

AGENDA
EAST GOSHEN TOWNSHIP
BOARD OF SUPERVISORS
Tuesday, November 22, 2011

The Board will meet in Executive Session to conduct interviews for ABC Positions from 7:00 pm – 7:30 pm. Formal Meeting will commence afterwards.

1. Call to Order
2. Pledge of Allegiance
3. Moment of Silence – Supervisor Carmen Battavio
4. Ask if Anyone is Recording the Meeting?
5. Public Comment – Hearing of Residents (Optional)
6. Chairman’s Report
 - a. Announce Board met in Executive Session on November 15 to discuss a personnel matter.
 - b. Announce the Statement of Valuations
7. Public Hearing
8. Police/EMS Report – 3rd Tuesday
 - a. Chief Dumond – Monthly Activity Report – Oct. 2011
 - b. Jerry Fokas, Sr. – President Goshen Fire Co. – EMS Report – Oct. 2011
9. Financial Report – 4th Tuesday – Brian McCool
 - a. Review 2012 Other Funds Budget
10. Old Business
 - a. Consider TAG Park & Recreation Board Recommendations
 - b. Consider ABC Chairmen Email Accounts
11. New Business
 - a. Consider v. 2.4 Police Proposed Budget
 - b. Select Date for Annual Planning Session – January 7th or January 14th, 2012
 - c. Consider Doc Star Replacement
 - d. Consider QVC Tax Appeal
 - e. Consider HVAC System Assessment
 - g. Consider Scope of Work Proposal
12. Any Other Matter
13. Approval of Minutes
 - a. Nov. 15, 2011
14. Treasurer’s Report
 - a. Report – Nov. 17, 2011
15. Review Action List
16. Correspondence, Reports of Interest
 - a. Acknowledge Sunoco Remediation Report
17. Meetings & Dates of Importance:

Nov. 21, 2011	Deer Committee	7:00 pm
Nov. 22, 2011	Thanksgiving Holiday Market	12 – 3 pm
	Board of Supervisors	7:00 pm
Nov. 24 & 25, 2011	Thanksgiving Holiday	

Nov. 28, 2011	West Chester Area Council of Govt's (Meeting in Thornbury Township)	7:00 pm
Dec. 1, 2011	Park & Rec Board	7:00 pm
Dec. 3, 2011	New York City Holiday Trip	
Dec. 6, 2011	Board of Supervisors	7:00 pm
Dec. 7, 2011	Pension Committee	1:00 pm
	Planning Commission	7:00 pm
Dec. 8, 2011	Historical Commission	7:00 pm
Dec. 12, 2011	Municipal Authority	7:00 pm
Dec. 16, 2011	Township Holiday Party	
Dec. 20, 2011	Park & Rec Board w/s	10:00 am
	Board of Supervisors	7:00 pm
Dec. 21, 2011	Friends of EGT 501c3	7:00 pm
Dec. 26, 2011	Christmas Holiday	
	Offices Closed	

18. Public Comment – Hearing of Residents

19. Adjournment

The Chairperson, in his or her sole discretion, shall have the authority to rearrange the agenda in order to accommodate the needs of other board members, the public or an applicant.

POLICE BUDGET WILL BE DISTRIBUTED
AT THE MEETING

3

There will be ~~two~~ items under Any Other Matter

You need to adopt a resolution designating Barb as the agent to apply for PUMA and FEMA money

Suggest that we include money in the 2012 Budget for the Community Development Commission

Memo Re: East Goshen Township Veterans

DESIGNATION OF AGENT RESOLUTION

FOR: FEMA 4025 - Hurricane Irene
(Enter Name of Disaster or Number)

BE IT RESOLVED BY Board of Supervisors OF EAST GOSHEN TOWNSHIP
(Governing Body) (Public Entity)

THAT Barbara L. Phillips, Staff Accountant
(Name of Applicant Agent) (Title)

IS HERBY AUTHORIZED TO EXECUTE FOR AND IN BEHALF OF

EAST GOSHEN TOWNSHIP, CHESTER County,
(Public Entity) (County)

a public entity established under the laws of the Commonwealth of Pennsylvania, all required forms and documents for the purpose of obtaining financial assistance under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288 as amended by Public Law 100-707).

Passed and approved this _____ day of _____, 20_____.

(Name) (Title) (Signature)

RECEIVED AFTER AGENDA WAS PRINTED

CERTIFICATION

I, _____, duly appointed and _____
(Name) (Title)

of _____, do hereby certify that the above is a true and correct copy of
(Public Entity)

a resolution passed and approved by the _____
(Governing Body)

of _____ on the _____ day of _____ 20_____
(Public Entity) (Date)

(Signature) (Official Position) (Date)

Memo
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380
Voice (610) 692-7171
Fax (610) 425-8950
E-mail rsmith@eastgoshen.org

RECEIVED AFTER
AGENDA
WAS PRINTED

Date: November 18, 2011
To: Board of Supervisors
From: Rick Smith, Township Manager
Re: Community Development Commission

We should create a line/section in the budget for the Community Development Commission. It would be in the Code Function.

I would suggest the following

Wages	500
Materials and Supplies	1,000
General Expense	2,000

**ASSESSMENT OFFICE
CHESTER COUNTY, PENNSYLVANIA**

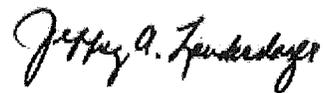
Statement of real estate subject to taxation in your district for the coming year.

Louis F. Smith, Jr. 1580 Paoli Pk. West Chester, PA. 19380

STATEMENT OF VALUATIONS

Real Estate Valuation (Including Mobile Homes)	\$ <u>1,628,940,936</u>
Public Utilities Valuation	\$ <u>495,160</u>

I hereby certify that the foregoing statement is a true and correct summary of all assessments within **East Goshen** for the year ending October 31, 2011.



Director Of Assessment

Date of Notification: **November 14, 2011**

2009 Assessment	\$1,643,578,445
2010 Assessment	\$1,642,311,226

		MONTHLY ACTIVITY REPORT			
		WESTTOWN	EAST GOSHEN	THORNBURY	TOTAL
MONTHLY ACTIVITY REPORT FOR OCTOBER 2011					
UCR CLASS					
Part I	ARSONS	0	0	0	0
Part I	ASSAULTS	0	0	0	0
Part I	BURGLARY	1	0	1	2
Part I	MURDER AND MANSLAUGHTER	0	0	0	0
Part I	RAPE	0	0	0	0
Part I	RETAIL THEFT	1	0	2	3
Part I	ROBBERY	0	0	0	0
Part I	THEFTS	7	5	6	18
Part II	CRIMINAL MISCHIEF	6	10	1	17
Part II	DISORDERLY CONDUCT	19	24	7	50
Part II	D.U.I.	2	3	1	6
Part II	HARASSMENT	5	3	0	8
Part II	STOLEN VEHICLES	0	0	0	0
Part II	RECOVERED STOLEN VEHICLES	1	0	0	1
	ACCIDENTS	34	20	14	68
	FATAL	0	0	0	0
	PEDESTRIAN	1	0	0	1
	HIT & RUN	1	4	2	7
	INJURED PERSONS	4	7	0	11
	ALARMS	23	32	26	81
	AMBULANCE CALLS	28	79	5	112
	Medical Facility Ambulance calls	11	56	0	67
	ANIMAL COMPLAINTS	9	11	3	23
	ARRESTS AND CITATIONS	8	9	8	25
	BUSINESS DOOR OPEN	0	0	0	0
	DISABLED VEHICLES	8	5	2	15
	FAMILY DISTURBANCES	2	8	0	10
	FIRE CALLS	16	20	3	39
	HUNTING CALLS	1	0	0	1
	INCIDENTS	108	121	15	244
	KEYS LOCKED	11	7	0	18
	MISCELLANEOUS CALLS	23	11	2	36

	WESTTOWN	EAST GOSHEN	THORNBURY	TOTAL
MISSING PERSONS	0	0	0	0
LOCATED	0	0	0	0
MOTOR VEHICLE VIOLATIONS	71	37	15	123
911 HANG UP CALLS	11	32	1	44
PARKING VIOLATIONS	3	0	0	3
SUICIDE	0	0	0	0
SUSPICIOUS CONDITIONS	26	28	9	63
VACATION CHECKS	3	6	2	11
<u>POLICE RADIO ROOM CALLS*</u>	462	607	156	1225
PERCENTAGE BY INDIVIDUAL TOWNSHIPS - MONTHLY	38%	49%	13%	100%
YEAR TO DATE PERCENTAGE BY INDIVIDUAL TOWNSHIPS	38%	49%	13%	100%
<u>*NUMBERS ARE PARTIAL BREAKDOWN OF POLICE RADIO ROOM CALLS</u>				

MONTHLY ACTIVITY REPORT FOR OCTOBER 2011

CAR #	YEAR/MAKE/MODEL	UNIT	USER	ENDING MILEAGE	LAST MONTH	TOTAL	DISTRICT COURT DISBURSEMENTS	AMOUNTS	
67-44	2008 DODGE CHARGER	ADMINISTRATION	CHIEF DUMOND	68428	67172	1256	EAST GOSHEN TWP	\$1,332.42	
67-30	2004 FORD CROWN VIC	DETECTIVES	DET. BRETZ	75566	74764	802	THORNBURY TWP	\$7,152.50	
67-55	2011 DODGE CHARGERS	DETECTIVES	DET. BALCHUNIS	7515	5891	1624	WESTTOWN TWP	\$4,360.75	
67-36	2006 FORD EXPEDITION	DETECTIVES	GORMAN	112973	111768	1205			
67-38	2007 FORD CROWN VIC	DETECTIVES	DET. LARGE	74547	73785	762			
67-40	2007 FORD EXPEDITION	DETECTIVES	DET. RAGNI	76115	75219	896			
67-54	2011 FORD EXPLORER	DETECTIVES	DET./SGT. CAHILL	20612	18120	2492			
	2002 FORD EXPLORER	DETECTIVES	UNDERCOVER	87887	87765	122			
67-11	1996 JEEP CHEROKEE	DETECTIVES	UNDERCOVER	153709	153595	114			
67K90	2003 FORD CROWN VIC	K9	K-9	81100	80500	600			
67-32	2006 FORD CROWN VIC	TRAFFIC	1ST LINE PATROL	51385	50847	538			
67-42	2008 FORD EXPEDITION	TRAFFIC	1ST LINE PATROL	58564	57577	987			
67-53	2010 DODGE CHARGER	TRAFFIC	1ST LINE PATROL (UNMARKED)	13622	12972	650			
67-46	2009 DODGE CHARGER	PATROL	1ST LINE PATROL	60806	59238	1568			
67-47	2009 DODGE CHARGER	PATROL	1ST LINE PATROL	80475	78275	2200			
67-48	2009 DODGE CHARGER	PATROL	1ST LINE PATROL	62310	59169	3141			
67-49	2009 DODGE DURANGO	PATROL	1ST LINE PATROL	62167	60655	1512			
67-50	2010 DODGE CHARGER	PATROL	1ST LINE PATROL	42524	40432	2092			
67-51	2010 DODGE CHARGER	PATROL	1ST LINE PATROL	48068	45481	2587			
67-52	2010 DODGE CHARGER	PATROL	1ST LINE PATROL (UNMARKED)	40552	37384	3168			
67-56	2011 DODGE CHARGER	PATROL	1ST LINE PATROL	3797	2529	1268			
67-57	2011 DODGE CHARGER	PATROL	1ST LINE PATROL	3948	2393	1555			
67-58	2011 FORD EXPLORER	PATROL	1ST LINE PATROL	3226	1608	1618			
TOTAL MILES							32757		

Formalize and Expand Relationship with the YMCA (90)

Summary / Short Description:

East Goshen’s parks are a centerpiece of the township and must be protected at all costs. However, since many residents do not directly benefit from the Park and Recreation services provided by the township, these programs should be self-funding / self-sustaining. In addition to rationalizing the breadth of Park and Recreation services provided by the township and increasing the level of sponsorship, the township should seek to formalize their relationship the West Chester YMCA. A more robust relationship with the YMCA could result in significant revenue increases for the township and increased utilization of the township’s natural resources.

Background / Context / Rationale:

Currently, various Park and Recreation programs (clinics, classes, trips), etc. appear to be covering their expenses and/or making a minimal profit. However, when the salary and benefits of the Director of Recreation are allocated to each of the programs, the net loss for the Park and Recreation programs has exceeded \$50,000 to \$75,000 per year for the last 5 years. This does not account for the fees associated with maintaining the park as those fees will be incurred (in general) in order to maintain the park regardless of whether or not these programs exist.

The West Chester YMCA is thriving. They have reached record membership levels and have provided highly valued services to many of East Goshen’s residents. However, in meeting with the YMCA executive team, the TAG learned the West Chester YMCA has met its capacity in a variety of ways. As an example, due to the physical constraints of their property, they are unable to expand their summer camp program which provides a fun and safe environment for children throughout the summer months. In addition, many of the YMCA’s sports programs leverage elementary school fields throughout the area. Unfortunately, the fees for these fields are increasing every year and many of them pale in comparison to the fields that are available in East Goshen Park. It appears that the YMCA would be willing to pay a premium if they were able to further leverage the township’s ball fields.

The West Chester YMCA desperately wants to expand their relationship with East Goshen but they are hesitant to approach the Board of Supervisors without being asked. They are huge contributor to the local community and they could bring so much more if they were provided with the means to do. Moreover, the YMCA’s vision – “To be a catalyst for improving the quality of life in our community” – is well aligned with the township’s vision – “Endeavor to be one of the premier communities in Chester County by continually improving the quality of life while at the same time, managing growth and development in a manner consistent with the protection of our environment and preservation of our natural and historic resources”. To that end, the TAG believes that the township can make far better use of their natural resources by creating a partnership with the YMCA.

Specific Recommendations and Considerations:

- Request a detailed proposal from the YMCA that illustrates how they would leverage East Goshen Park to expand their summer camp program
- Request a detailed proposal from the YMCA that illustrates how they would leverage East Goshen Park to increase their usage of the ball fields
- Develop a long-term strategy to partially or fully privatize and significantly expand upon the Park and Recreation programs, services and events

Ease of Implementation (i.e. effort): Medium

Costs: Low

Benefits: High

Probability of Capturing Benefits: High

Benefits:

- Assume the annual net loss for the Park and Recreation Program is eliminated = \$50,000 to \$75,000 (very conservative)
- Improved and expanded Park and Recreation programs and services

Total Estimated One Time Benefits: Not applicable

Total Estimated Recurring Benefits: \$50,000 to \$75,000 annually

Costs:

- Not applicable

Total Estimated One Time Costs: Not applicable

Total Estimated Recurring Costs: Not applicable

Related Recommendations:

- Self-Sustaining Park & Recreation Programs (104)
- Institute Park and Recreation Sponsorship Program (88)
- Increase Fees for Ball Fields (48)

PARK & RECREATION BOARD
EAST GOSHEN TOWNSHIP
CHESTER COUNTY
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

November 16, 2011

RECEIVED
BY: _____
NOV 16 2011

East Goshen Township Board of Supervisors

1580 Paoli Pike

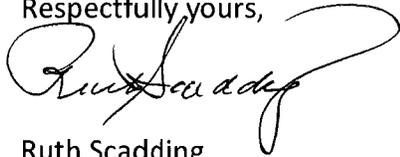
West Chester, PA 19380

RE: Partnership with the West Chester YMCA

Dear Board of Supervisors:

At our meeting on November 15, 2011 the Park and Recreation Board approved the following motion: "The Park Board is not in favor of the partnership with the YMCA and wants to continue with the current system for permitting the fields, pavilions and other facilities". The motion passed with 6 for and one abstention.

Respectfully yours,



Ruth Scadding

Chairman of the Park Board

Memo

Date: ~~November 9, 2011~~
November 17, 2011
From: Rick Smith, Township Manager
To: Board of Supervisors
Re: ABC Chairman Email Accounts

We tested the ABC Chairman email accounts and they are active and functioning. However, the majority consensus among the ABC Chairmen is that these accounts are not being used. The suggestion was made to do away with email accounts for the chairpersons and have all ABC email come to the administration email address (egtadmin@eastgoshen.org). Email could then be forwarded, if necessary, to the pertinent chairperson for handling.

Following up on the discussion at the meeting on November 15, Bee.net can set up the ABC Chair e-mail accounts so that the e-mails would be forwarded to the ABC Chair's personal e-mail account and have the system send a copy to the web mail which would then be archived.

This would ensure that an ABC would know about any e-mails that are sent to them in their official capacity and eliminate the need for them to check their web mail account.

However, if they responded to the resident using their personal e-mail, the response would not be archived. We could solve this problem by requiring that the ABC Chair should "cc" the staff liaison on any response.

We could also require that the ABC Chair and ABC members "cc" the staff liaison on any e-mails they send concerning Township business.

-If you agree I will revise the e-mail resolution to address this issue.

F:\Data\Shared Data\Information Systems\E MAIL\BOS Memo Chair email accounts 111711.doc
~~F:\Data\Shared Data\Information Systems\E MAIL\BOS Memo Chair email accounts.doc~~

Memorandum

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

Voice: 610-692-7171

Fax: 610-692-8950

E-mail: mgordon@eastgoshen.org

Date: 11/14/2011
To: Board of Supervisors
Cc: Rick Smith, Township Manager
From: Mark Gordon, Township Zoning Officer
Re: DocStar System Replacement

Dear Board Members,

The Township Administration Finance and Code Departments use a Document Management System to electronically file documents, DocStar. The hardware for the current system is 4.5 years old and out of warranty. I have been discussing the replacement and upgrade options with our DocStar consultants, ImageNet. ImageNet has provided us a proposal for a new **DocStar Server Upgrade** to include software updates, 3 yr extended warranty, delivery, setup, installation, and configuration.

ImageNet also does **Large Format Scanning** (i.e. subdivision and land development plans) for upload into the document management system. We have previously scanned over 1,300 plan sheets and Image Net can move these into DocStar, however we have approximately 900+ plan sheets that need to be scanned and coded so they can be easily indexed and securely backed up so the information is not lost if the physical plan is. ImageNet provided a proposal to do this work in conjunction with the purchase of the upgraded hardware and software package.

I also asked ImageNet to provide a proposal for the scanning of all 7900+ **Property TPN Files** into the DocStar system. This information is used very often and it would be very helpful to have the historical information available at your fingertips and at times files do go missing so this would ensure that an electronic back up would exist.

DocStar Server Upgrade

Includes 3 yr ext warrantee	Purchase		\$20,966.00	
		Per Mo.	Total	
	60 Mo Lease	\$398.34	\$23,900.40	
	48 Mo Lease	\$479.16	\$22,999.68	
Additional 2 Yr warrantee (5yr)		\$5,640	\$2,820.00	per yr

Large Format Scanning

Scan 900 images and import into Docstar	Purchase	\$2,115	\$2.35	per page
		Per Mo.	Total	
	60 Mo Lease	\$51.24	\$3,074.40	
	48 Mo Lease	\$60.76	\$2,916.48	

Property TPN Files

Scan 7900 Property tax parcel files	Purchase	\$8,930	\$1.13	per file
		Per Mo.	Total	
	60 Mo Lease	\$209.61	\$12,576.60	
	48 Mo Lease	\$248.58	\$11,931.84	

Recommendation:

I recommend that the Board authorize the Staff to enter into a contract with ImageNet to do the following:

1. Replace the DocStar Server **Purchase \$20,966**
2. Scan, index and upload all large format plans into DocStar. **Purchase \$2,115**
3. Scan, index and upload all Tax Parcel files into DocStar. **Purchase \$8,930**

Memo

East Goshen Township

Date: November 15, 2011
To: Board of Supervisors
From: Rick Smith, Township Manager
Re: HVAC System Assessment

On November 1, Ken Kauffman presented his assessment of the Township Building HVAC System. The Board requested some additional information and I received that today. You need to decide where we go from here.

Assuming that the Board wants to upgrade the HVAC system I would suggest that you consider two factors. The first being the 20 year life cycle cost of each system.

The existing system has a 20 year operating life cycle cost of \$789,208. This is the baseline from which the other options should be compared. Option 2 (gas furnace) and Option 3 (VAV system) both have operating life cycle costs in excess of the baseline so I would eliminate them.

Option 1 (high efficiency water source heat pumps) has an estimated operating life cycle cost of \$729,300 which represents a savings of \$59,980 or (8%) from the baseline. Option 4 (geothermal) has an estimated operating life cycle cost of \$654,700 which represents a savings of \$134,580 or (17%).

We would save an additional \$74,600 in operating costs from the baseline if we went with Option 4 (geothermal) instead of Option 1 (high efficiency water source heat pumps).

The second factor is the initial installation cost.

The installation cost of Option 1 (high efficiency water source heat pumps) is \$385,875. The installation cost of Option 4 (geothermal) is estimated at \$500,250 which is only \$114,375 more than Option 1.

It would seem that the \$134,580 we will save operating Option 4 (Geo thermal) will more than offset the \$114,375 higher first cost.

Finally if we go with Option 1 at the end of 20 years we essentially start over. If we go with Option 4 we start over with a geothermal system in the ground that is paid for.

I would suggest proceeding with Option 4. We will be celebrating our 200th anniversary in a few years. We have been in our present location for over 40 years and I do not see use moving anytime in the future.

HVAC STUDY
November 15, 2011

OPERATING COSTS

		OPERATING COSTS	LIFE CYCLE	20 YEAR LIFE CYCLE COST	SAVINGS FROM BASELINE
BASELINE	EXISTING	\$39,464	20	\$789,280	\$0
1	WSHP	\$36,465	20	\$729,300	\$59,980
2	GAS	\$53,276	20	\$1,065,520	-\$276,240
3	VAV	\$52,092	20	\$1,041,840	-\$252,560
4	GEO	\$32,735	20	\$654,700	\$134,580
					% savings from from baseline
20 year savings from base line with option 1				\$59,980	
Annual savings from base line with option 1				\$2,999	8%
20 year savings from base line with option 4				\$134,580	
Annual savings from base line with option 4				\$6,729	17%
20 year savings from option 1 with option 4					\$74,600
Annual savings from option 1 with option 4					\$3,730

FIRST COSTS

		FIRST COST
BASELINE	EXISTING	0
1	WSHP	\$385,875
2	GAS	\$311,750
3	VAV	\$677,875
4	GEO	\$500,250
Increase from option 1 to option 4		\$114,375

Rick Smith

From: Ken Kauffman [kenk@mooreengineering.com]
Sent: Tuesday, November 15, 2011 11:57 AM
To: Rick Smith
Subject: East Goshen Questions

Rick,

I have researched the two open questions discussed at the township meeting and have the following additional information:

Q – What would be the cost for eliminating the ceiling plenum issues in the existing facility:

A – That is not easy to determine until we determine the full scope of the work. The cost associated with this part of the scope is directly related to the other potential work that is outlined in the study. For example, if you are going to do a complete system replacement, then the ceilings and lights would need to be removed and reinstalled or replaced. This simplifies the cost of adding the ductwork needed to eliminate the plenum because the ceiling is not in the way. If you just want to fix the plenum issue, then you would need to include the costs for the ceilings in the number. That is one of the reasons that I excluded it in the estimates. All this stated, I would estimate that the cost to eliminate the plenums would be in the \$65,000 to \$85,000 range.

Q – What was the cost of the well system for the similar project I referenced in the Selinsgrove PA area?

A – That project was very similar in size and the cost of the field portions was around \$150,000. There was an excessive amount of water on that site that needed to be dealt with under the E&S plan. We are estimating that the cost to handle the runoff is in the \$20,000 to \$30,000 range.

I hope this addresses the two items that needed further research and clarification. Please contact me if you have additional open questions.

Ken

Kenneth L. Kauffman, PE, LEED AP
Vice President
MOORE ENGINEERING COMPANY
3637 Columbia Avenue
Lancaster, PA 17603
717-285-3141
www.mooreengineering.com

HVAC System Assessment
for
East Goshen Township Building

October 25, 2011



3637 Columbia Avenue - Lancaster, PA 17603

Phone 717.285.3141- Fax 717.285.2443

www.mooreengineering.com

Introduction

Moore Engineering Company (MEC) was contracted by East Goshen Township to review the HVAC system at their office facility on Paoli Pike and provide feedback based on the following outlined scope of work:

1. Assess the viability of the current HVAC system
2. Identify what can be done to the current HVAC system to reduce O&M costs
3. Identify alternatives to the current HVAC system
4. Provide the projected cost for each alternative
5. Provide the estimated cost savings to the Township for each alternative

To perform these tasks, we surveyed the building and the site, reviewed the as-built documents provided, and estimated the heating and cooling loads for the building using block load calculations. The findings are summarized in the attached report.

Existing System Overview and Condition

The existing facility is currently heated and cooled with a water source heat pump system. This system includes a gas fired boiler, an outdoor cooling tower, two pumps, a two pipe distribution system, multiple water source heat pumps, ductwork distribution systems, and automatic temperature controls. There is also a central ventilation system installed to provide the zones with outdoor air.

Water source heat pump systems are generally quite efficient for central block type buildings with multiple interior spaces. The general layout of the Township building does have zoning that would provide the zone diversity that generally makes water source heat pumps a viable system solution.

Through the course of our evaluation we have determined that the equipment has been well maintained and is in working order. Some components are new as a result of recent replacement.

Equipment List						August 10, 2011
East Goshen Township						
HVAC Equipment						
Location	QTY	Type	Manufacturer	Model	Unit #	
Township Building						
	1	Gas Boiler	Weil - McLain	Ultra 230		
	2	Closed loop 3 HP Pumps	Taco			
	1	Cooling Tower	Evapco	ATW33A		
	1	Chemical feed system for EVAPCO Tower.				
	1	Make Up Air Unit	Brasch	M116E		
	2	Cabinet Heaters	Erinraft	ECH-A-34		
	6	Wall Heaters	Erinraft	AWH720		
	3	Unit Heaters	Reznor	RTN-75-40		
	2	Unit Heaters	Reznor	RTN-60-40		
	1	Propeller Fan	Penn Ventilator			
	1	Water Source Heat Pump	Climate Master	HS019GSZGLBMCSA	B-1	
	1	Water Source Heat Pump	Climate Master	HS006GSZGRBMCSA	B-2	
	1	Water Source Heat Pump	Climate Master	HS030GSZGLBMCSA	B-3	
	1	Water Source Heat Pump	Climate Master	HS015GSZGLSMCSA	1-1	
	1	Water Source Heat Pump	Climate Master	GCH018BC30CLBS	1-2	
	1	Water Source Heat Pump	Climate Master	HS009GSZGRBMCSA	1-3	
	1	Water Source Heat Pump	Climate Master	TCH018AGC30CRSS	1-4	
	1	Water Source Heat Pump	Climate Master	GRH009AGD30CRSS	1-5	
	1	Water Source Heat Pump	Climate Master	HS019GSZGLBMCSA	1-6	
	1	Water Source Heat Pump	Climate Master	HS019GSZGRBMCSA	1-7	
	1	Water Source Heat Pump	Climate Master	HS009GSZGLBMCSA	1-8	
	1	Water Source Heat Pump	Climate Master	HS009GSZGLBMCSA	1-9	
	1	Water Source Heat Pump	Climate Master	HS012GSZGRBMCSA	1-10	
	1	Water Source Heat Pump	Climate Master	GCH009BGC30CRBS	1-11	
	1	Water Source Heat Pump	Climate Master	HS019GSZGRBMCSA	1-12	
	1	Water Source Heat Pump	Climate Master	GCH030BGD30CLBS	2-1	
				There is no unit 2-2	2-2	
	1	Water Source Heat Pump	Climate Master	GCH024BGC30CLSS	2-3	
	1	Water Source Heat Pump	Climate Master	HS072HSZGLSMCSA	2-4	
	1	Water Source Heat Pump	Climate Master	GSH070AHC30CLSS	2-5	
	1	Water Source Heat Pump	Climate Master	TCH018AGC30CRSS	2-6	
	1	Water Source Heat Pump	Climate Master	HS009GSZGLBMSA	2-7	
	1	Water Source Heat Pump	Climate Master	HS012GSZGLBMCSA	2-8	
	1	Water Source Heat Pump	Climate Master	HS006GSZGLBMCSA	2-9	
	1	Water Source Heat Pump	Climate Master	HS015GSZGLSMCSA	2-10	
	1	Water Source Heat Pump	Climate Master	GCH018BGD30CRSS	2-11	
	1	Water Source Heat Pump	Climate Master	TCH012AGC30CLSS	2-12	

The main concerns found during the analysis are as follows:

- Water Source heat pumps (WSHP) are nearing 20 years old and are at the end of their typical life expectancy. ASHRAE publishes a typical service life for water source heat pumps of 19 years.
- The cooling tower is nearing 20 years old and is at the end of its typical life expectancy. ASHRAE publishes a typical service life for cooling towers of 20 years.
- The loop pumps are nearing 20 years old and have exceeded their typical life expectancy. ASHRAE publishes a typical service life for inline water pumps of 10 years.
- The older WSHP units do not meet current energy standards.
- The cooling tower is no longer efficient and needs to be replaced.
- The flue vent system for the gas boiler does not appear to match the listed requirements in the online installation manual. This should be further evaluated and modified if required.
- The building outdoor air ventilation system does meet current standards for delivery or air volume.
- The boiler size appears to be slightly undersized based on an **estimated building load**.
- **The facility uses a plenum ceiling return and ventilation delivery system. This method can cause operation, temperature control, and system efficiency issues. It also creates a dusty environment above the ceiling which clogs filters and traps.**
- It appears that some condensate drains are connected directly to the sanitary system. This does not meet the current code and provides a path for sewer gasses to be pulled into the HVAC airstream (if a trap dries out).
- WSHP systems are in the ceiling limited cavity and are difficult to maintain.



Option 1 – Upgrade the existing Water Source Heat Pump System

As noted previously, the building configuration makes a WSHP system a viable option. Modifying and modernizing the existing system provides value in first cost and can result in operational savings. Our general recommendations for upgrade include the following:

1. Replace the existing inefficient and aging components. The older water source heat pumps operated at an efficiency of 9.5 EER and 3.9 COP. Newer models can be provided that operate at 18.0 EER and 5.9 COP. This is a major improvement in the efficiency of the equipment.
2. Replace the aging and inefficient cooling tower. The existing treatment system seems to be in good condition and can remain.
3. Provide new circulation pumps with variable speed drives. Install two way control valves on the WSHP units to allow the flow to be reduced when the systems are not in operation. This will result in significant pumping horsepower reduction. Currently the pumps operate at full speed continuously.
4. Install a second boiler to increase the heating capacity. While the heat pump system will operate at lower loop water temperatures, maintaining a 70 F loop temperature will increase the efficiency of each heat pump and reduce the amount of electricity used in the heating process.
5. Install a new energy recovery ventilation system that will precondition the outdoor air. Upsize the new boiler so that hot water can be provided for reheat in lieu of the 120 KW electric heating coil.
6. Modify the condensate system to be code compliant.



Because we are not currently in the design process, we cannot confirm if all of our recommended modifications can be implemented. If the project enters a design phase, further sizing, evaluation, and discussion with staff would be required to see if some proposed modifications are feasible. They will require us to modify floor plans, ceiling elevations, etc. That may be possible in some areas, but not in others. For this reason, we have not included these costs in the estimates but list them below for future consideration and evaluation.

7. Eliminate the plenum system and provided fully ducted outdoor air and returns. This may be difficult in some areas as a result of ceiling cavity constraints.
8. Relocate the heat pumps, when possible, to closets on the floor level to allow for easier service.



The WSHP system has the following advantages and disadvantages:

ADVANTAGES

- Simultaneous heating and cooling
- High efficiency boilers provide good modulation and loop control
- Supply ductwork can be reused
- Loop piping system can be reused
- Very competitive as a result of multiple manufacturers
- Outdoor condensing units are not required

DISADVANTAGES

- Outdoor cooling tower is required
- Water treatment is required
- The cooling tower increases the use of water through the evaporation process

Option 2 – Gas Furnaces with Split System Air Conditioners

Like the WSHP system, this system is capable of providing simultaneous heating and cooling. Each zone would have a high efficiency gas furnace with an outdoor condensing unit. Outdoor air would be introduced directly into the space through an energy recovery unit as we are recommending in Option #1. The heat in the energy recovery unit would be hot water off the existing boiler. The zones would be fully ducted and include control similar to the existing configuration.

The gas furnaces would utilize PVC pipe for flues and intakes. If the zoning remains the same, there would be 26 PVC flue pipes and 26 PVC intake pipes that would be required to run to the exterior through the roof or the outside walls. We would also need to located 26 outdoor condensing units around the site. This will be a design challenge from an aesthetic standpoint.

A new gas service would be required along with a new interior distribution system. New regulators would be needed, but they would be located outside the facility at the meter. We estimate that the new gas main in the building would be no larger than 4”.

ADVANTAGES

- Simultaneous heating and cooling
- Gas is an efficient way to heat a building
- The equipment is very competitive
- Supply ductwork could be reused if the zoning remains the same

DISADVANTAGES

- Exterior venting will be difficult to conceal on the building exterior
- Multiple outdoor condensing units will be difficult to locate around the perimeter of the building
- Some new site noise as a result of the compressors
- Piping system cannot be reused
- A new gas service and supply pipe will be required
- Equipment historically has a shorter life than the other options



Option 3 – VAV System with Chilled Water Cooling and Hot Water Heating

This system is capable of providing simultaneous heating and cooling. An additional boiler would be provided along with a new outdoor central chiller. Four pipes and separate pumps would be used for the system to allow for simultaneous heating and cooling. Ducted chilled/hot water air handlers would be located in the basement to provide 55 F air to VAV boxes located in each zone. The 55 F air volume is varied and/or heated with a hot water coil (in the VAV box) to maintain the zone set point. Hot water would be distributed to each VAV box from the boiler system. The existing piping would be insulated and reused for the reheat loop.

Outdoor air ventilation would be provided through the air handler to all spaces. An energy recovery ventilation wheel would be provided in the unit to reduce the cost of preconditioning the air. New areaways will be required to handle the outdoor air and relief air systems associated with the air handlers.

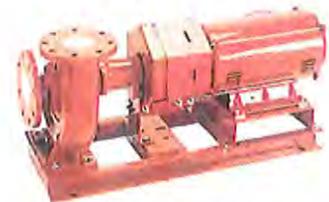
The chiller would be an air cooled unit that would be located where the existing tower is currently installed. A sound enclosure may be required depending on the projected sound level of the unit. The existing piping to the tower is likely undersized cannot be reused. Further evaluation would be required.

ADVANTAGES

1. Best control due to VAV box reheat
2. Excellent comfort level
3. Existing supply ductwork can be reused
4. Existing piping can likely be reused for the reheat coils
5. Outdoor condensing units are not required.

DISADVANTAGES

1. This option will require the use of additional space in the basement.
2. New areaways will be required.
3. Outdoor chillers can be noisy if not properly treated.
4. Higher first cost than some other options.



Option 4 – Geothermal Heat Pump System

This system is very similar to the WSHP system except that it utilizes a well field in lieu of the boiler and the tower. For this option we would reuse the existing supply ductwork and loop water piping. The piping would need to be insulated as a result of the lower temperatures associated with a geothermal system. The existing heat pumps recently replaced could not be reused in this scenario as they are not geothermal compatible.

The boiler would be retained and used for preconditioning the outdoor air off a new energy recovery ventilator. This will eliminate the need to electric heat and keep the energy costs minimized.

A major part of the cost of this system is the well field. An analysis of the soil geology will be required to determine if the site is adequate for a Geothermal System. We have estimated the well field size and cost based on other Geothermal Systems installed in similar facilities. Based on the information received, the water table is quite high in this area. This can cause some complication when drilling and could increase the cost of the installation. It does, however, help with the soil conductivity and help to reduce the amount of bore holes required. If this option is considered, a test bore will be required to determine the actual soil conditions and the conductivity. That information is necessary to properly size the well field.

ADVANTAGES

- The only truly “Green” system being considered
- Simultaneous heating and cooling
- No visible outdoor equipment
- No associated site noise
- Lowest energy consumption option
- Lowest maintenance cost option

DISADVANTAGES

- Major site disturbance would occur with the new well field
- Well field may have an effect on the parking lots
- Piping system will need to be insulated
- Highest first cost
- Glycol will be required in the piping system



System Option Life Cycle Cost Summary

The following is a general economic comparative summary of the four options based on typical costs for the systems as well as estimated operational costs. The Annual Operational Cost estimates listed include both estimated utility costs and maintenance costs. These numbers are for comparative purposes only. They are for general system comparison only.

Option #	HVAC System	*Cost/SF	Typical System Life Expectancy	Total First Cost	Annual Operating Cost	Average Owning and Operating Cost
Baseline	Existing System	NA	NA	NA	\$39,464	NA
1	Water Source Heat Pumps	\$24.75	20	\$358,875	\$36,465	\$80,520
2	Gas Furnaces with Split System Air Conditioners	\$21.50	15	\$311,750	\$53,276	\$97,162
3	VAV System with Chilled Water Cooling and Hot Water Heating	\$46.75	20	\$677,875	\$52,092	\$130,943
4	Geothermal Heat Pump System	\$34.50	20	\$500,250	\$32,735	\$89,441

*Note that costs include new drop ceilings in the areas of work, but not new lighting

Summary

Based entirely on economics, we would recommend Option 1. Please note that despite the economic advantage of this option, the Township may wish to pursue another option based on specific advantages and disadvantages. We have included a brief list of some other recommendations based on various criteria as follows:

Evaluation Criteria	Recommended System		
	1 st Choice	2 nd Choice	3 rd Choice
Lowest Energy Use	Option 4	Option 1	Option 3
Lowest First Cost	Option 2	Option 1	Option 4
Lowest 20 year Maintenance Cost	Option 4	Option 1	Option 3
Least Central Mechanical Space Required	Option 4	Option 2	Option 1
Lowest Site Noise	Option 4	Option 1	Option 2
Least Visible Site Equipment	Option 4	Option 3	Option 1
Best Humidity Control	Option 3	Option 1,4	Option 2
Least Disruptive Install	Option 1		

The selection process for the HVAC system should include a review of the economics, the above criteria, as well as other intangible factors.

Other Energy Issues

Per our proposal we indicated that we would present other energy saving opportunities that we noted during our review of facility. These have not been included in the listed cost estimates but can be budgeted as needed.

1. Upgrade the interior lighting systems. The systems currently installed are generally T-12 fluorescent lighting systems. These systems can use as much as 2.5 watts per SF. These lamps are being phased out and will soon become difficult to purchase. If you replace the ceiling to install new HVAC systems, replacement of the lights would make a lot of sense. New T-8 or T-5 lighting can be installed which typically run at under 1 watt per SF.
2. It was noted that some of the insulation above the upper floor ceiling is loose and should be reattached.
3. The plans indicated that the attic insulation thickness is 6” of batt which is equivalent to an R-12. This thickness of insulation was standard 20 years ago, but does not meet current energy code levels. The current code level of insulation would be R-38 or 12” of batt.
4. Flow controls could be added to the plumbing fixtures to reduce the amount of water used – both hot and cold.
5. Additional temperature controls could be provided to provide global setback of temperatures and loop control. All the new thermostats should be programmable type for added energy savings.

Our office entered your utility data into the Energy Star portfolio manager benchmarking tool to see how your facility stacks up against other similar facilities. The general results are outlined on the following page.

FOR YOUR RECORDS ONLY. DO NOT SUBMIT TO EPA.

Please keep this Facility Summary for your own records; do not submit it to EPA. Only the Statement of Energy Performance (SEP), Data Checklist and Letter of Agreement need to be submitted to EPA when applying for the ENERGY STAR.

Facility
EGT
Paoli Pike
West Chester, PA 19380

Facility Owner
N/A

Primary Contact for this Facility
N/A

General Information

EGT	
Gross Floor Area Excluding Parking: (ft ²)	23,479
Year Built	1992
For 12-month Evaluation Period Ending Date:	May 31, 2011

Facility Space Use Summary

Building	
Space Type	Office
Gross Floor Area(ft ²)	23,500
Weekly operating hours	60
Workers on Main Shift	30
Number of PCs	30
Percent Cooled	50% or more
Percent Heated	50% or more

Energy Performance Comparison

Performance Metrics	Evaluation Periods		Comparisons		
	Current (Ending Date 05/31/2011)	Baseline (Ending Date 05/31/2011)	Rating of 75	Target	National Average
Energy Performance Rating	59	59	75	N/A	50
Energy Intensity					
Site (kBtu/ft ²)	77	77	63	N/A	65
Source (kBtu/ft ²)	167	167	137	N/A	185
Energy Cost					
\$/year	\$ 39,464.15	\$ 39,464.15	\$ 32,331.52	N/A	\$ 43,713.82
\$/ft ² /year	\$ 1.68	\$ 1.68	\$ 1.38	N/A	\$ 1.85
Greenhouse Gas Emissions					
MtCO ₂ e/year	174	174	143	N/A	193
kgCO ₂ e/ft ² /year	7	7	6	N/A	8

More than 50% of your building is defined as Office. Please note that your rating accounts for all of the spaces listed. The National Average column presents energy performance data your building would have if your building had an average rating of 50.

Notes:

- o - This attribute is optional.
- d - A default value has been supplied by Portfolio Manager.

CENTER FOR SOCIAL AND ECONOMIC
POLICY RESEARCH
AT
WEST CHESTER UNIVERSITY OF PENNSYLVANIA

SCOPE OF WORK PROPOSAL

EAST GOSHEN COMPENSATION AND
BENEFITS ANALYSIS

NOVEMBER 8TH, 2011

PREPARED BY DR. JEFFERY OSGOOD
& DR. R. LORRAINE BERNOTSKY
(610)425-7447

EAST GOSHEN TOWNSHIP COMPENSATION AND BENEFITS ANALYSIS

PROPOSAL SUMMARY

East Goshen Township is seeking to conduct a comprehensive examination of its compensation practices. The purpose of this project is to identify the extent to which the township's compensation policies are appropriate given market considerations and the Board of Supervisor's fiduciary responsibilities to the citizens of the township. The Center for Social and Economic Policy Research (CSEPR) will examine and evaluate the classification, compensation and benefit plans for all township employees.

The end product of the study, as detailed in the Proposed Work Scope, will include recommendations for the following: a classification schedule, job descriptions, and compensation table for employees; a total compensation comparison with other similarly situated municipalities and similar positions in the private sector as defined by the client; and manuals that create policies that address both compensation and benefits and employee evaluation and recognition. Any questions or clarifications may be directed to Dr. Jeffery Osgood at (610) 425-5000 ext. 2440 or josgood@wcupa.edu.

PROPOSED WORK SCOPE

The CSEPR shall develop recommendations for a compensation and classification system of positions that cover all township employees.

1. Job Description Evaluations and Revision

Create, modify and/or update job descriptions for all positions in compliance with the ADA and other applicable federal and state statutes. Specifically, essential functions will be identified in each job description. The CSEPR shall determine whether the duties performed by each employee actually reflect the duties of the job title/description assigned to that employee and, if not, recommend the appropriate job title and description for the employee. The CSEPR shall also include a list of necessary or required qualifications, including education, for each position that reflect the minimum level necessary to successfully complete the required functions.

2. Compensation and Benefit Analysis Survey

The CSEPR shall perform a compensation and benefit survey of several communities comparable to East Goshen in size, population and economic climate. These shall be selected in consultation with the client. Private sector comparisons will be made where such comparative analysis is representative of a compensation structure that is applicable to municipal hiring.

3. Compensation Schedule

Utilizing the market survey results and comparable job descriptions, the CSEPR shall prepare a recommended compensation plan, salary schedule and benefits offerings to correspond to the updated job descriptions.

4. Compensation and Benefit Policies Manual

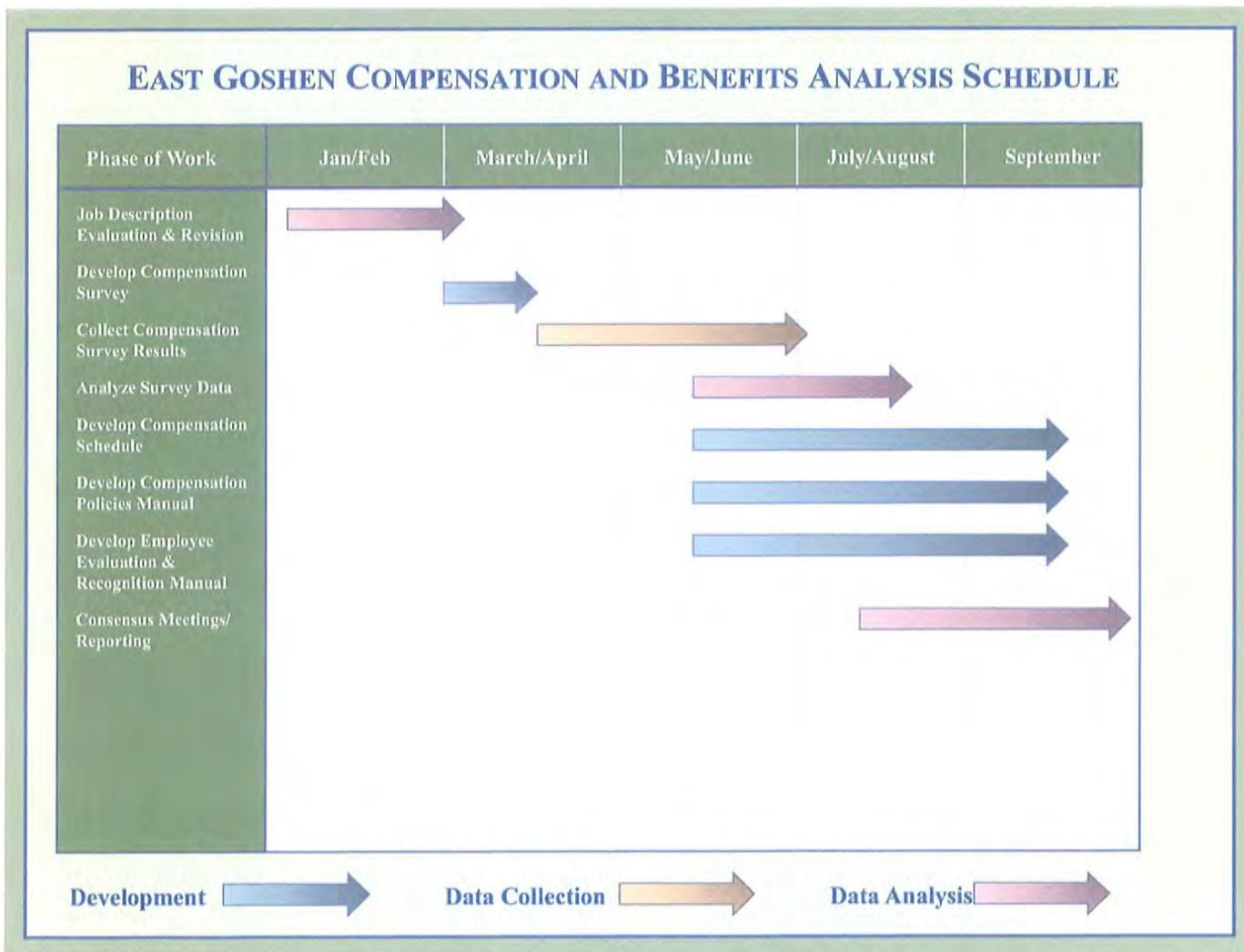
At the conclusion of the study, the CSEPR shall provide a Compensation and Evaluation manual to be utilized by the township to objectively evaluate new or revised positions following the conclusion of the study. The manual shall describe the methodology used by the CSEPR to undertake the study and how it can be maintained and utilized by the township in the future, including the detailed evaluation criteria.

5. Employee Performance Evaluation and Recognition Manual

At the conclusion of the study, the CSEPR shall provide an Employee Performance Evaluation and Recognition manual to be utilized by the township to objectively evaluate employee performance and recognize particular areas of performance that are or may become of interest to the Township i.e. recognition and reward of employees whose work or suggestions significantly and measurably increases productivity and saves money for the Township. Such manual shall also include recommendations for incentive pay, performance pay and/or other supplemental compensation.

TIMELINE AND DELIVERABLES

The stages at which data collection and analysis for this study could take place are somewhat flexible. However, it is the recommendation of the CSEPR that the stages for this project follow the order and the timeline detailed in the charts below in order to provide a timely completion date for the client.



The deliverables for the phases of work are as follows:

Phase of Work	Deliverables
Job Description Evaluation and Revision	<ul style="list-style-type: none"> • Revised job descriptions for all municipal employees • Identification of essential job functions for each position • Identification of the necessary or required qualifications for each position
Compensation and Benefits Analysis Survey/Compensation Schedule	<ul style="list-style-type: none"> • Survey instrument • Data analysis • Respondent database file • Development of Compensation Schedule based on survey findings
Compensation and Benefits Manual	<ul style="list-style-type: none"> • Identification of best practices in municipal compensation and benefits • Development of a Compensation and Benefits manual
Employee Evaluation and Recognition Manual	<ul style="list-style-type: none"> • Meeting with client to determine additional areas of performance and incentive pay and recognition to include in manual • Identification of best practices in employee evaluation and recognition • Development of an Employee Evaluation and Recognition manual
Consensus Meetings and Development of Final Reports¹	<ul style="list-style-type: none"> • Consensus meetings with client to finalize all deliverables • Multiple training sessions on how to use the new policies and procedures • MS Word and Web-ready (PDF) file of all deliverables

¹ The CSEPR will provide electronic copies of all reports which may be placed on the web at the discretion of the client. This proposal does not include web hosting of the reports or the data by the CSEPR.

Memorandum

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380
Voice: 610-692-7171
Fax: 610-692-8950
E-mail: mgordon@eastgoshen.org

RECEIVED AFTER
AGENDA
WAS PRINTED

Date: 11/18/2011
To: Rick Smith, Township Manager
Cc: Board of Supervisors
From: Mark Gordon, Township Zoning Officer
Re: East Goshen Township Veterans'

Rick,

I attended the West Chester Men's Service Club Veterans Day Dinner Last with Senya, Marty and Carmen and met a bunch of great East Goshen Vets. Senya and I started discussing how the Township can improve the awareness of Veterans' programs for our Township Veterans.

In college I worked for the VA as a Penn State student liaison for the GI Bill Financial Aid programs. I helped Penn State Veterans wade through the challenges of the VA Financial Aid programs. I was also an officer in my Veterans Service Fraternity where I worked on many programs for Veterans in the Harrisburg area.

As I work through my own challenges and experiences dealing with VA benefits I'm realizing that these programs can be confusing however there are resources that can help veterans overcome these hurdles and that's where I think I can provide an additional service to East Goshen Township Veterans.

Senya and I spoke with Paul Andriole, Chester County Director of Veterans' Affairs; he agreed that the biggest challenge is making Veterans aware of the resources available to them and liked the idea of a local municipal veterans' liaison to improve awareness for Chester County Veterans. I know I can assist East Goshen Veterans in finding the right person or agency to assist them. This would simply be an additional informational service we could offer and something I would enjoy doing and one that I know will enhance the welfare of East Goshen Township Veterans.

Memo
East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

Voice (610) 692-7171

Fax (610) 425-8950

E-mail rsmith@eastgoshen.org

Date: November 17, 2011
To: Board of Supervisors
From: Rick Smith, Township Manager
Re: Sunoco Remediation Report

We received the 2011 third quarter report from Sunoco. They have pumped and treated 266,356 gallons of ground water during this reporting period, Of the 24 test wells only 6 of them have a MTBE reading above <1 ug/l. A complete copy of the report is available for review at the Township Building.

**ENVIRONMENTAL
ALLIANCE**

October 31, 2011

Ms. Lauren Mapleton
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

- *Engineering*
- *Remediation*
- *Consulting*

**RE: SUNOCO STATION #0004-7969
1425 PAOLI PIKE
WEST CHESTER, PA
PADEP Facility ID No. 15-20353**

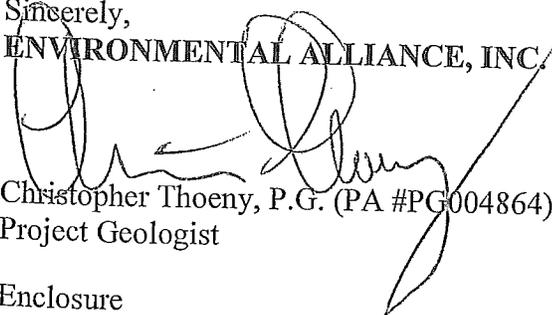
RECEIVED
BY
NOV 9 2011

Dear Ms. Mapleton:

Enclosed please find the Remedial Action Progress Report prepared by Environmental Alliance, Inc. (EAI) on behalf of Sunoco, Inc. for the above referenced site. This report is based on PA Code Title 25 Chapter 245 Requirements and presents a summary of the analytical results from the most recent groundwater sampling event conducted at this site on July 6, 2011.

Please feel free to contact the undersigned if you have any questions or comments regarding this report.

Sincerely,
ENVIRONMENTAL ALLIANCE, INC.


Christopher Thoeny, P.G. (PA #PG004864)
Project Geologist

Enclosure

c: Fiona Livingston – Sunoco, Inc. (R&M)
Yvonne Monti – Sunoco, Inc. (R&M)
ICF International – T. Aubel (Claim #06-186)
Goodman Properties - Phil Gray – Phoenix GeoEnvironmental, LLC
Rick Smith – East Goshen Township

J:\EAI_files\PCG\Sun\2199_Paoli Pike\RAPR's\3Q11 RAPR\3Q11 RAPR 2199.doc

Remedial Action Progress Report Third Quarter 2011

Sunoco Station # 0004-7969
1425 Paoli Pike
West Chester, PA

General Information

Sunoco Remediation Associate:	Fiona Livingston
Consultant:	Environmental Alliance, Inc. (Alliance) 5341 Limestone Road Wilmington, DE 19808
EAI Program Manager:	Joe Rossi
EAI Project Manager:	Tom Murphy
PADEP Case Manager:	Lauren Mapleton – PADEP Southeast Regional Office
PADEP Facility ID#:	15-20353
County:	Chester
Municipality:	East Goshen Township

SITE OVERVIEW

- ◆ The site is an active retail gasoline station and A-Plus convenience store.

SITE HISTORY

- ◆ In July of 1989, Sunoco retained Groundwater and Environmental Services, Inc. (GES) to conduct a hydrogeologic investigation upon the acquisition of the Site. GES installed 4 monitoring wells along with collecting soil samples and an initial groundwater sampling event. Analytical results indicated the presence of total BTEX and total petroleum hydrocarbons (TPH) in the two samples that were located nearest the underground storage tank (UST) field.
- ◆ In the fall of 1989, Sunoco upgraded the UST system onsite. Upgrade activities included: the removal of four 4,000 gallon steel USTs which were replaced with three 10,000 gallon fiberglass USTs and the removal of two 550 gallon heating and waste oil tanks that were replaced with two 275 gallon aboveground storage tanks (ASTs).
- ◆ In December 1992 and January 1993, Sunoco completed service station upgrades, which included the abandonment of the on-site water supply well.
- ◆ In January 1995, the Pennsylvania Department of Environmental Resources (PADEP) issued a letter in which no further investigative activities were deemed necessary. Subsequently, all monitoring wells were abandoned by B. L. Myers on January 27, 1995.
- ◆ In October 2006, Sunoco upgraded the dispensers and product piping at the Site. During upgrade activities contamination was detected beneath one of the dispensers and was confirmed through a grab soil sample. Benzene was detected above Pennsylvania

Department of Environmental Protection (PADEP) statewide health standard (SHS) and a notice of release (NOR) was submitted to the PADEP by EAI on October 16, 2006.

- ◆ On January 17th and 18th, 2007, EAI conducted soil borings and the installation of four monitoring wells. The monitoring wells were sampled on February 6th and April 25th, 2007.
- ◆ In August 2007, EAI submitted a Site Characterization Report (SCR) to the PADEP. The SCR was disapproved based on further site characterization being needed.
- ◆ On September 19th and 20th, 2007, EAI installed an additional four monitoring wells to help further delineate any potential migration of contaminants of concern.
- ◆ In accordance with a letter from the PADEP dated March 3, 2008 EAI conducted an extensive well search, in which no drinking wells were identified between the Site and the closest down-gradient sensitive receptor, Ridley Creek.
- ◆ On September 3, 2008, EAI installed two offsite monitoring wells and one onsite monitoring well. The offsite wells (MW-9 and MW-10) were installed for further horizontal delineation of potential contaminants of concern. The onsite well (MW-7B) was installed for vertical delineation of potential contaminants of concern.
- ◆ In December 2008, a slug test was performed on monitoring well MW-7B to calculate the hydraulic conductivity of the bedrock aquifer beneath the site.
- ◆ On May 27th and 28th, 2009 EAI installed three offsite deep monitoring wells (MW-9B, MW-10B, and MW-11B) and two onsite deep monitoring wells (MW-2B and MW-8B).
- ◆ On November 3rd through 5th, 2009 EAI installed three offsite monitoring wells (MW-12 through 14) and four offsite deep monitoring wells (MW-5B, MW-12B, MW-13B, and MW-14B).
- ◆ On November 9, 2009, Alliance submitted a Status Report for Site Characterization to the PADEP.
- ◆ On February 1, 2010, Alliance submitted a Site Characterization Report (SCR) to the PADEP selecting the Site Specific Standard (SSS) as the clean up standard for the site. The SCR was approved by the PADEP in a letter dated April 21, 2010.
- ◆ On June 10, 2010, Alliance submitted a Remedial Action Plan (RAP) to the PADEP in which a groundwater pump and treat remediation system was selected as the remedial strategy for the site. The RAP was approved by the PADEP in a letter dated July 21, 2010.
- ◆ Start up/shake down procedures for the groundwater remediation system were initiated on June 15, 2010. The permanent operation date for the groundwater remediation system is June 28, 2010.

SITE INFORMATION

Well Specifications:

Fourteen 2-inch diameter shallow monitoring wells (MW-1 through MW-14); Eight 2-inch diameter deep wells (MW-2B, MW-5B, MW-9B, MW-10B, MW-11B, MW-12B, MW-13B, & MW-14B); Two 6-inch diameter deep wells (MW-7B, & MW-8B)

Geology:

Soils consist of greenish gray and orange clay and micaceous silt underlain by Precambrian age, medium grained felsic gneiss. Depth to bedrock reported during

drilling ranged from 20-feet (MW-14B) to 48-feet (MW-8B). Bedrock is gradationally overlain by a thick mantle of saprolite identified in most borings.

Groundwater Elevation: From July 6 2011:
Shallow – 82.68 feet (MW-12 and MW-8) to 74.62 feet (MW-14)
Deep – 83.22 feet (MW-5B) to 74.57 feet (MW-14B)

Hydraulic Gradient: From April 2010 (last sampling event under non-pumping conditions):
Shallow - 0.014 feet per foot to the northeast
Deep - 0.018 feet per foot to the northeast

Hydraulic Conductivity: 4.75 feet per day (shallow); 1.75 feet per day (deep)

Groundwater Sampling Frequency: Quarterly

Analytical Method: Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX), Methyl tertiary-butyl ether (MTBE), Isopropylbenzene, Naphthalene via Environmental Protection Agency (EPA) Method 8260B.

Soil Quality: Soil quality data from October 2006 dispenser sampling indicated Benzene above SHS at sample *Disp/Line 2*. Soil quality data from well installation in January 2007, indicated MTBE above SHS at MW-3 (11-12 feet).

Separate-Phase Hydrocarbons: Separate-phase hydrocarbons (SPH) have never been detected in the site monitoring wells.

RISK ASSESSMENT

Potentially Sensitive Receptors: There are 34 known wells identified by the Environmental Data Resources Inc. radius report (utilizing the Federal and Pennsylvania well databases) within a 0.5-mile radius. The East Branch of Ridley Creek lies approximately 900 feet northeast of the site.

Closest Known Well: One Federal Public Supply well was identified within a one-half mile radius to the east of the site.

Municipal Water Supply: Aqua Pennsylvania, Inc.

SITE ACTIVITIES THIS REPORTING PERIOD

- ◆ Liquid-level data and groundwater quality samples were collected from thirteen shallow monitoring wells (MW- 1 through MW-5 and MW-7 through MW-14) and ten deep monitoring wells (MW-2B, MW-5B, and MW-7B through MW-14B) on July 6, 2011. A map depicting groundwater elevation and analytical data for the shallow (overburden) and deep (shallow bedrock) monitoring wells are included as Figures 1 and 2, respectively. Historical groundwater elevation and analytical data is summarized in Table 1. A copy of the laboratory results is included in Appendix A.

- ◆ System operations and maintenance (O&M) visits were performed throughout the reporting period. Historical dissolved-phase hydrocarbon recovery data is summarized in Table 2. Groundwater system performance graphs are included as Appendix B.
- ◆ System sampling was conducted in accordance with the National Pollutant Discharge Elimination System (NPDES) Permit for the Site. The system sampling analytical data is summarized in Table 3. Laboratory analytical reports from the system sampling are included as Appendix C.

REMEDIATION SYSTEM INFORMATION

- ◆ Type of System: Groundwater Pump and Treat System
- ◆ Permanent Operation Dates: June 28, 2010 to present
- ◆ Extraction Points: MW-1, MW-2, and MW-7B.
- ◆ Extraction Points Utilized: MW-7B.
- ◆ Recovery Equipment: Grundfos ES-7 Electric Submersible Pump
- ◆ Liquid-Phase Treatment Equipment: GeoTech Lo-Profile Air Stripper, (2) 200 lb. liquid granular activated carbon (LGAC) vessels
- ◆ Groundwater Discharge Location: Storm Sewer
- ◆ Gallons pumped and treated this Reporting Period: 266,356
- ◆ Average Groundwater Recovery Rate this Reporting Period: 2.01 GPM
- ◆ Total Dissolved-Phase MTBE Recovered to Date: 64.84 pounds

FUTURE SITE ACTIVITIES

- ◆ Quarterly groundwater monitoring and sampling will continue with a sampling event scheduled in October 2011.
- ◆ Continue to operate the groundwater pump and treat remediation system with regularly scheduled O&M visits.
- ◆ Weekly O&M visits will continue to maintain system operational efficiency and prevent fouling of transfer pumps and other mineral scaling issues.
- ◆ Continue to collect bi-monthly system samples and submit monthly Discharge Monitoring Reports (DMR) in accordance with the NPDES Permit.

ATTACHMENTS

- Figure 1 Groundwater Analytical and Gradient Map - Overburden (Shallow) Wells
July 6, 2011
- Figure 2 Groundwater Analytical and Gradient Map - Shallow Bedrock (Deep) Wells
July 6, 2011
- Table 1 Groundwater Elevation Data and Analytical Summary
- Table 2 Dissolved Phase Hydrocarbon Recovery Data
- Table 3 System Analytical Summary
- Appendix A Groundwater Sampling Laboratory Analytical Reports
- Appendix B Groundwater System Performance Graphs
- Appendix C System Sampling Laboratory Analytical Reports

TABLE 1
 GROUNDWATER ELEVATION DATA AND ANALYTICAL SUMMARY
 SUNOCO STATION #0004-7969
 PAOLI PIKE
 WEST CHESTER, PA

Well	Date	Depth to Water	Depth to Product	Water Elevation	Constituents of Concern (ug/l)							
					Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Isopropyl-benzene	Naphthalene	
	PA Act 2 UA ≤2500 TDS NR				5	1,000	700	10,000	20	3,500	100	
MW-1	02/06/07	17.64	--	82.56	<1	<1	<1	<1	1,300	<2	<4	
TOC	04/25/07	15.92	--	84.28	<1	<1	<1	<1	1,800	<2	<4	
100.20	08/22/07	18.50	--	81.70	<1	<1	<1	<1	880	<2	<4	
	10/18/07	20.02	--	80.18	<1	<1	<1	<1	500	<2	<4	
	01/02/08	18.85	--	81.35	<1	<1	<1	<1	1,000	<2	<4	
	04/09/08	17.09	--	83.11	<1	<1	<1	<1	1,700	<2	<4	
	07/28/08	19.30	--	80.90	<1	<1	<1	<1	2,000	<2	<4	
	10/06/08	20.59	--	79.61	<1	<1	<1	<1	3,600	<2	<4	
	01/06/09	19.23	--	80.97	<2	<2	<2	<2	4,900	<4	<8	
	04/02/09	19.83	--	80.37	<2	<2	<2	<2	3,700	<4	<8	
	06/12/09	18.33	--	81.87	--	--	--	--	--	--	--	
	07/02/09	18.08	--	82.12	<1	<1	<1	<1	8,000	<2	<4	
	10/06/09	19.04	--	81.16	<5	<5	<5	<5	7,900	<10	<20	
	11/20/09	18.09	--	82.11	--	--	--	--	--	--	--	
	12/08/09	18.04	--	82.16	--	--	--	--	--	--	--	
	01/20/10	17.02	--	83.18	<2	<2	<2	<2	6,600	<4	<8	
	04/22/10	14.74	--	85.46	<1	<1	<1	<1	3,000	<2	<4	
	07/27/10	17.92	--	82.28	<1	<1	<1	<1	160	<2	<4	
	10/07/10	19.78	--	80.42	<1	<1	<1	<1	81	<2	<4	
	01/06/11	19.02	--	81.18	<1	<1	<1	<1	81	<2	<4	
	04/13/11	16.93	--	83.27	<1	<1	<1	<1	34	<2	<4	
	07/06/11	18.03	--	82.17	<1	<1	<1	<1	37	<2	<4	

TABLE 1
 GROUNDWATER ELEVATION DATA AND ANALYTICAL SUMMARY
 SUNOCO STATION #0004-7969
 PAOLI PIKE
 WEST CHESTER, PA

Well	Date	Depth to Water	Depth to Product	Water Elevation	Constituents of Concern (ug/l)							
					PA Act 2 UA ≤2500 TDS NR	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Isopropyl-benzene	Naphthalene
MW-7 TOC 99.27	10/18/07	19.35	--	79.92	5	1,000	700	<1	<1	130	<2	100
	01/02/08	18.09	--	81.18	<1	<1	<1	<1	<1	3,100	<2	<4
	03/14/08	16.47	--	82.80	<2	<2	<2	<2	<2	8,100	<4	<8
	04/09/08	17.2	--	82.07	<5	<5	<5	<5	<5	8,300	<10	<20
TOC* 99.27	07/28/08	18.56	--	80.71	<1	<1	<1	<1	<1	2,000	<2	<4
	10/06/08	19.83	--	79.44	<1	<1	<1	<1	<1	2,100	<2	<4
	01/06/09	18.37	--	80.90	<2	<2	<2	<2	<2	5,300	<4	<8
	04/02/09	19.02	--	80.25	<2	<2	<2	<2	<2	2,700	<4	<8
	06/12/09	17.46	--	81.81	--	--	--	--	--	--	--	--
	07/02/09	17.24	--	82.03	<1	<1	<1	<1	<1	3,800	<2	<4
	10/06/09	18.22	--	81.05	<1	<1	<1	<1	<1	1,700	<2	<4
	11/20/09	17.26	--	82.01	--	--	--	--	--	--	--	--
	12/08/09	17.19	--	82.08	--	--	--	--	--	--	--	--
	01/20/10	16.02	--	83.25	<1	<1	<1	<1	<1	480	<2	<4
	04/22/10	13.96	--	85.31	<1	<1	<1	<1	<1	1	<2	<4
	07/27/10	19.27	--	80.00	<1	<1	<1	<1	<1	<1	<2	<4
	10/07/10	22.92	--	76.35	<1	<1	<1	<1	<1	34	<2	<4
	01/06/11	18.24	--	81.03	<1	<1	<1	<1	<1	170	<2	<4
	04/13/11	18.39	--	80.88	<1	<1	<1	<1	<1	45	<2	<4
07/06/11	19.38	--	79.89	<1	<1	<1	<1	<1	1	<2	<4	

TABLE 1
 GROUNDWATER ELEVATION DATA AND ANALYTICAL SUMMARY
 SUNOCO STATION #0004-7969
 PAOLI PIKE
 WEST CHESTER, PA

Well	Date	Depth to Water	Depth to Product	Water Elevation	Constituents of Concern (ug/l)							
					Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Isopropyl-benzene	Naphthalene	
					5	1,000	700	10,000	20	3,500	100	
					<50	<50	<50	<50	63,000	<100	<200	
MW-7B	09/22/08	19.61	--	79.53	<10	<10	<10	<10	52,000	<20	<40	
TOC	10/06/08	19.70	--	79.44	<10	<10	<10	<10	62,000	<20	<40	
99.14	01/06/09	18.22	--	80.92	<20	<20	<20	<20	47,000	<40	<80	
TOC*	04/02/09	18.88	--	80.26	--	--	--	--	--	--	--	
99.09	06/12/09	17.42	--	81.67	<10	<10	<10	<10	54,000	<20	<40	
	07/02/09	17.10	--	81.99	<5	<5	7	<5	33,000	<10	<20	
	10/06/09	18.07	--	81.02	--	--	--	--	--	--	--	
	11/20/09	17.11	--	81.98	--	--	--	--	--	--	--	
	12/08/09	17.03	--	82.06	<10	<10	<10	<10	23,000	<20	<40	
	01/20/10	16.09	--	83.00	<10	32	<10	29	15,000	<20	<40	
	04/22/10	13.28	--	85.81	<5	<5	<5	<5	11,000	<10	<20	
	07/27/10	25.75	--	73.34	<5	<5	<5	<5	8,400	<10	<20	
	10/07/10	32.26	--	66.83	<5	<5	<5	<5	9,000	<10	<20	
	01/07/11	17.55	--	81.54	<3	<3	<3	<3	7,700	<5	<10	
	04/13/11	25.02	--	74.07	<4	<4	<4	<4	8,400	<8	<16	
	07/06/11	25.88	--	73.21	<4	<4	<4	<4				

TABLE 1
 GROUNDWATER ELEVATION DATA AND ANALYTICAL SUMMARY
 SUNOCO STATION #0004-7969
 PAOLI PIKE
 WEST CHESTER, PA

Well	Date	Depth to Water	Depth to Product	Water Elevation	Constituents of Concern (ug/l)						
					Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Isopropyl-benzene	Naphthalene
		PA Act 2 UA ≤2500 TDS NR			5	1,000	700	10,000	20	3,500	100
MW-11	06/12/09	20.34	--	79.88	<1	<1	<1	<1	1,100	<2	<4
TOC*	07/02/09	20.19	--	80.03	<1	<1	<1	<1	350	<2	<4
100.22	10/06/09	20.74	--	79.48	<1	<1	<1	<1	170	<2	<4
	11/20/09	19.89	--	80.33	--	--	--	--	--	--	--
	12/08/09	19.95	--	80.27	--	--	--	--	--	--	--
	01/20/10	19.94	--	80.28	<1	<1	<1	<1	140	<2	<4
	04/22/10	17.14	--	83.08	<1	<1	<1	<1	22	<2	<4
	07/27/10	19.32	--	80.90	<1	<1	<1	<1	160	<2	<4
	10/07/10	21.59	--	78.63	<1	<1	<1	<1	380	<2	<4
	01/06/11	20.75	--	79.47	<1	<1	<1	<1	55	<2	<4
	04/13/11	18.55	--	81.67	<1	<1	<1	<1	30	<2	<4
	07/06/11	20.14	--	80.08	<1	<1	<1	<1	120	<2	<4
MW-11B	06/12/09	20.55	--	79.96	<2	<2	<2	<2	4,400	<4	<8
TOC*	07/02/09	19.94	--	80.57	<1	<1	<1	<1	4,700	<2	<4
100.51	10/06/09	21.02	--	79.49	<1	<1	<1	<1	890	<2	<4
	11/20/09	20.17	--	80.34	--	--	--	--	--	--	--
	12/08/09	20.22	--	80.29	--	--	--	--	--	--	--
	01/20/10	19.21	--	81.30	<1	<1	<1	<1	780	<2	<4
	04/22/10	16.79	--	83.72	<1	<1	<1	<1	470	<2	<4
	07/27/10	19.56	--	80.95	<1	<1	<1	<1	440	<2	<4
	10/07/10	21.85	--	78.66	<1	<1	<1	<1	450	<2	<4
	01/06/11	21.01	--	79.50	<1	<1	<1	<1	610	<2	<4
	04/13/11	18.82	--	81.69	<1	<1	<1	<1	430	<2	<4
	07/06/11	20.41	--	80.10	<2	<2	<2	<2	3,100	<4	<8