#### BUILDING DESIGN FOR HOMELAND SECURITY

# Unit VI FEMA 452 Risk Assessment Database



### FEMA 452: Risk Assessment



Risk Management Series

#### Risk Assessment

A How-To Guide to Mitigate Potential Terrorist Attacks Against Buildings

FEMA 452 / January 2005

Available at: http://www.fema.gov/plan/prevent/rms/rmsp452.shtm



# **Unit Objectives**

**Explain** the database install process

**Identify** where to save photos, maps, drawings, plans, etc. to interface with the database

**Explain** the information required for the database to function within each screen, how to move between screens, and switch between the assessor's tool and the master database

**Explain** the benefit and approaches to setting priorities on identified vulnerabilities

**Explain** how to use the master database to produce standard reports and search the database for specific information



- Download self installing files from FEMA Web site or
- Install from CD provided during course
- Run SETUP.EXE for Assessor Tool



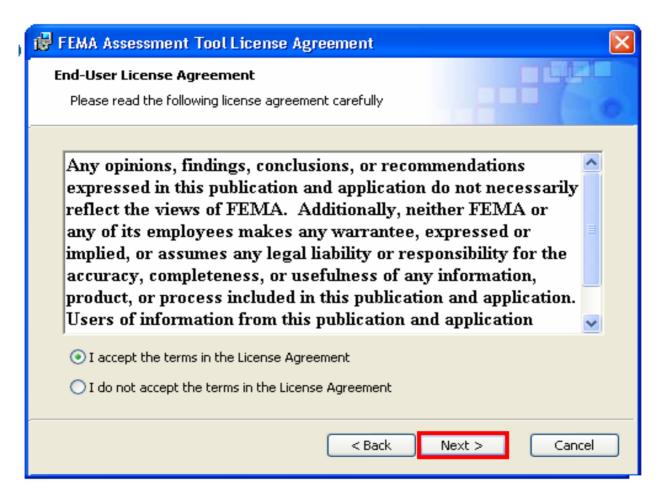


Version 2.0 is soon to be available at: http://www.fema.gov/plan/prevent/rms/rmsp452.shtm

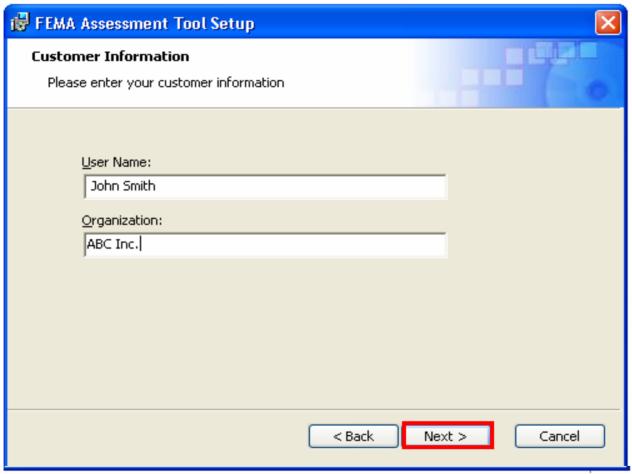




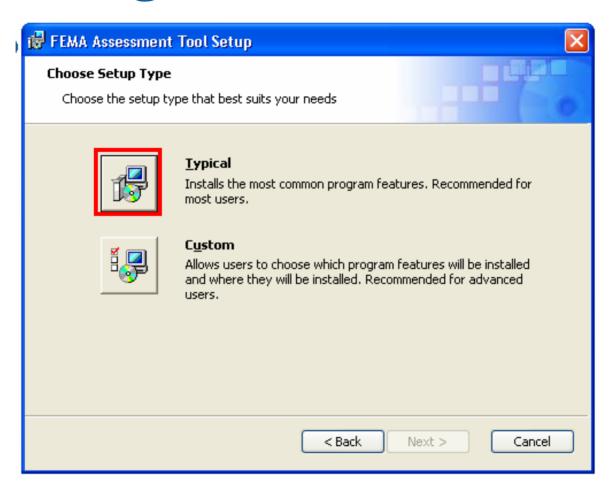




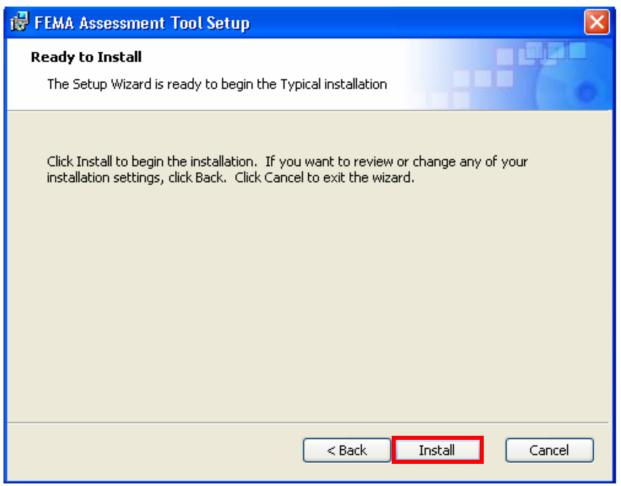




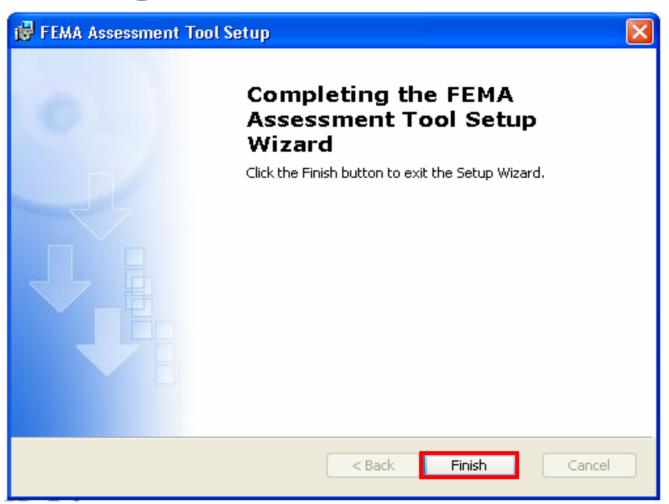








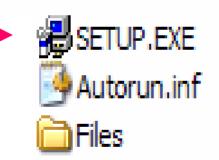






- Download self installing files from FEMA Web site or
- Install from CD provided during course
- Run SETUP.EXE for Master Database



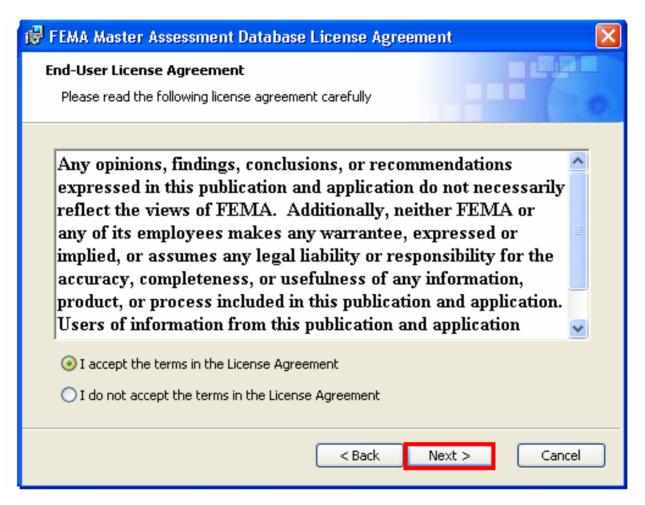


Version 2.0 is soon to be available at: http://www.fema.gov/plan/prevent/rms/rmsp452.shtm

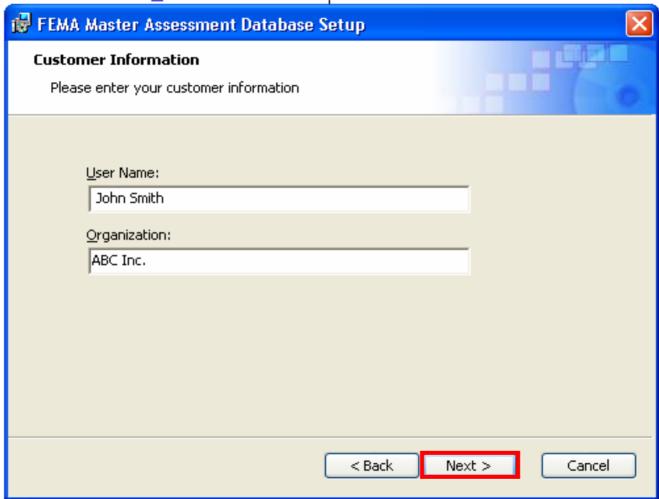




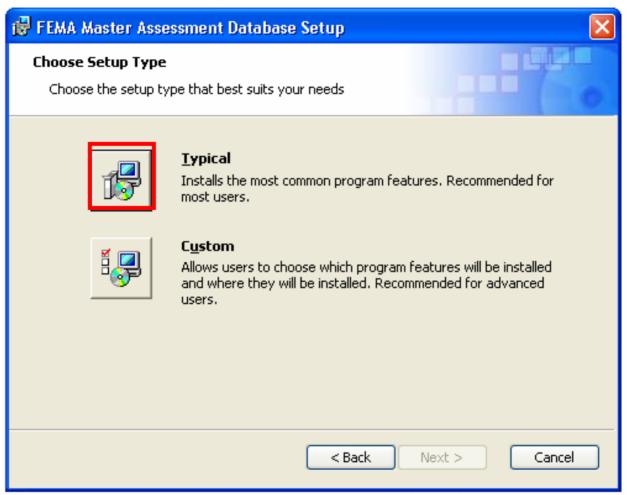




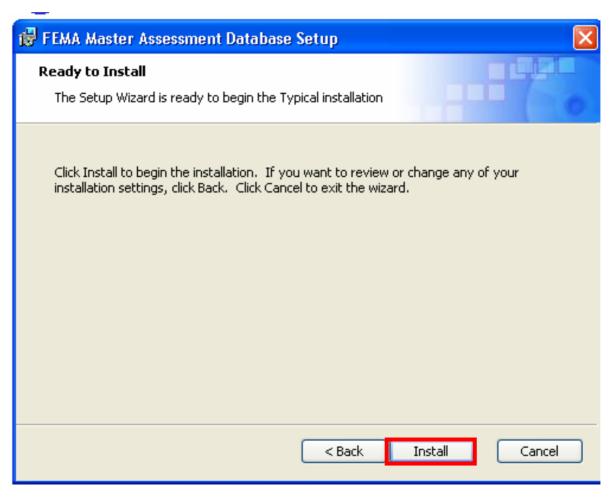




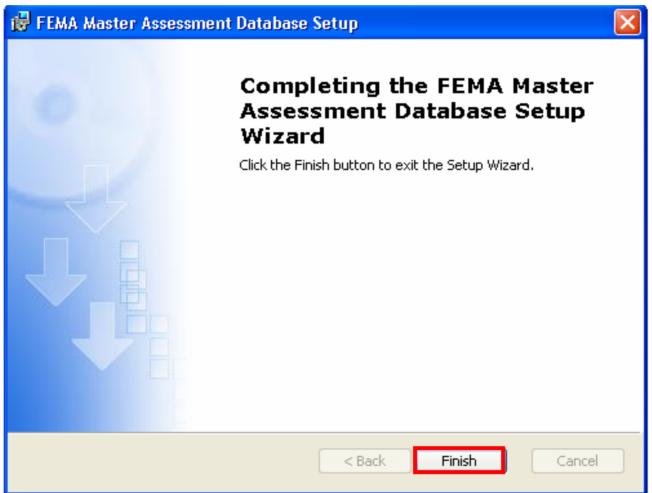






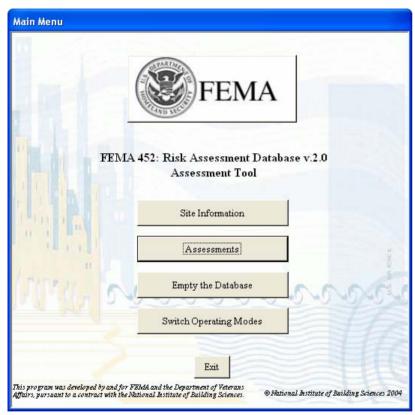








## FEMA 452: Risk Assessment



**Assessor Tool** 



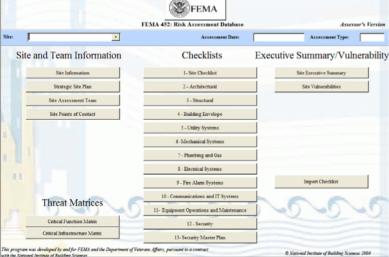
**Master Database** 



## **Database Structure**

**Import Assessment Data** 

#### Conduct **Assessment**



Assessor Tool





**Master Database** 

Return Files, Pictures, Data



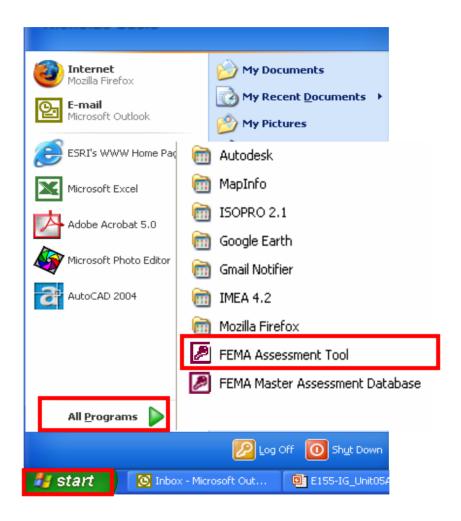
**Assessor Tool** 

**Store Data Master Database** 

**Data** 

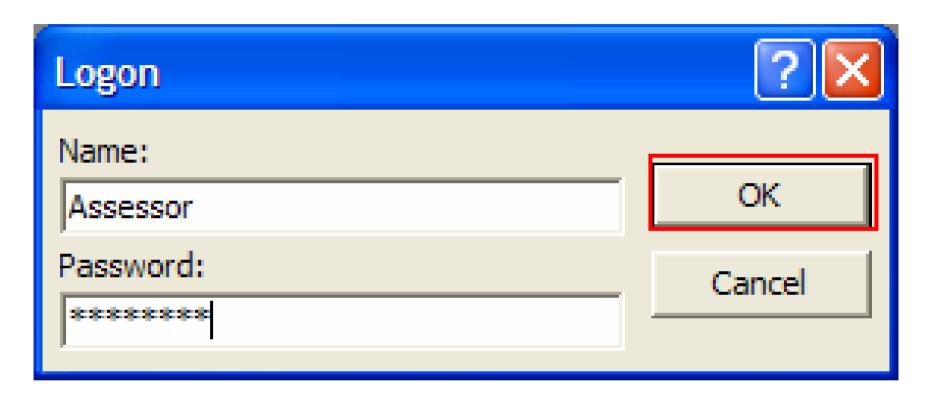
(MS Access)

# **Open Assessor Tool**



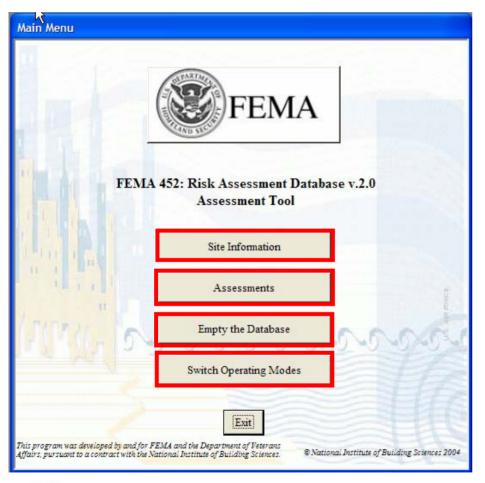


# Login to Assessor Tool





## **Assessor Tool**



- Create and name assessment site
- Enter assessment screen
- Empty database
- Switch to Master Database Mode

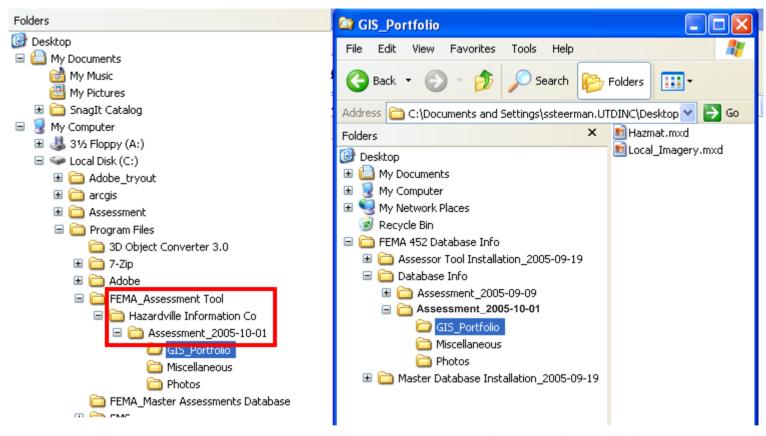


## **Site Information**

Create Assessme	ent Site							
Site Name*:	Hazardville II	nformation Co		Defaul Site Image:				
Address1:	1234 USA Drive			Site Descriptive Text:	Nie lees en Asselle			
Address2:					No Image Available			
City:	Hazardville		St AK 🕶		•			
Zip:	12345	Microsoft Acc	ess					
Assessme	nt Locatio sment Dat sment Typ	C:\Pr	ogram Files\FEM os will need to be Portfolio images (	will be stored in folder:  MA_Assessment Tool\Hazardville Information Co\Assessment_2005-10-01\ e placed in the \Photos subfolder will need to be placed in the \GIS_Portfolio subfolder Ill need to be placed in the \Miscellaneous subfolder  OK				
New Site								



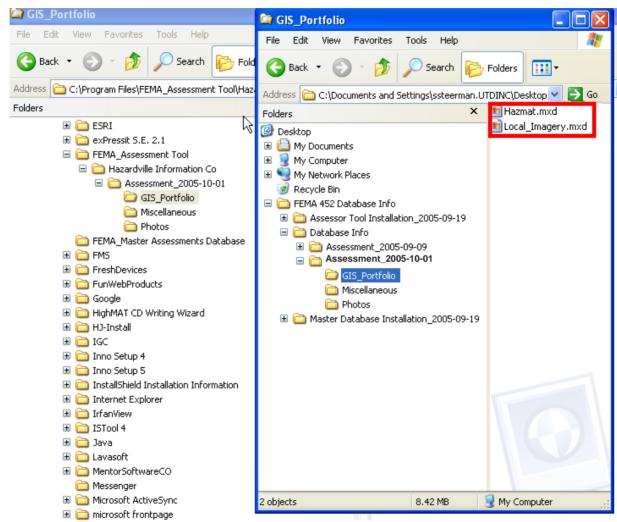
## **Load Information**



Open a second window with existing data

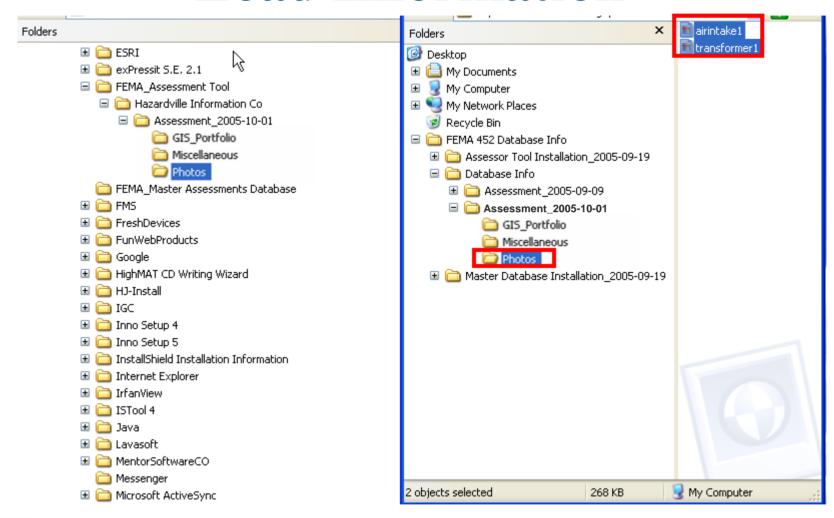


## **Load Information**



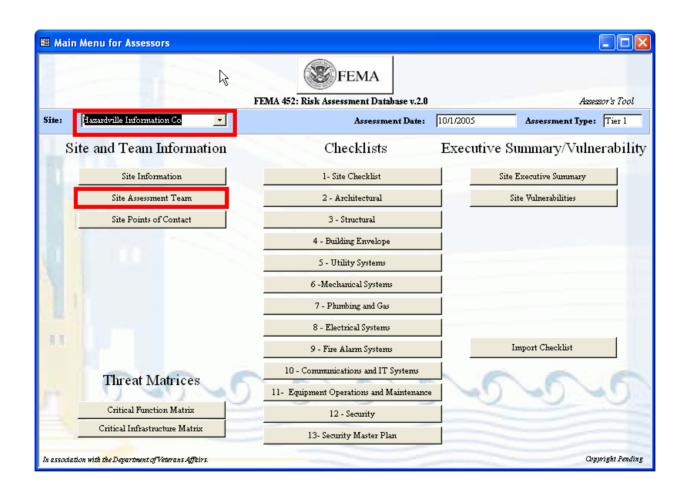


## **Load Information**





## **Assessor Tool**





## **Add Team Members**

Ass	essment Main Page Site Name: Assessment Location:	Hazardville Information Co Hazardville Administrative Building	Default Image:	i	<u> </u>	
	Assessment Date:	10/1/2005 Type Tier 1	<u>.</u>		-	No Image Available
	Executive Summary   1	Vulnerabilities   Points of Contact   Assessment Title	Team Add Photos Photos A	Add GIS Portfolio Images  Work Phone	GIS Portfolio   Misce	Email
	Select Team Me	Add New Team Member	Undo Team Member Recor	d		•
					Clo	ise



## **Add Team Members**

Add a new person to this Team							
	Add New Person						
First Name:	John						
Last Name:	Smith						
Title:	Senior Assessor						
Company:	ABC Inc						
Address:	1234						
City:	Cleveland						
State:	он						
Zip:	12345						
Email:	Jsmith@abcinc.com						
Work Phone:	(123) 456-7890						
Mobile Phone:							
Entered By:							
Enter Date:	10/6/2005						
Modified By:							
Modify Date:							
	[Add] Cancel						



## **Team Members**

As	sessment Main Page						
•		zardville Information Co zardville Administrative Building 10/1/2005 Type Tier 1	Default Imag		•	No Image Available	
	Executive Summary   Vuln	erabilities   Points of Contact   Assessment	Team Add Photos Photos A	dd GIS Portfolio Images	GIS Portfolio Misc	ellaneous Files	
	▶ Smith, John	Senior Assessor	ABC Inc	(123) 456-7890		Jsmith@abcinc.com	
	Select Team Membe	r from List Add New Team Member  1   Madd New Team Member	Undo Team Member Record				
						ose	

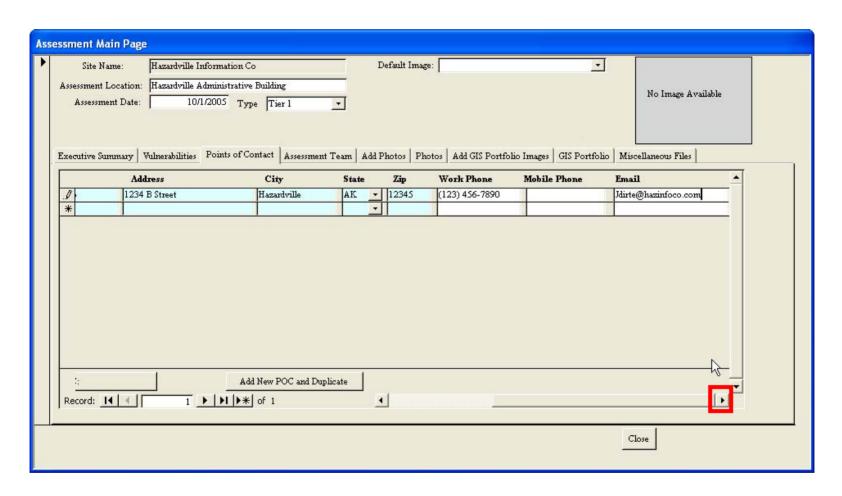


## **Add Point of Contact**

Assessment Main Page	9							
Site Name:  Assessment Location:  Assessment Date:	Hazardville A	nformation Co Administrative Buildin 1/2005 Type Tie		Default Image:		•	No Image	Available
	Vulnerabilities  Last Name	Points of Contact	Assessment Team A	dd Photos   Photos   Address	l GIS Portfolio Images   G	IS Portfolio   Miso	rellaneous Fil	Zip
Add New POC	: 1	► [N][F*]	Delete thi	s POC	Add N	ew POC and Dupli	cate	•
Record: 14   4	10	7 11 75		N		C	lose	

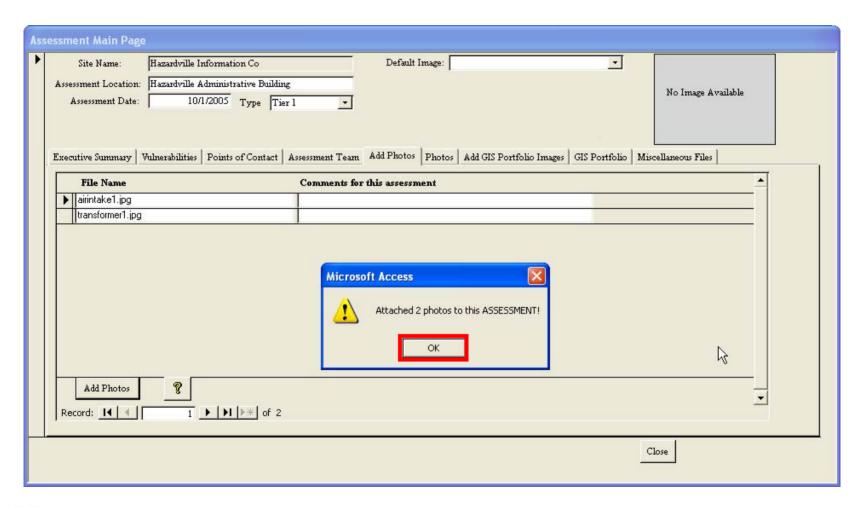


## **Add Point of Contact**



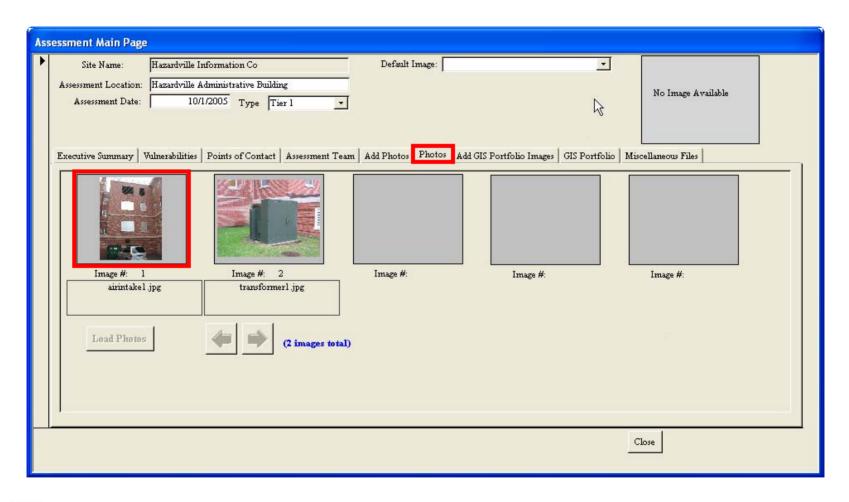


## **Add Photos**





## **Add Photos**



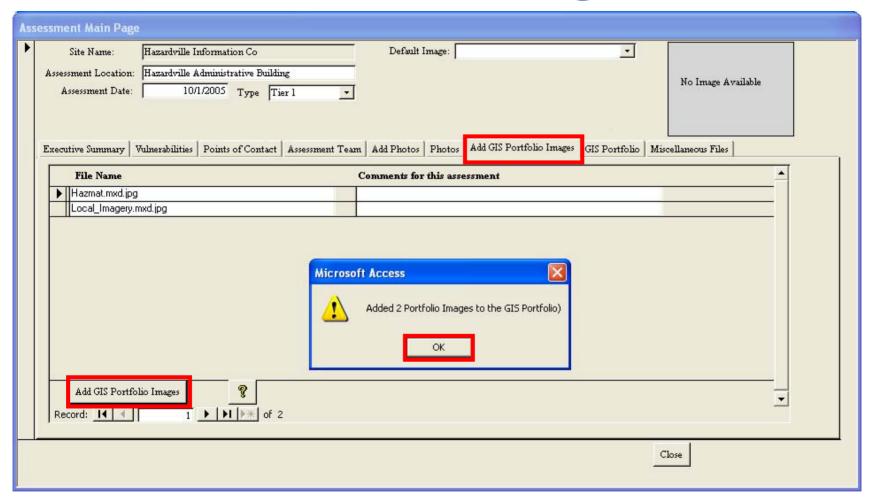


## **Add Photos**





# **Add GIS Images**



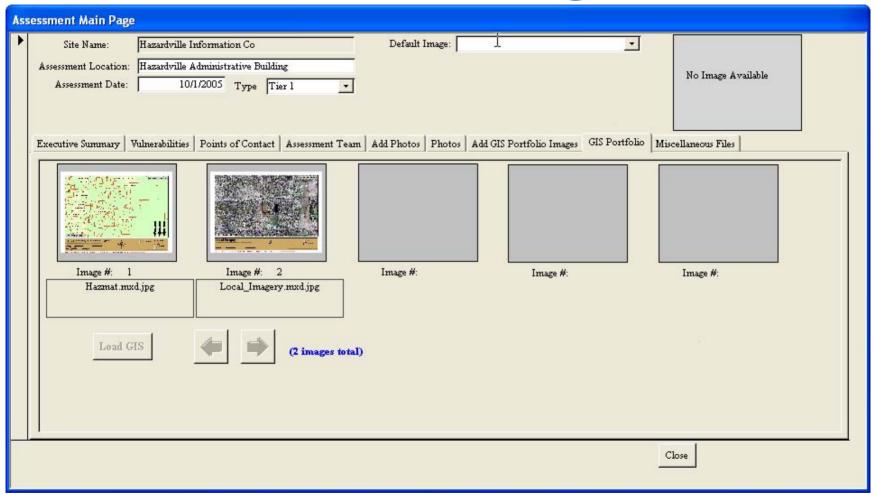


# **Add GIS Images**

As	sessment Main Page				
•	Assessment Date:				No Image Available
	Executive Summary	Vulnerabilities   Points of Contact   Assessment Tes	Add Photos   Photos   Add (	Image #:	Image #:
	Load G	(4 images tot	al)		<u> </u>
					Close

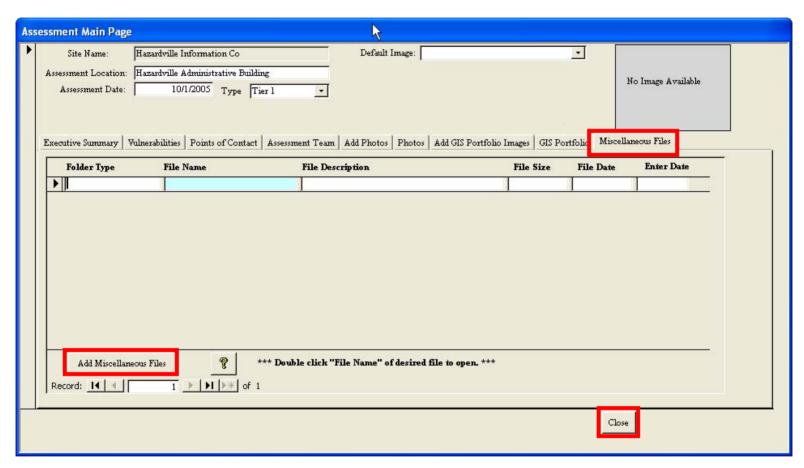


# **Add GIS Images**





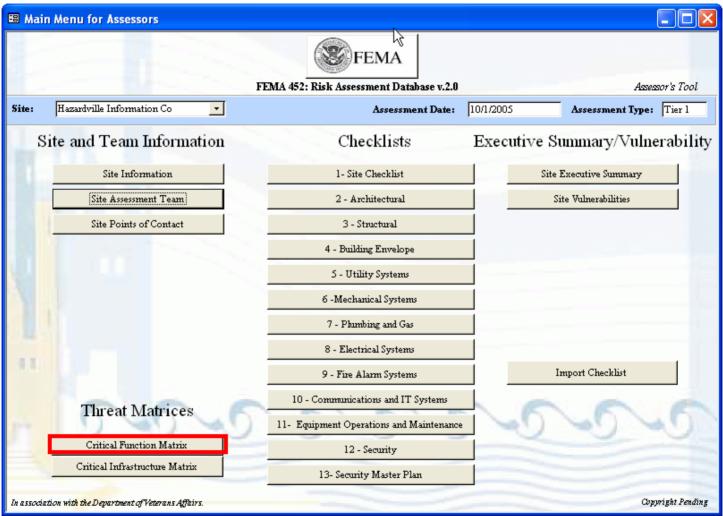
#### **Add Miscellaneous Files**



\* Same as photos and GIS images



#### **Threat Matrices**





#### **Critical Functions Matrix**

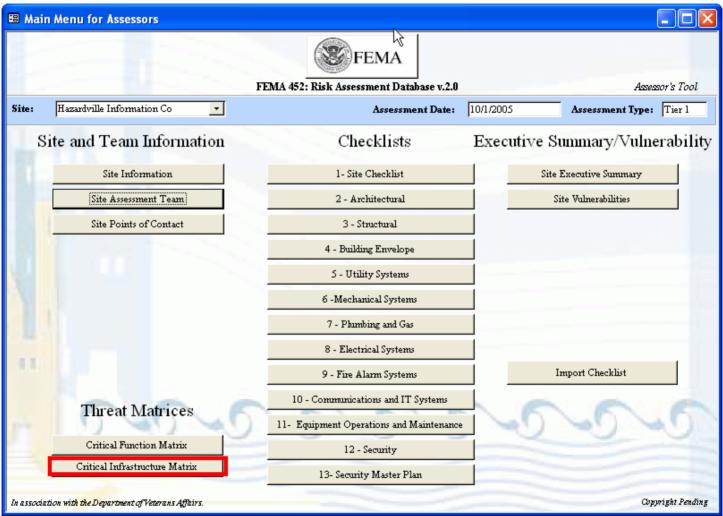
Threats —

	C	ritica	al Functions Matri	X																														
			Site Name: Hazard	lville I	nfor	mati	on Co.					Assess	me	ntDa	ate:	1	0/01/200	)5			I	Lssessm	entT	ype	ī	ierd			ì					(1-€
Functions		AV:	Threat Rating Asset Value Vulnerability Rating		Exq	rovi			(	Cher	0.00	575-00 m		Ars			ndiary			200000	ned				logic		_				I	High	Risk	Risk I k (>1
Functions		No.	Critical Function				Risk	10-	ΓR	23685	ent VR	Risk		TR		ttacl VR	r Risk	TI		88540	ack /R	Risk	TR		gent VR	Risk	0.000	AV.			ism isk		Commercial Control	v VI
	>	1	Administration	6	4	8	192		4	4	8	128		0	0	0	0	- 1	3	4	8	96	4	4	8	128	- 6	4	8	8	192		0 0	0 0
		2	Engineering	6	5	8	240		4	5	8	160	=2	0	0	0	0		3	5	8	120	4	5	8	160	-	5 5	5 8	8	200		0 (	0 0
		3	Warehousing	6	5	8	240		4	5	8	160		0	0	0	0	7	3	5	3	45	4	5	8	160	) -	5 5	2	2	50		0 (	0 0
		4	Data Center	6	10	8	480		4	10	8	320		0	0	0	0	17.	3 1	7	3	90	4	10	8	320	9	10	9	9	810	1	0 (	0 0
		5	Food Service	0	0	0	0		0	0	0	0		0	0	0	0	- 0	1	7	0	0	0	0	0	0	0	0	0	0	0	1	0 0	0 0
		6	Security	6	7	8	336		4	7	8	224		0	0	0	0	1.00	3	7	3	63	4	7	8	224	- 4	7	2	3	105		0 0	0 0
		7	Housekeeping	6	1	8	48		4	1	8	32		0	0	0	0		3	1	1	3	4	1	8	32	- 2	. 1	. 1	1	2		0 (	0 0
L		8	Day Care	0	0	0	0		0	0	0	0		0	0	0	0	(		)	0	0	0	0	0	0		0	0	0	0		0 (	0 0
		9	Other CF-1	6	8	8	384		4	8	8	256		0	0	0	0	1	3	3	3	72	4	8	8	256	-	8	8	8	320		0 0	0 0
•		10	Other CF-2	0	0	0	0		0	0	0	0	- 2	0	0	0	0	(			0	0	0	0	0	0	0	C	0	ו	0		0 0	0 0
		11	Other CF-3	0	0	0	0		0	0	0	0		0	0	0	0	(	1	1	0	0	0	0	0	0	0	0	0	ō	0		0 0	0 0
		12	Other CF-4	0	0	0	0		0	0	0	0	- 22	0	0	0	0	(		0	0	.0	0	0	0	0		C	0	0	0		0 (	0 0
		13	Other CF-5	0	0	0	-0		0	0	0	0		0	0	0	0	(	1	1	0	0	0	0	0	0		0	0	0	.0		0 0	0 0
		14	Other CE-6	0	l n	0	0		0		0	0		П	0		0	1	il i	1	nΓ	0	0	П	0	0	- 0	1 0	1	எட	0	1	ol a	0 0

Asset Value
1- 10
Low risk (1-60)
Threat Rating
1- 10
Medium risk (61-175)
Vulnerability Rating
1- 10
High risk (> 175)



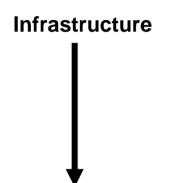
#### **Threat Matrices**





#### **Critical Infrastructure Matrix**

#### Threats —



	Site Name: Hazardville In  R: Threat Rating  7: Asset Value		նությ	ovis						smentDa		100		/20						mentT	-		ier						Low I Media High	um F	Risk (	61-17	75)	
V.	R: Vulnerability Rating	D			mb)			10000	mic		Ar		/Inc Atta		liary				me tacl				olog Ager	1,000	1	C.	har	err	orism		à		roris	
No	Critical Infrastructure	TP	0.37	17P	Risk		TP			Risk	TP			R R	iale.	т	D.	NOTE:		Risk	TE		-		Risk				Risk		TR			
Г	Site	6	1000	200,000	240		4	-		160	10			ol	0	- 7	3	5	8	120	7.7	-	00,0000	8	160		5	-	_	_	O		0	0
0	2 Architectural	6		-	240		4	- 5	4	80	0	-		<u>-</u>	0	_	3	5	8	120		+	5	4	80	1	1 5	-	1		0	_	0	0
	3 Structural Systems	6	100	-	240	4	4	5	3	0.55	0	3 2		0	0		3	5	8	120		1		3	60	1	5	1	1000		0	-1	0	0
	Envelope Systems	6		-	240		4	5	3	18000	0	1	1	0	0	100	3	5	8	120		4	5	3	60	1	1 5	3	15		0	0	0	0
	Utility Systems	6	5	6	180		4	5	3	60	0	1	1	0	0		5	5	7	175		4	5	3	60	3	3 3	1	75		0	0	0	0
-	Mechanical Systems	4	7	8	224		4	7	7	196	0		1	0	0	Ü	5	7	7	245		4	7	7	196	3	1 7	1	105		0	0	이	0
3	Plumbing and Gas Systems	4	5	8	160		4	5	5	100	0		1	0	0	Ü	3	5	8	120		4	5	5	100	2	2 5	3	30		0	0	0	0
	B Electrical Systems	4	7	8	224		4	7	5	140	0	1	1	0	0	0.	3	7	7	147		4	7	5	140	3	1 7	1	105		0	0	0	0
1	Fire Alarm Systems	4	5	8	160		4	5	3	60	0	0	1	0	0		3	5	3	45		4	5	3	60	2	2 5	3	30		0	0	0	0
1	IT/Communications Systems	4	10	8	320		4	10	6	248	0	1	1	0	0	13	3	10	8	240		4 1	.0	6	240	10	10	10	1000		0	0	0	0
1	Other CI-1	0	0	0	0	2	0	0	0	0	0		1	0	0	22	0	0	0	0		1	0	0	0	0	0	0	0		0	0	0	0
1	Other CI-2	0	0	0	0		0	0	0	0	0	1	1	0	0	19	0	0	0	0	1	1	0	0	0	0	0	- 0	0		0	0	0	.0
1	Other CI-3	0	0	0	0		0	0	0	0	0	1		0	0		0	0	0	0		1	0	0	0	0	0	0	0		0	0	0	0
1	Other CI-4	0	0	0	0		0	0	0	0	0	0		0	0		0	0	0	0	1	1	0	0	0	0	0	0	0		0	0	0	0
1	Other CI-S	0	0	0	0		0	0	0	0	0	0		0	0	3	0	0	0	0		1	0	0	0	0	0	0	0		0	0	0	0
1	6 Other CI-6	0	0	1	0	9.	0	1.77	0	0	0	0		0	0	80	0	0	0	0	, i	1	0	0	0	0	0	0	0		0	0	0	0
1	7 Other CI-7	0	0	0	0		0	0	0	0	0			0	0		0	0	0	0		1	0	0	0	0	0	0	0		0	0	0	0
1	10 0.0000000000000000000000000000000000	0	0	100	0	11-	0	0	0	- 55	0	0		0	0		0	0	0	0		1	0	0	0	0	0	0	0		0		0	0
1	Other CI-9	0	0	0	0		0	0	0	0	0	0		0	0	9	0	0	0	0		7	0	0	0	0	0	0	0		0	0	0	0

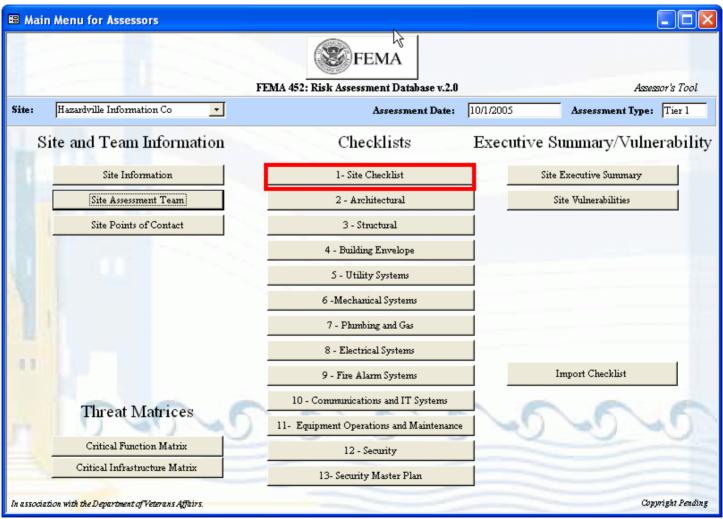
Asset Value 1- 10
Threat Rating 1- 10
Vulnerability Rating 1- 10



Low risk (1-60) Medium risk (61-175) High risk (> 175)

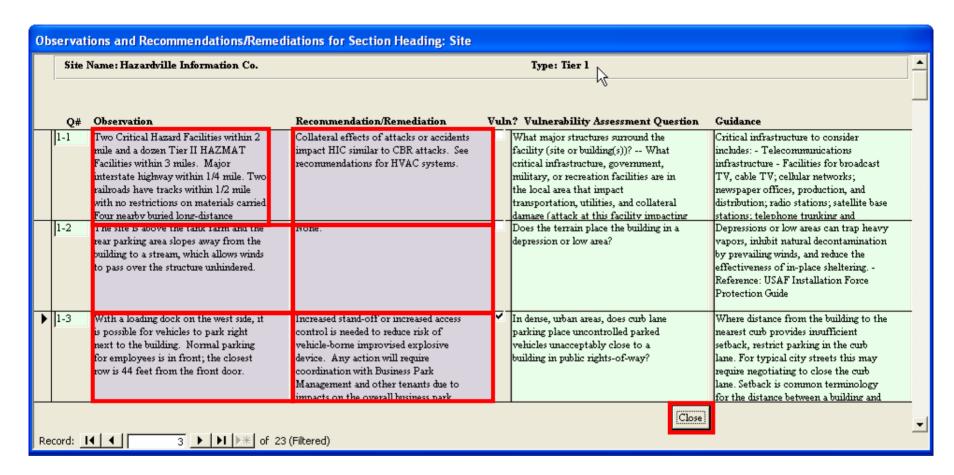


#### **Checklists**



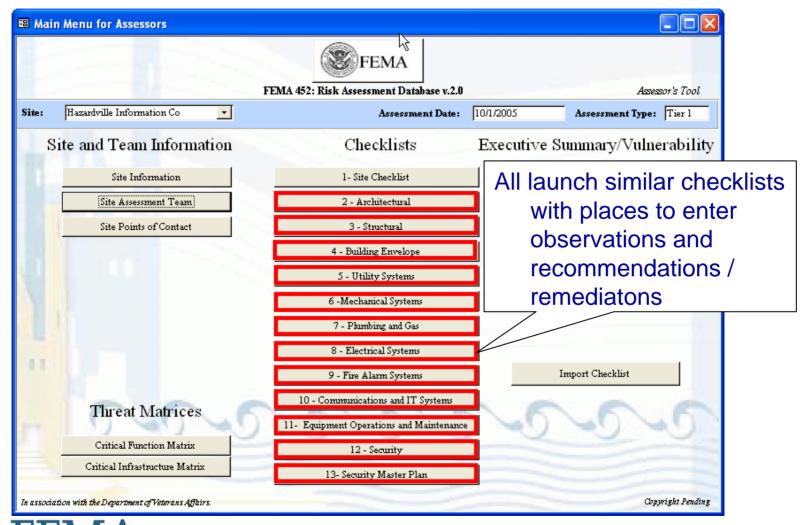


## **Site Checklist**



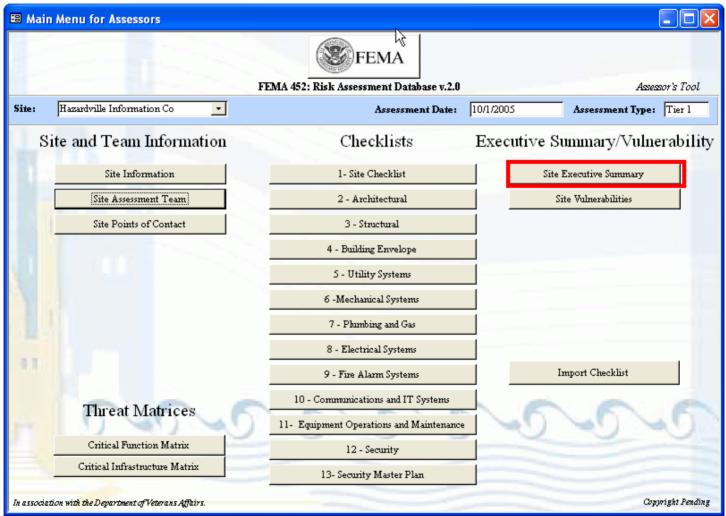


#### **Checklists**



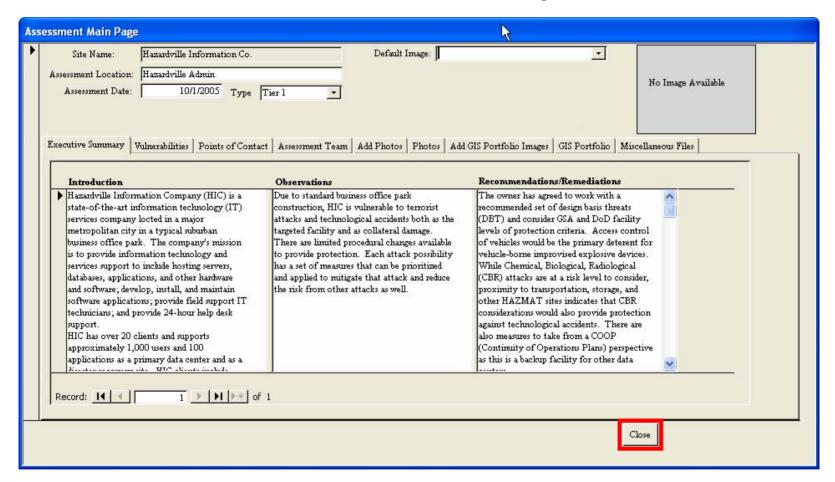


# **Executive Summary**



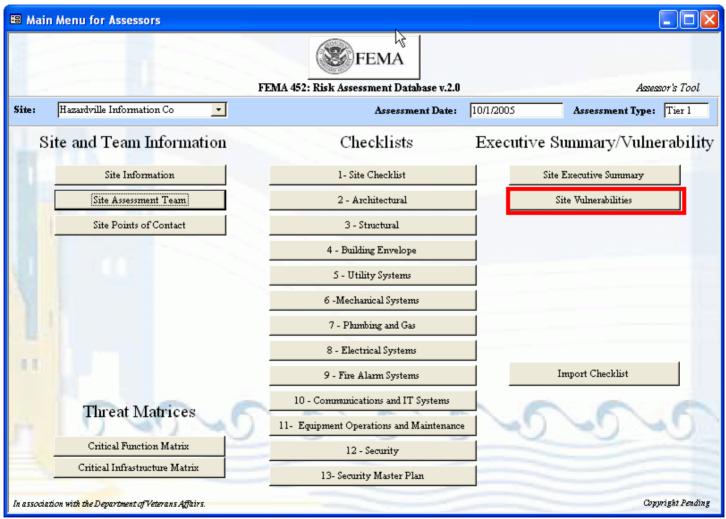


# **Executive Summary Tab**



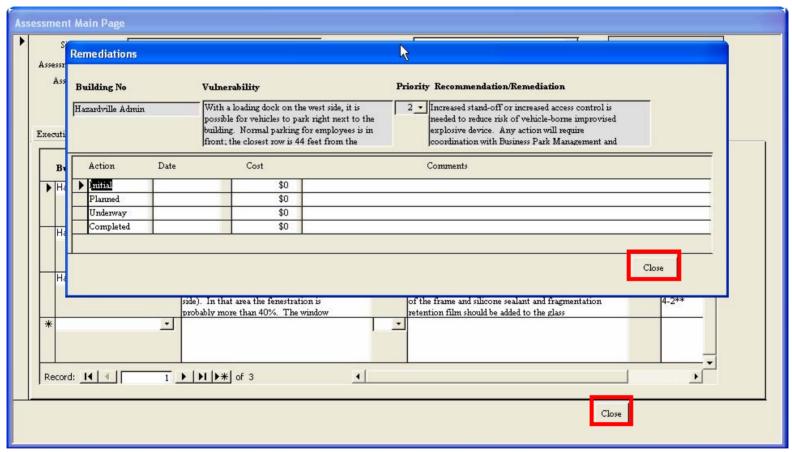


#### **Vulnerabilities**



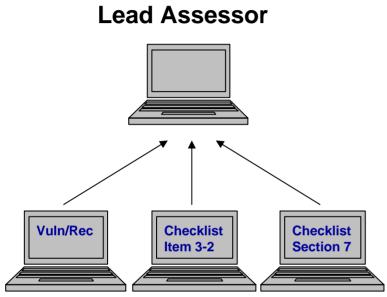


# Vulnerabilities and Recommendations





# **Assessment Team Import Function**



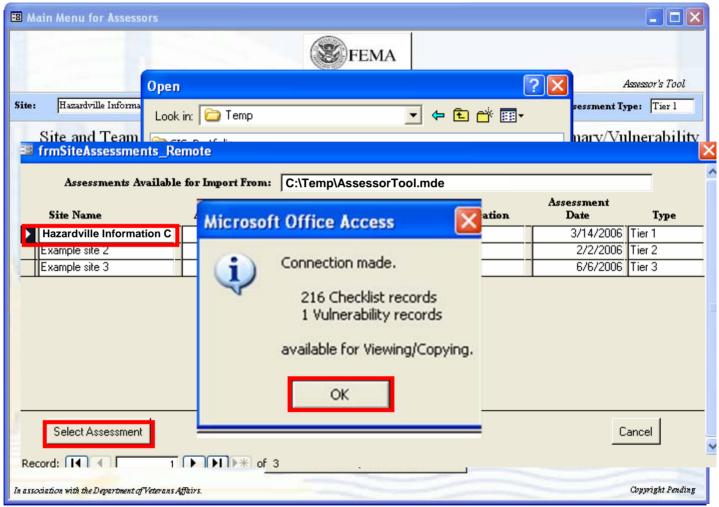
- Establish a link to a team member's database
- Open the remote database
- Import Observation, Recommendation/Remediation, or Vulnerability entries

**Assessment Team** 

The assessment team members to combine their data into one database file on one computer at the end of the assessment.

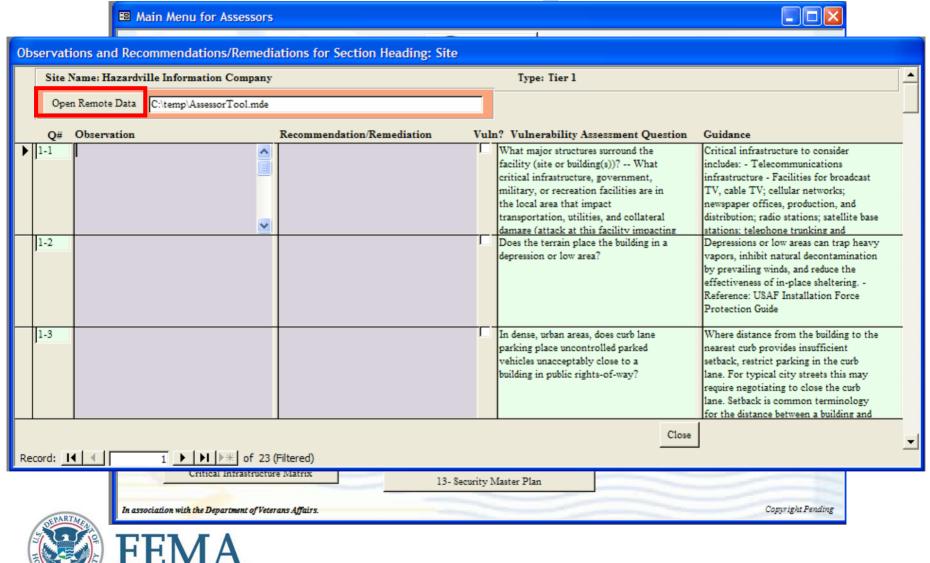


# **Import Assessments**

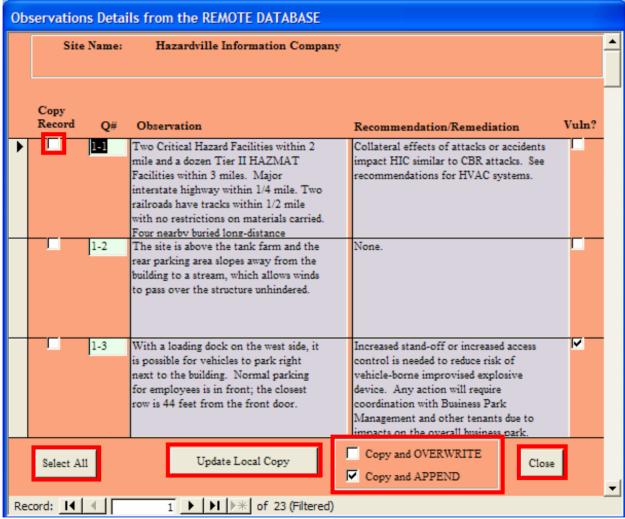




# **Assessment Team Import Function**

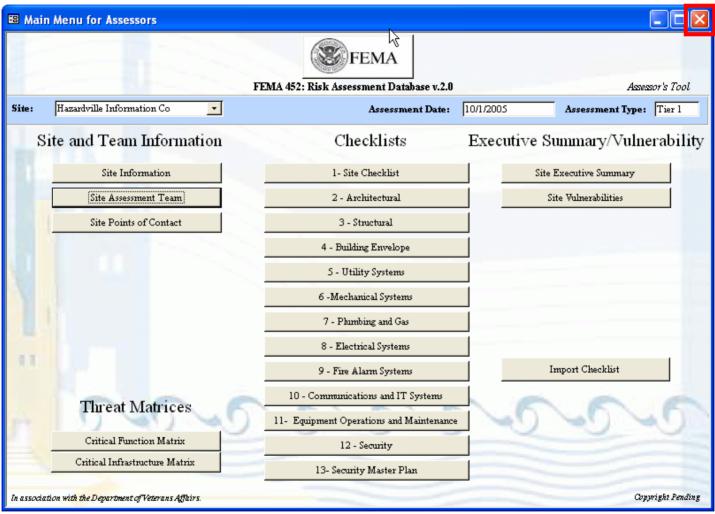


# **Assessment Team Import Function**



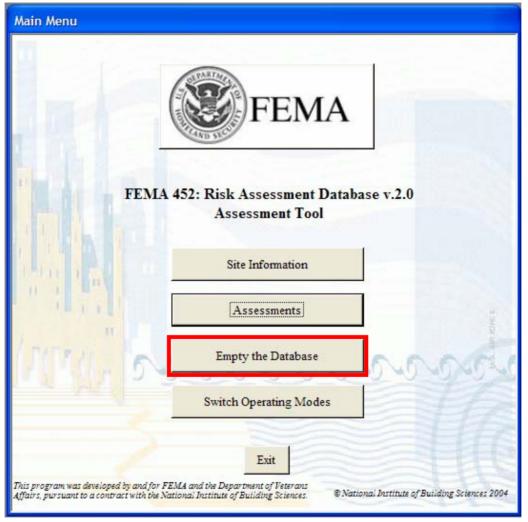


#### **Close Assessor Tool**





# **Empty Database**

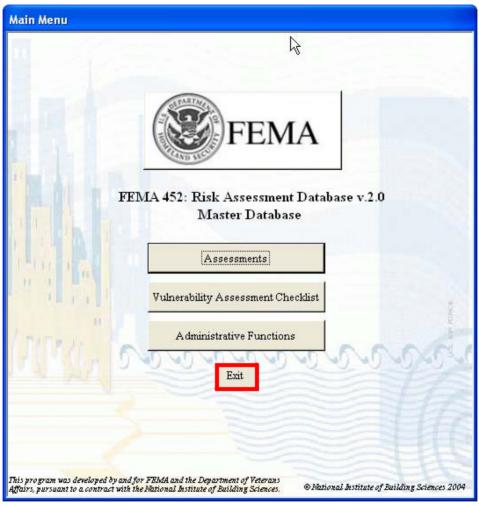


#### **Switch to Master Database**



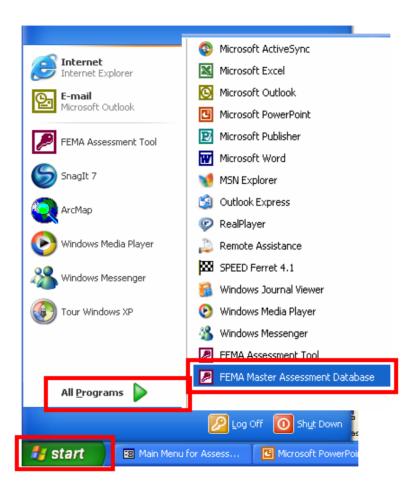


#### **Master Database**



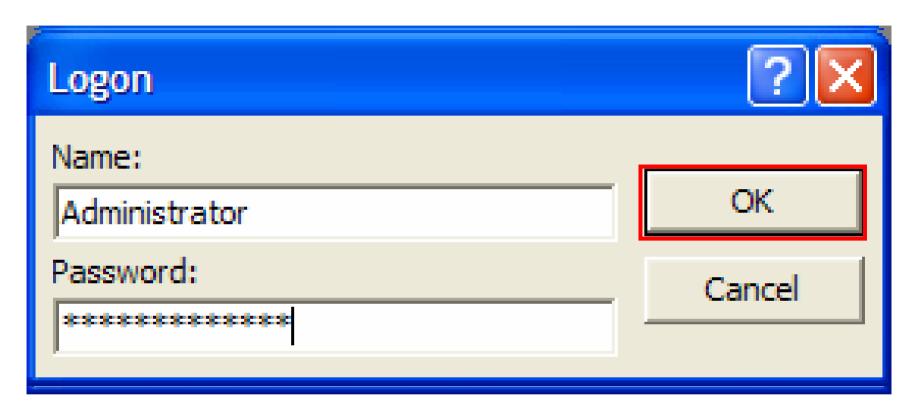


# **Open Master Database**





# Login to Master Database



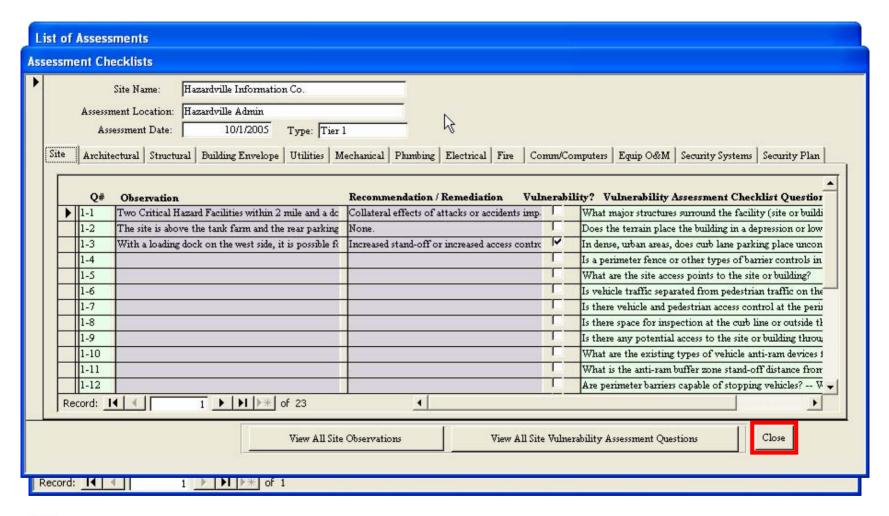


#### **Master Database**



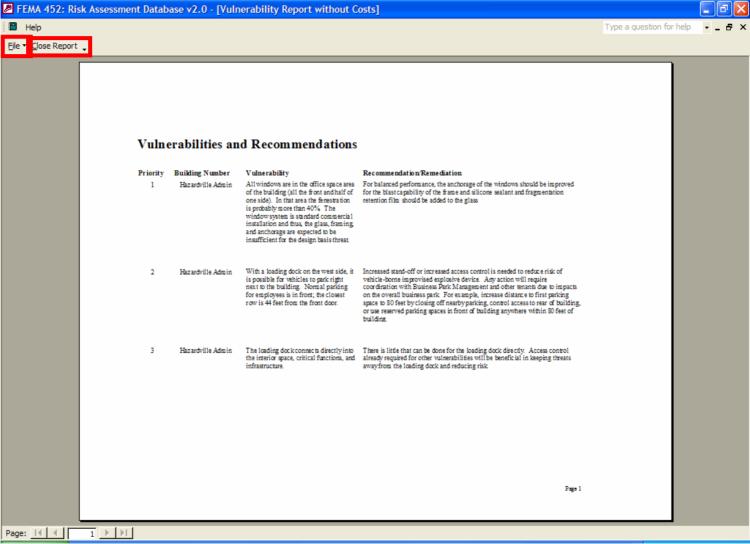


#### **View Checklists**





# Reports





# Reports

#### Executive Summary

#### Introduction

Hazard ville Information Company (HIC) is a state-of-the-art information technology (IT) services company locted in a major metropolitan city in a typical suburb an business office park. The company's mission is to provide information technology and services support to include hosting servers, databases, applications, and other hardware and software; develop, install, and maintain software applications; provide field support IT technicians; and provide 24-hour help desk support.

HIC has over 20 clients and supports approximately 1,000 users and 100 applications as a primary data center and as a disaster recovery site. HIC clients include local and regional government offices and commercial entities along with large prime defense contractors and Federal government agencies. HIC handles unclassified and classified information.

#### Observations

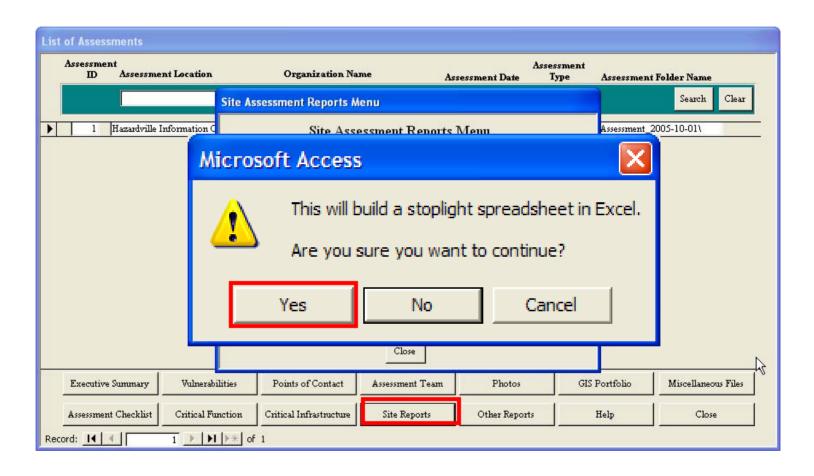
Due to standard business office park construction, HIC is vulnerable to terrorist attacks and technological accidents both as the targeted facility and as collateral damage. These are limited procedural changes available to provide protection. Each attack possibility has a set of measures that can be prioritized and applied to mitigate that attack and reduce the risk from other attacks as well.

#### Recommendations / Remediations

The owner has agreed to work with a recommended set of design basis threats (DBT) and consider GSA and DoD facility levels of protection criteria. Access control of vehicles would be the primary deterent for vehicle-borne improvised explosive devices. While Chemical, Biological, Radiological (CBR) attacks are at a risk level to consider, proximity to transportation, storage, and other HAZMAT sites indicates that CBR considerations would also provide protection against technological accidents. There are also measures to take from a COOP (Continuity of Operations Plans) perspective as this is a backup facility for other data centers.



# Reports





## **Threat Matrix**

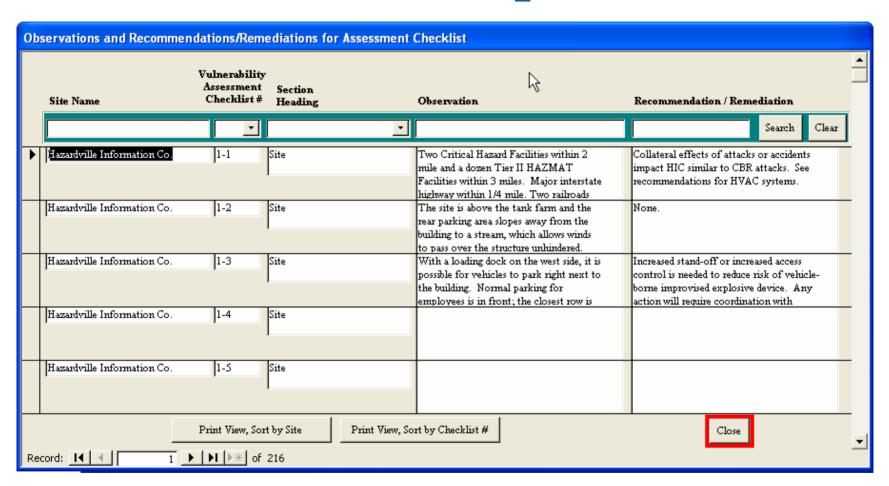
	A	В	d D	Е	F	G	Н	I	J	K
0		<b>1</b> 5 10								
1	Facility									
2			Improvised	Chemical	Arson / Incendiary	Armed	Biological	Cyberterrorism	Agriterrorism	
3	Core Process/F	unction	Explosive Device	Agent	Attack	Attack	Agent			Agnet
4										
5	Administration		192	128	0	96	128	192	0	12
6		Threat Rating	6	4	0	3	4	6	0	
7		Asset Value	4	4	0	4	4	4	0	
8		Vulnerability Rating	8	8	0	8	8	8	0	
9	Engineering		240	160	0	120	160	200	0	16
0		Threat Rating	6	4	0	3	4	5	0	
1		Asset Value	5	5	0	5	5	5	0	
2		Vulnerability Rating	8	8	0	8	8	8	0	
3	Warehousing		240	160	0	45	160	50	0	16
4		Threat Rating	6	4	0	3	4			
5		Asset Value	5	5	. 0	5	5	5	0	
6		Vulnerability Rating	8	8		3	8	2	0	
7	Data Center		480	320		90	320		Ö	
8		Threat Rating	6			3			-	
9		Asset Value	10	10	-	10	10			
ŏ		Vulnerability Rating	8		-	3	8	9		
ĭ	Food Service	Tamerability Having	0	Č		0	ŏ			
2	1 000 0011100	Threat Rating	0	č		0	ŏ	-		
3		Asset Value	0	č	-	0	ő	-		
4		Vulnerability Rating	0	č	-	0	ő	-		
5	Security	valiterability riating	336	224	-	63	224	-		
<u>.</u>	Security	Threat Rating	6			3	4			
7		Asset Value	7	7		7	7		0	
8		Vulnerability Rating	8			3			-	
	11	vulnerability hating	48	32		3	32		0	
9	Housekeeping	Theres Desire	6	32	-	3	32		-	_
0 1		Threat Rating	1		1 0	1	1			
2		Asset Value		8		1			-	
	5 0	Vulnerability Rating	8			0	8	1		
	Day Care	Theres Devises	-		-	0	0	-		
4		Threat Rating	0		-				-	
5		Asset Value	0	9	-	0	0	-		
١		ulnerability Rating	0	0	-	0	0		-	
ı	Communications	ļ <del></del>	384	256		72	256		0	
•		hreat Rating	6			3	4			
9		Asset Value	8	8		8	8			
0		Vulnerability Rating	8	8		3	8			
1	Other 2		0		-	0	0			
2		Threat Rating	0	(		0	0	-		
3		Asset Value	0	(	-	0	0	0		
ŀ		Vulnerabilitu Rating			0	0	. 0	0	0	

## **Threat Matrix**

A	ВС	D	E	F	G	Н	I	J	K
1 Facility									
2		Improvised		Arson / Incendiary		Biological	Cyberterrorism	Agriterrorism	Radiological
3 Critical Infrastructure		Explosive Device	Agent	Attack	Attack	Agent			Agnet
4									
5 Site		240			120	160	15	0	
6	Threat Rating	6		-	3		1	0	
7	Asset Value	5		-	5		5		
8	Vulnerability Rating	8			8				
9 Architectural		240		0	120	80	15	0	_
20	Threat Rating	6		0	3			0	
:1	Asset Value	5	5	0	5	5	5	0	
22	Vulnerability Rating	8	4	0	8	4	3	0	
3 Structural Systems		240	60	0	120	60	15	0	6
24	Threat Rating	6	4	. 0	3	4	1	0	
25	Asset Value	5	5	0	5	5	5	0	
26	Vulnerability Rating	8	3	0	8	3	3	0	
27 Envelope Systems		240	60	0	120	60	15	0	6
28	Threat Rating	6	4	. 0	3	4	1	0	
9	Asset Value	5	5	0	5	5	5	0	
:0	Vulnerability Rating	8	3	0	8	3	3	0	
1 Utility Systems	ĺ	180	60	0	175	60	75	0	6
32	Threat Rating	6	4	. 0	5	4	3	0	
3	Asset Value	5	5	0	5	5	5	0	
4	Vulnerability Rating	6	3	0	7	3	5	0	
5 Mechanical Systems		224			245		105	0	
86	Threat Rating	4		-	5				
37	Asset Value	7		-	7			Ö	
88	Vulnerability Rating	8		-	7				
9 Plumbing and Gas Systems	ramerability riating	160		-	120		30	Ö	
to	Threat Rating	4			3		2	-	
1	Asset Value	5		-	5		5		
12	Vulnerability Rating	8		-	8		3		
3 Electrical Systems	Yumerability Flating	224			147	140	105	0	
4	Threat Rating	4			3		3		
15	Asset Value	7		-	7		7	0	
16	Vulnerability Rating	8		-	7			-	
7 Fire Alarm Systems	Yumerability mating	160		-	45			0	
18	Threat Rating	4			3				
9	Asset Value	5		-	5		5		
0	Vulnerability Rating	8		-	3				
1 IT and Communication System		320		-	240			0	
				-				-	
2	Threat Rating	4			3				
3	Asset Value	10			10		10		
i4 i5 Other1	Vulnerability Rating	8		0	8	6	10	0	



# **Other Reports**

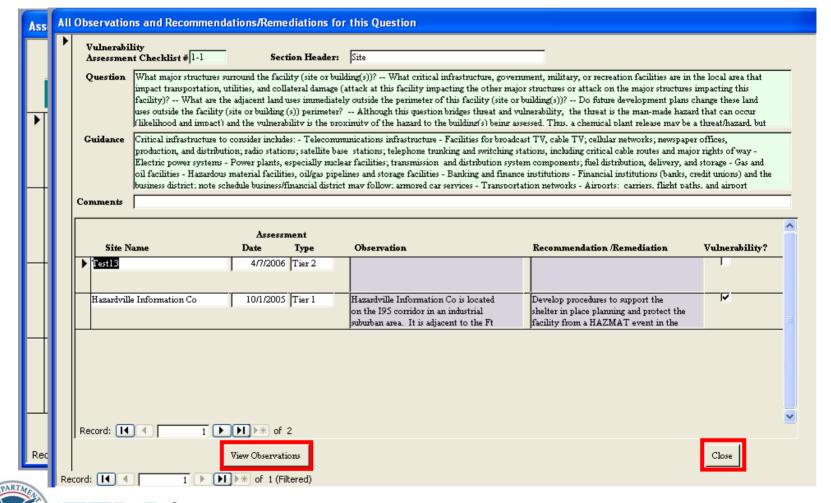




## **Master Database**



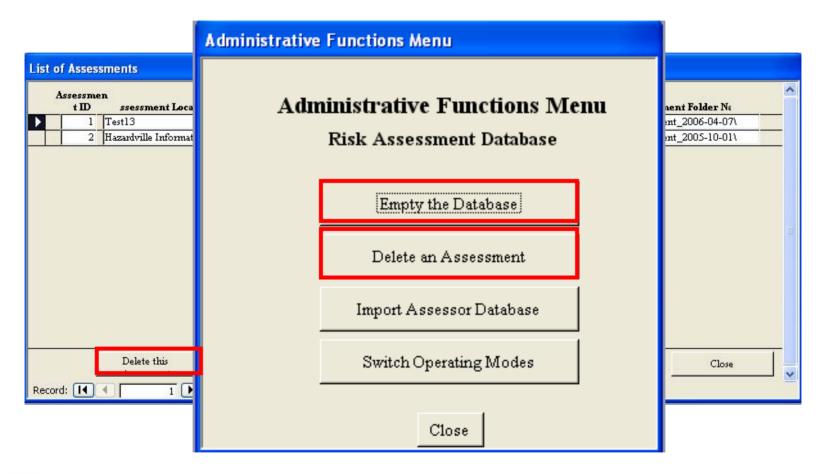
# Vulnerability Assessment Checklist Search



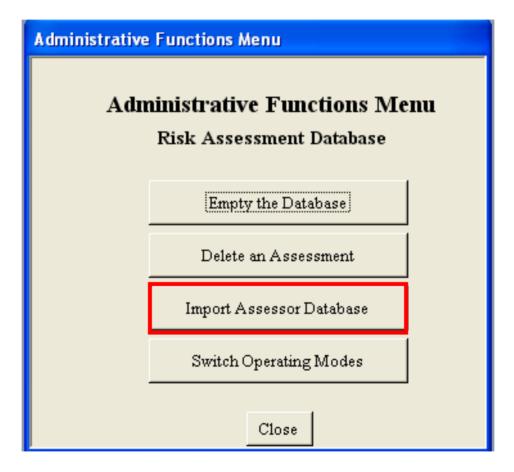
## **Master Database**



# Master Database: Erasing One or All Assessments



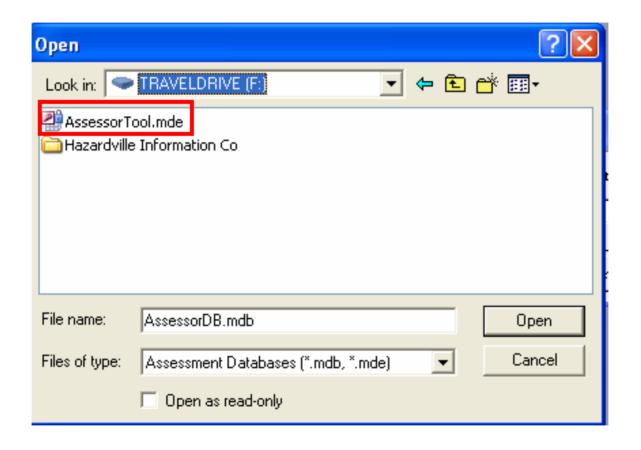




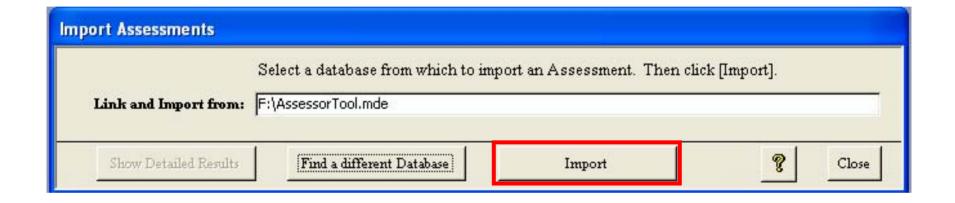


Imp	oort Assessments						
V3	Select a database from which to import an Assessment. Then click [Import].						
Ů	Currently Linked to:	C:\Program Files\FEMA Assessments\AssessorTool.mde					
	Show Detailed Results	Find a different Database	Import	© Close			

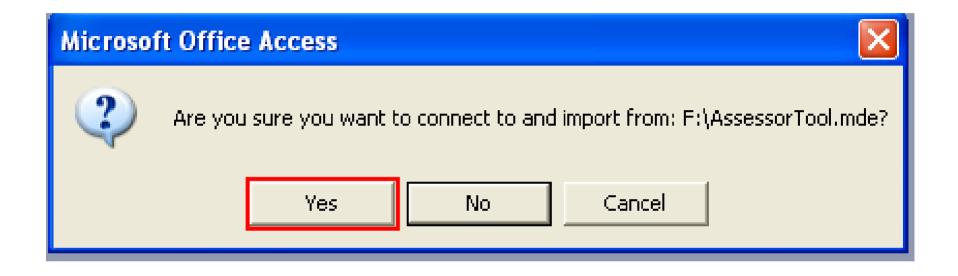




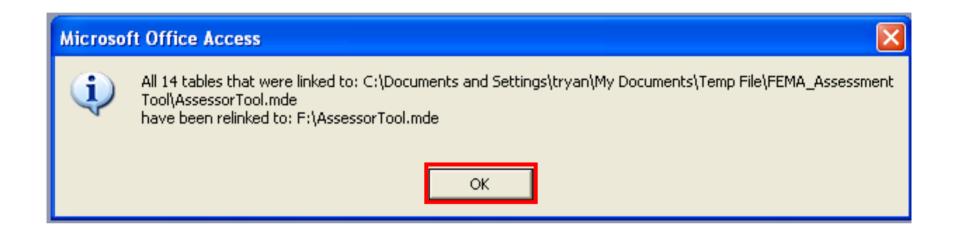




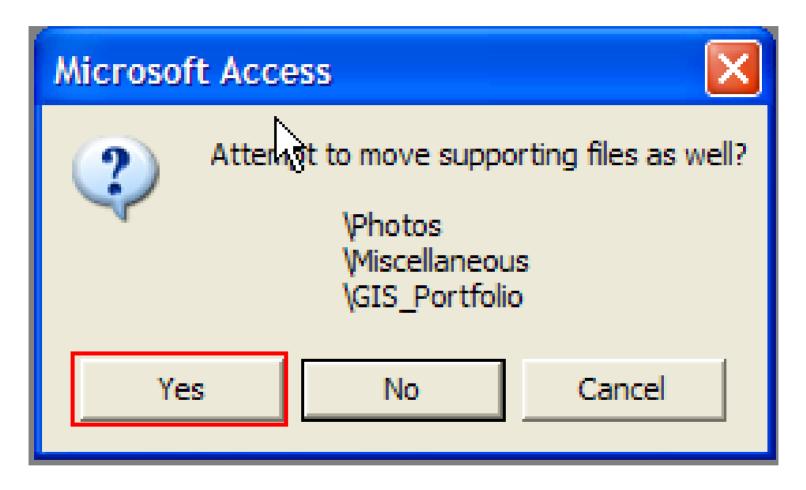




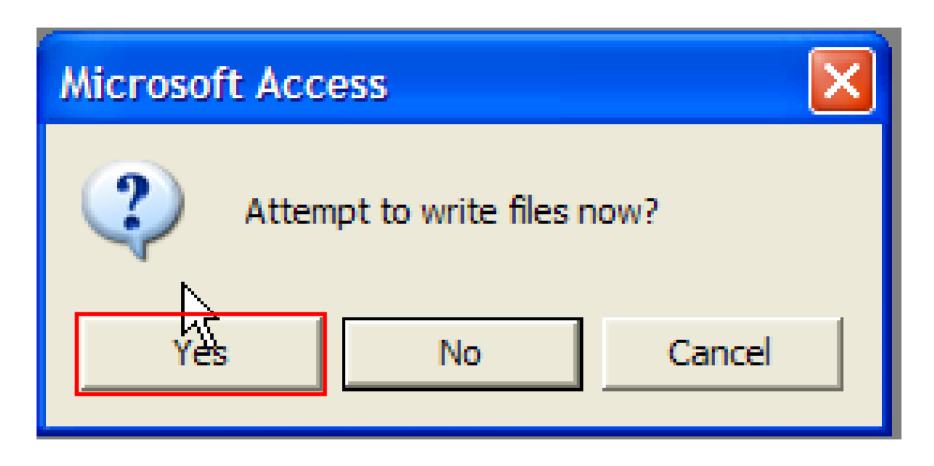












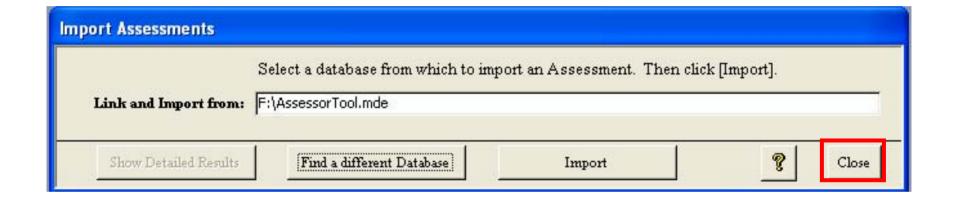


Import Assessments					
S	Select a database from which to import an Assessment. Then click [Import].				
Currently Linked to:	:\AssessorTool.mde				
Show Detailed Results	Find a different Database	[Import]	<b>₹</b> Close		



	Import Order	Importing	NumberOf RecordsBefore	NumberOf RecordsAttempted	NumberOf RecordsAfter	Successful
·	_ 1	Sites	4	1	5	<u> </u>
1	] 2	Buildings (*handled differently)	0	19	19	<u>~</u>
1	3	People	0	2	2	<u> </u>
1	4	Assessments	4	1	5	~
$\parallel$	5	Observations	216	216	432	<u> </u>
11	6	Vulnerabilities	0	1	1	~
11	7	Executive Summary	1	1	2	V
11	8	Critical Infrastructure	20	20	40	V
11	9	Critical Functions	18	18	36	~
11	10	Assessment Personnel	0	2	2	~
11	11	GIS images this assessment	0	1	1	V
11	12	Photos	0	1	1	V
$\parallel$	13	Assessment Photos	0	1	1	V
$\parallel$	14	Miscellaneous files	0	1	1	V







## Summary

Installation and opening of databases

Filing of GIS Portfolio, Miscellaneous, and Photos to link with the databases

Moving about the database software and between the Assessor Tool and the Master Database

Setting priorities on identified vulnerabilities and how the software handles it

Production of standard reports and searching the database for specific information

