a stormwater utility. The Committee met 5 times during the course of six months with the consultant and City staff. The Committee issued a final report in December of 2010 in which it unanimously recommended that Dover establish a Stormwater Utility and increase the budget from the current \$900,000 to \$1,200,000 next year to \$2,000,000 over the next five years to fund the system needs and satisfy anticipated regulatory requirements. The Committee made a presentation of its recommendations to the City Council in a workshop in early January 2010 followed by two public Q&A sessions with the public. In February the City Council held a Public Hearing on the proposed Resolution to establish a Stormwater Utility. At the Public Hearing overwhelming opposition was expressed and the City Council later that evening voted to reject the establishment of the Stormwater Utility by a 7 – 2 vote.

- The Berry Brook Watershed Assessment and Management Plan was finalized in 2008. To begin the implementation of the plan the city has applied for two implementation grants. The first is with NHDES for funds to encourage the adoption of LID techniques into the watershed. We hope to get residents to purchase and use at reduced cost rain barrels or rain gardens on their properties to collect and infiltrate stormwater which currently runs off. Berry Brook watershed is highly developed primarily with medium density residential properties. A second grant has been prepared to NOAA for a stream restoration grant. The City has partnered with the University of New Hampshire Stormwater Center on the grant. The UNH Stormwater Center team has extensive expertise and experience in designing and constructing stream restoration projects. The grant proposal is for more than a million dollars in funding which will go a long way to restore Berry Brook. A NHDES grant is being utilized to implement Low Impact Development retrofits in the watershed, and implement water quality BMP upgrades at Horne Street School currently under renovation. A tree filter and rain garden are in the works and will be completed in the spring of 2011. An education block will also be presented to children who attend the school. Two additional implementation grants have been

approved for funding from NHDES. One is a Watershed Assistance grant for nearly \$250,000 and the other is an ARM grant for wetland and stream restoration in the Berry Brook watershed for more than \$400,000. The projects will be built out over the next two years.

- An algae bloom of cyanobacteria at Willand Pond, which is located in Dover and Somersworth, has spurred much attention to water quality issues in both communities. Willand Pond, a kettle hole pond which was previously issued by the City of Dover for drinking water prior to 1950, has been a favorite recreation area for fishermen, picnickers, hikers and swimmers. The NHDES' s limnologist attributes the rise in phosphorus levels primarily to the flooded condition of the pond and adjacent forest floor for the last two years as a result of excess precipitation and obstructions placed in wetlands that now blocks the pond's natural outlet. Other contributions of phosphorus include storm water runoff from recently constructed commercial parking lots in the watershed within the last few years. The cities of Dover and Somersworth, and NHDES together hired a consultant to study the problem and propose alternatives to correct the problems causing the algae blooms. The study is completed and a draft report issued. A preferred alternative to address the water level issue was identified but is limited in its ability to control water levels below 191.5 foot elevation. Stormwater quality treatment improvements for existing and future development sites were also identified in the report. A NHDES grant has been negotiated to design and implement storm water BMP retrofits to reduce phosphorous contributions in the runoff and will be executed in 2010 and 2011. The City decided to pursue water level control in the pond by potentially reactivating an abandoned water supply well. A consultant was hired to determine the feasibility of re-establishing the water supply well which would augment the City of Dover's water supply capacity and gaining control of the water levels in Willand Pond. The groundwater investigation by the consultant has shown that the pond level can be controlled through aquifer pumping during a 90 pump test of the former water supply well. It also determined that the aquifer has the capability to supply an additional 600 gallons per minute to the City's existing supply capacity. The City Council will be entertaining a Resolution authoring the consultant to prepare the required permitting application for the existing well and a new additional well. The City will also be issuing an RFP for the design of a phosphorous reducing BMP at a stormwater outlet near the pond, which has received grant funding.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
A1 Revised	Establish Pollution Hotline	Bill Boulanger Community Services	Trained secretaries who receive calls	Received no phone complaints	Continue to advertise existence of hotline in Community Notes and on City webpage
A2 Revised	Community Cleanup	Doug Steele Community Services	Hold 8 th & 9 th annual clean-up	Dover Main Street clean up, May 1, 2010	Hold 9 th Dover Pride clean-up day, April 30, 2011
A3 Revised	Educational Video	Seacoast NH Stormwater Coalition	Show on local access Converted to DVD	Video shown on numerous occasions during May 2010 Aired 350 hours of Storm water Ad Hoc committee meetings regarding Utility feasibility study	Show video on local access TV.
A4 Revised	Publish Stormwater information	Community Services	Published articles and public response	Made several public presentations regarding stormwater, and the Stormwater AD Hoc meetings were put on local TV for more than 350 hours as well as City Council presentations, Public Hearing and debate on the Utility	Hold meetings to educate public on stormwater utility issue. Engage Berry Brook watershed residents on implementation of LID techniques to disconnect impervious surface in the watershed
A5 Revised	Pet Waste and Storm Water	Dean Peschel NHDES	Lower bacteria levels in unnamed brook	Constructed dog park at Long Hill park	Continue to educate the public about pet waste storm water impacts and proper behavior
A6 Revised	Assist School in SW education	Community Services and volunteers	Make presentations in classroom	No school presentations in 2010	Make presentations to Horne St School as part of rain garden and tree filter installation with UNH Stormwater Center

1a. Additions

A7	Berry Brook Watershed Plan	Community Services	Improve water quality in Berry Brook	Planned and began construction at Horne St school	Accept additional grant awards and begin implementing the plan and complete Horne St school project
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2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
B1 Revised	Storm Stencil	Community Services	Number completed 3 events	No stenciling in 2010	
B2 Revised	Sample outfall and other structures	Community Services	Sampled Great Bay Watch sampled and analyzed storm water outfalls and structures with DPW assistance	Storm water Coalition met with Dr Steve Jones who is working with Seagrant volunteers to work with coalition. A NH Coastal Program grant was applied for to develop pilot sampling with 2 Seacoast Coalition towns	
B3 Revised	Update Ordinances	Planning Steve Bird	Ordinance facilitate compliance of NPDES regulations	Done	
B4 Revised	Seacoast Stormwater Coalition	Community Services	Meet cooperatively with other Seacoast NH MS4 entities	Focus group process determined nutrient removal as high priority issue for Coalition. Applied for and received grant to develop fertilization guidelines and implement with Coalition communities for public recreation fields	Implement grant
B5 Revised	Pet Waste Pilot Project	Dean Peschel NHDES	Lower bacteria in surface water	Same as A5	Same as A5
B6 Revised	Berry Brook Watershed Assessment and Management Plan	City of Dover UNH NHDES	Improved habitat and water quality	Received 3 grants to implement Berry Brook Watershed management Plan \$700,000 Began implementation at Horne St School. Implementation during 2011 and 2012	Implement grant funded upper watershed BMP's including 1000 feet of stream restoration

2a. Additions

B7	Willand Pond	Planning	Water quality improvement	Draft Management Plan completed	Finalize plan, design and permit solutions, find funds to implement recommendations
B8	Add LID to zoning regulations	Planning	Better storm water management at development sites	Adopted LID language in ordinances and standards	Begin implementing

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
C1 Revised	Storm water System Mapping	Community Services	Have completed map of system and keep maintained	Continue collection of infrastructure condition for storm drain system. Update system map as system grows and is repaired.	Continue collection of infrastructure condition for storm drain system. Update system map as system grows and is repaired.
C2 Revised	Establish Illicit Discharge Program	Community Services	Establish Program and Implement	Identified 1 illicit sewer connections and tied to sanitary sewer. Will remove in Spring of 2011.	Continue to look for illicit connections and remediate.
C3 Revised	Catch Basin Stenciling	Community Services	Same as B1	Same as B1	Same as B1
C4 Revised	Update City Ordinance	Community Services and Planning	Same as B3	Completed	Same as B3
C5 Revised	Secure Funding	Community Services	Find funding for programs	None	Apply for available funding opportunities that become available Conduct Stormwater Feasibility Study.
Revised					

3a. Additions

C6	Participation in Seacoast Storm Water Coalition – development of NH IDDE Manual	Community Services	Distribution of published manual	Continued participation in Seacoast Stormwater Coalition	Continue participation in Seacoast Stormwater Coalition
C7	Include Berry Brook watershed as priority area in IDDE plan	Community Services	Remove bacterial sources	Done	Continue to identify sources and remove Target pet owners in watershed

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
D1 Revised	Review and Update Ordinances	Community Services and Planning	Have legal authority to enforce Phase II	Planning Board Subcommittee completed investigation of porous pavement and decided to encourage use where appropriate.	
D2 Revised	Develop Inspection Program	Community Services and Planning	Site inspections to ensure compliance of Phase II	Engineering inspector inspects all sites for erosion control daily, weekly	Continue inspection program.
D3 Revised	Direct Contractors to Educations Materials	Community Services	Better compliance of BMP's	Engineering provides to developers and site contractors at pre-construction conference.	Continue to educate community.
D4 Revised	Provide City Staff Training	Community Services Seacoast Coalition	Have educated workforce	Attended UNHSC presentation on Thermal Impact of stormwater. Staff attended NHDES Impacts of Road Salt seminar	Continue sending staff to educational opportunities regarding storm water.
Revised					
Revised					

4a. Additions

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
E1 Revised	Review and Update Ordinances	Community Services and Planning	Have City Ordinances that comply with Phase II requirements	Done	
E2 Revised	Develop and Implement O & M Plans for Private Sites	Community Services and Planning	Design and implement program which tracks maintenance	All approved site plans required to submit O & M plans to City and report annually to the City. Developed electronic tracking system to manage compliance for private site O&M plan in 2009. Sent notice to all require to submit annual O&M reports to City of Dover.	Continue to require O & M plans at new sites and track compliance.
E3 Revised	Implement Inspection Program	Community Services	Insure BMP are constructed to plan	The Engineering Technician inspects all sites for proper installation of BMP prior to issuance of Certificate of Occupancy	Continue to inspect sites.
E4 Revised	Review and Update BMP List	Community Services	Maintain BMP list	Challenge design engineers to prepare effective stormwater system designs using appropriate BMP's	Continue.
Revised					
Revised					

5a. Additions

E5	Encourage LID	Planning	Improve site development	Made 1 presentations which highlighted LID as a desired outcome in future development projects	Educate and develop LID ordinances for adoption

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 8 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 9
F1 Revised	Create Storm Drain Inspection	Community Services	Have a record of system conditions	Continue to develop system and begin field data collection and input to software	
F2 Revised	Implement Inspection Program	Community Services	Collect data useful for prioritization of maintenance	Continued inspections while cleaning catch basins. 1373 basins cleaned and inspected in 2009	Continue inspections while cleaning catch basins 1450 basins
F3 Revised	Create Street Sweeping Plan	Community Services	Cleaner storm system	Continued street sweeping program.	Continue street sweeping program.
F4 Revised	Implement Catch Basin Cleaning Program	Community Services	Clean every catch basin once every 4 years	Contracted catch basin cleaning. Completed cleaning of 1264 basins.	Will contract out catch basin cleaning if successful in receiving funds in FY 2012 budget. 1400 basins projected for cleaning
F5 Revised	Establishment of Stormwater Utility	Community Services Seacoast storm water Coalition	Reliable funding source for stormwater system	GHD conducted a Stormwater Utility feasibility study. City Council established ad Hoc committee of stakeholders to participate in study. 5 meetings over 6 months led to a report by the committee recommending an increase in the Stormwater budget and establishment of a Utility. Opposition from the public however led to the defeat of the utility by the City Council rejecting the proposal.	Continue to monitor the public reaction to increasing Stormwater budgets as MS4 requirements come online with anticipated permit.
Revised					

6a. Additions

F6	Explore use of salt brine	Community Services	Reduce amount of salt and sand used	Have established conditions in which salt brine is effective	Continue use of salt brine in appropriate winter conditions
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F7	Provide DPW staff training for Pollution Prevention/good house keeping	Seacoast Storm Water Coalition	Improve staff understanding and performance of pollution prevention	Provided DPW staff training using NH manual developed by Seacoast Storm Water Coalition	Plan to present Road Salt seminar to field staff involved with snow operations
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7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) << if applicable >>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	Used paid college intern	(y/n)	No
Annual program budget/expenditures		(\$)	\$900,000

Education, Involvement, and Training

Estimated number of residents reached by education program(s)		(# or %)	60%
Stormwater management committee established		(y/n)	No
Stream teams established or supported		(# or y/n)	2
Shoreline clean-up participation or quantity of shoreline miles cleaned		(y/n or mi.)	Yes
Household Hazardous Waste Collection Days			
▪ days sponsored		(#)	1
▪ community participation	Dover, Madbury, Lee, and Rollinsford	(%)	161
▪ material collected		(tons or gal)	6095 gal
School curricula implemented		(y/n)	No

Legal/Regulatory

	In Place Prior to Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination	X			
▪ Erosion & Sediment Control	X			
▪ Post-Development Stormwater Management	X			
Accompanying Regulation Status (indicate with "X")				
▪ Illicit Discharge Detection & Elimination				X
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X

Mapping and Illicit Discharges

Outfall mapping complete	(%)	100
Estimated or actual number of outfalls	(#)	210
System-Wide mapping complete	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100
Outfalls inspected/screened	(# or %)	
Illicit discharges identified	(#)	1
Illicit connections removed	(#)	
	(est. gpd)	
% of population on sewer	(%)	75
% of population on septic systems	(%)	25

Construction

Number of construction starts (>1-acre)	(#)	3
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(# or %)	100 %
Tickets/Stop work orders issued/Building Permits Withheld/Occupancy Permits Held	(# or %)	1
Fines collected	(# and \$)	N/A
Complaints/concerns received from public	(#)	2

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100
Site inspections completed	(# or %)	100
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	.5
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	.5
Total number of structures cleaned	(#)	1264
Storm drain cleaned	(LF or mi.)	0
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	275 tons
Disposal or use of screenings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	\$28,000

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	Once/Spring
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Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	Weekly
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Reuse
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	N/A

Anti-/De-Icing products and ratios	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	Yes
Manual control spreaders used	(y/n)	No
Automatic or Zero-velocity spreaders used	(y/n)	Yes
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	Yes
Storage shed(s) in design or under construction	(y/n)	