

520 – Acquisition and Relocation



520 – Acquisition and Relocation



520 – Acquisition and Relocation

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521.b Activity credit criteria

- (1) Insurable building
- (2) Removed after initial FIRM date
- (3) Site preserved as open space (420)
- (4) Relocated building must be out of floodplain or repetitive loss area
- (5) Count only under 1 of 5 elements
- (6) If FMA \$ → 25% credit
- (7) Compliant with environmental and historic preservation laws
- (8) No credit if action due to a minimum requirement of the NFIP



520 – Acquisition and Relocation

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522.a Buildings acquired or relocated (bAR)

bAR = number of buildings (b) removed

Credit criteria

- (1) Removed after initial FIRM date
- (2) Located in regulatory floodplain
- (3) No credit if remapped out of the regulatory floodplain



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522.b Buildings on the repetitive loss list (bRL)

bRL = number of repetitive loss buildings removed

bRL buildings get double credit

Credit criteria

- (1) Building on FEMA's list
- (2) Must update list with AW-501s
- (3) No double counting as bAR
- (4) Can be in or out of floodplain
- (5) Not eligible if no RL properties



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522.c Severe repetitive loss properties (bSRL)

bSRL = number of severe repetitive loss buildings removed

bSRL buildings get triple credit

Credit criteria

- (1) Building on FEMA's SRL list
- (2) Must update list with AW-501s
- (3) No double counting
- (4) Can be in or out of floodplain
- (5) Not eligible if no SRL properties



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522.d Critical facilities (bCF)

bCF = number of critical facilities removed

bCF buildings get double credit

Credit criteria

(1) Facility cleared after FIRM date

(2) In regulatory or 500-year floodplain



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522.e Buildings in V or coastal A Zone (bVZ)

bVZ = number of buildings removed from V or coastal A Zones

bVZ buildings get 50% more credit

Credit criteria

- (1) Was in V or coastal A Zone
- (2) Not double counted as bAR



520 – Acquisition and Relocation

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523 Credit calculation

523.a Option 1

$$c520 = (bAR \times 3) + (bRL \times 6) + (bSRL \times 9) + (bCF \times 6) + (bVZ \times 4.5)$$

523.b Option 2

$$c520 = \text{the credit for step 1} + \text{the credit for step 2}$$

$$\text{step 1} \quad 1,900 \times \frac{(bAR + (bRL \times 2) + (bSRL \times 3) + (bCF \times 2) + (bVZ \times 1.5))}{bSF + bAR + bRL + bSRL + bCF + bVZ}$$

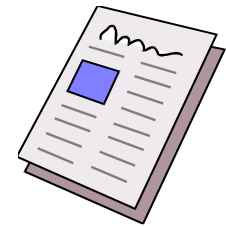
$$\text{step 2} \quad \text{Step 2} = \frac{((bARSF \times 100) - 30)}{bSF + bARSF} \times 5, \text{ where}$$

520 – Acquisition and Relocation

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524 Documentation

- (1) Map showing all the locations and the regulatory floodplain
- (2) All sites preserved as open space (420)
- (3) bSF, i.e., total number of buildings in the SFHA
- (4) If regulatory floodplain > SFHA → regulations for the area
- (5) If bRL or bSRL → updated AW-501s
- (6) If bCF → description of the facility
- (7) If after date of 2013 Manual, EHP worksheets
- (8) Whether FMA funds were used



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EHP self-certification

EHP = environmental and historic preservation

520 concerns are:

1. Was it an historic building?
2. If the project included relocation, was the new site properly developed?

EHP worksheets are found in Appendix F.

EHP worksheets are signed off by a local official.

They treat Federally-funded projects differently because more EHP regulations apply to Federal actions.

520 – Acquisition and Relocation

Manual Appendix F

OMB No. 1660-0022
Expires: September 30, 2013

Community _____ State _____ CID _____

Acquisition and Relocation Projects

OMB No. 1660-0022
Expires: September 30, 2013

Community _____ State _____ CID _____

Federal Funding	No Federal Funding	Certification Statement for Acquisition and Relocation Projects
		All properties marked “FEMA Funded” on AW-520-1(EHP) were included in the above description of the FEMA-funded project.
		<p>State and local requirements: In addition to federal laws, implementing regulations, and executive orders, this project took into consideration the requirements of all state and local environmental project placement carried out by the agency or office were</p> <div style="border: 1px solid black; padding: 5px; color: red; text-align: center;"> <p>EHP rules only affect 520 projects after the date of the 2013 Manual</p> </div>
		<p>National Historic Preservation Act: If any acquired or relocated structure affected by this project was 50 years of age or older at the time of the acquisition, communication with the State Historic Preservation Officer or Tribal Historic Preservation Officer (if on tribal land or reservation) took place to determine if the structure was either on or eligible for the National Register of Historic Places (historic property) and to resolve any adverse effect(s) to the historic property.</p>

530 – Flood Protection



FEMA



530 – Flood Protection

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Activity Description

Credit based on:

- ✓ Number of protected buildings
- ✓ The flood protection technique used:
 - ✓ Retrofitting
 - ✓ Structural flood control projects
- ✓ Flood protection improvement
- ✓ Extra credit for special buildings



530 – Flood Protection

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531.b Credit criteria

(1) All projects

- (a) Must be an insurable building
- (b) Done after the initial FIRM date
- (c) Protected from \geq 25-year flood
- (d) Got all required permits
- (e) Critical facilities protected to \geq 500-year flood
- (f) \geq 1 hour warning time if needed
- (g) No credit if not maintained



530 – Flood Protection

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531.b Credit criteria

(2) Retrofitting projects

Professional design if in high hazard area:

(a) V, coastal A Zones

(b) Velocities > 5 feet per second

(c) Special flood-related hazards



530 – Flood Protection

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531.b Credit criteria

(3) Flood control projects

(a) Designed by a PE

(b) O&M plan prepared by a PE

(c) If BFE is lowered → submit LOMR

(d) Future development will not reduce protection



530 – Flood Protection

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531.b Credit criteria

(4) EHP self-certification:

Retrofitting: historic properties

Flood control: environmental impact

Federal Funding	No Federal Funding	Certification Statement for Barriers, Levees, and Floodwalls (cont.)
		Protection of floodplains (E.O. 11988—Floodplain Management): Consideration was given to the project's long- and short-term adverse impacts that are associated with the occupancy and modification of floodplains, and to avoiding direct and indirect support of floodplain development wherever there was a practicable alternative.
		E.O. 11990—Protection of Wetlands: Consideration was given to the possible loss or degradation of wetlands associated with the construction of this project, as well as to the preservation and enhancement of the natural and beneficial values of wetlands.
		E.O. 12898—Environmental Justice in Minority and Low-income Populations: Consideration was given to the possible negative impacts associated with the implementation of this project on minority and low-income populations, and to avoiding those impacts where practicable.

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531.b Credit criteria

(5) Projects not credited

- (a) Protect < 25-year flood
- (b) Outside regulatory floodplain
- (c) Post-FIRM buildings
- (d) Mandated by NFIP
- (e) Building removed and site kept open → 520 credit
- (f) Coastal structural projects
- (g) Levees/walls protecting ≥ 1 property (620 credit)
- (h) Non compliant dams
- (i) Federally owned and operated projects

(6) Regulatory floodplain

530 – Flood Protection

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532.a Flood protection project technique used (TU)

Table 530-1. Flood protection techniques used.

Acronym (TU_)	Technique Used
TUE	Elevation
TUD	Dry floodproofing
TUW	Wet floodproofing
TUS	Sewer backup
TUB	Barrier, levee, or floodwall
TUC	Channel modification, storm sewer improvements, diversions
TUF	Storage facilities

530 – Flood Protection



FEMA



NFIP/CRS

530 – Flood Protection



FEMA



530 – Flood Protection

Technique used: TUE – Elevation



530 – Flood Protection



530 – Flood Protection



FEMA



530 – Flood Protection



530 – Flood Protection



FEMA



NFIP/CRS

530 – Flood Protection



Technique used:
TUD – Dry Floodproofing

530 – Flood Protection



530 – Flood Protection



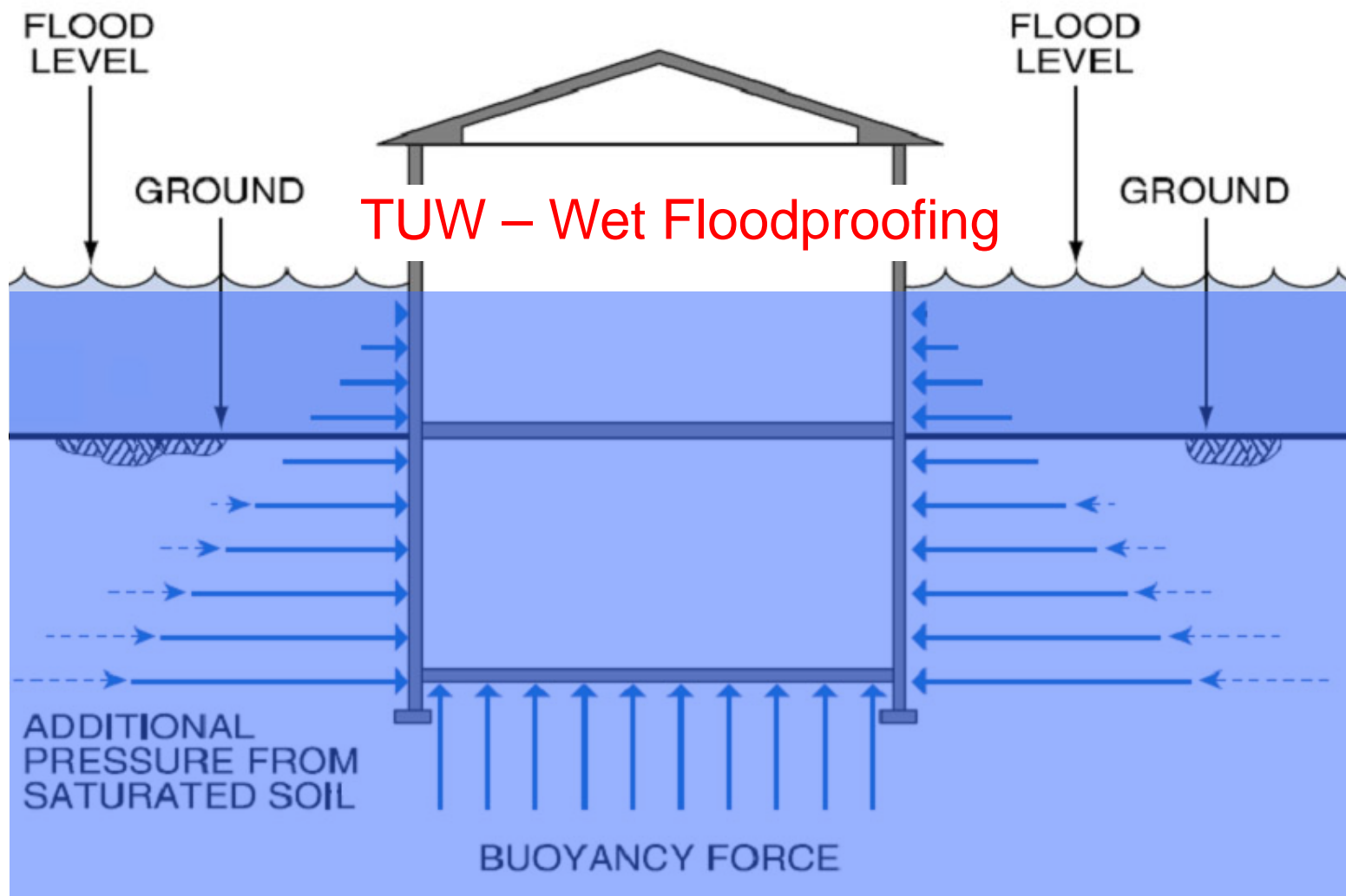
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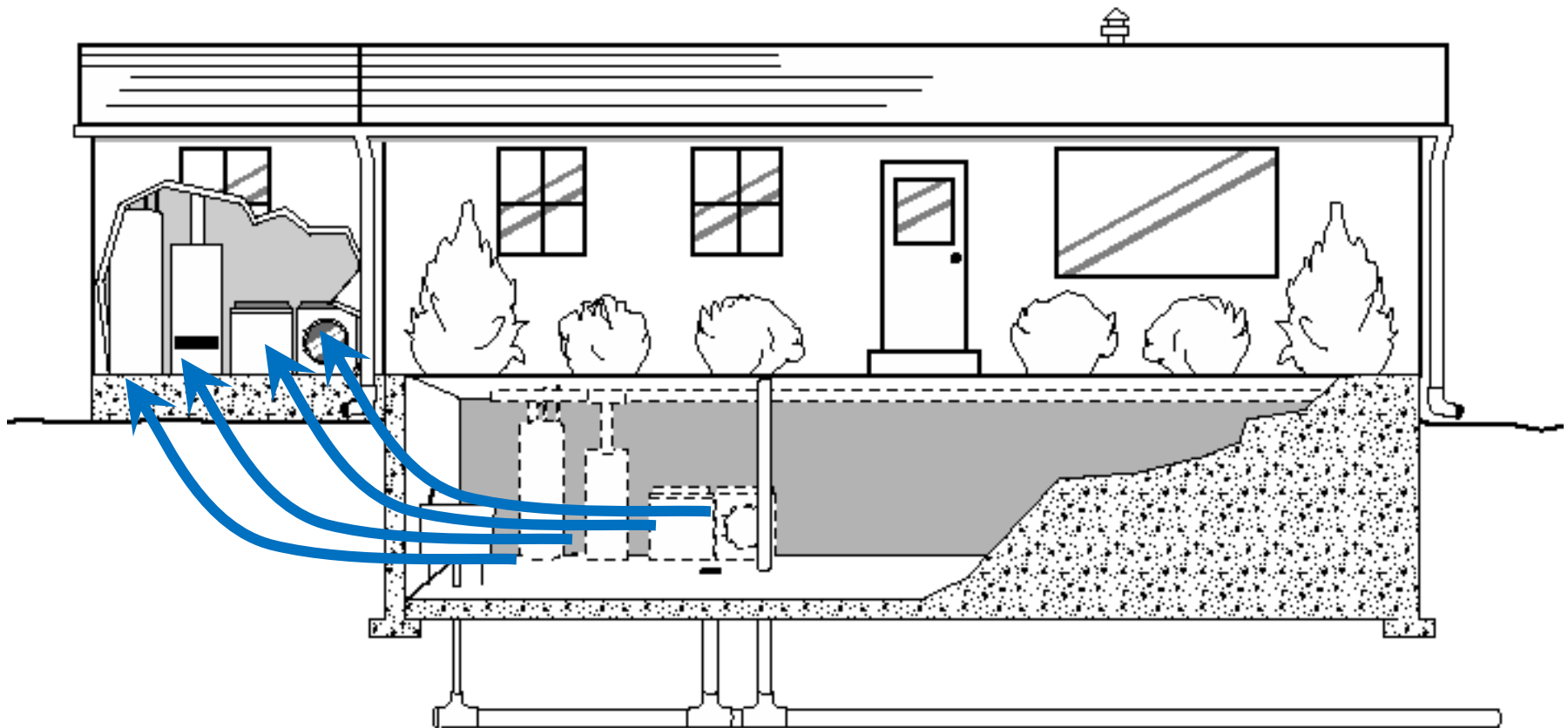
530 – Flood Protection



530 – Flood Protection



530 – Flood Protection



530 – Flood Protection

Technique used:
TUW - Wet
Floodproofing



530 – Flood Protection



530 – Flood Protection

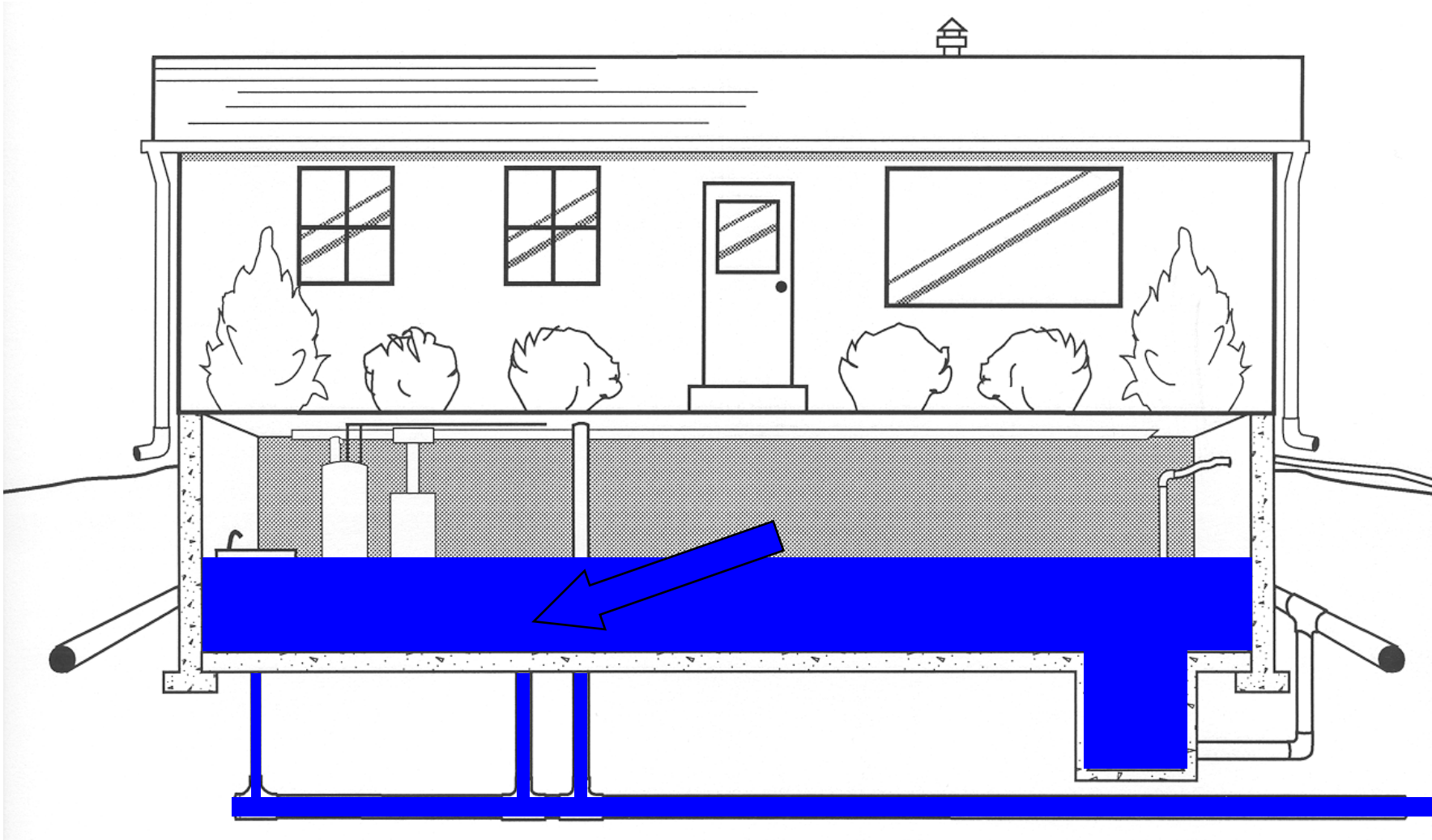


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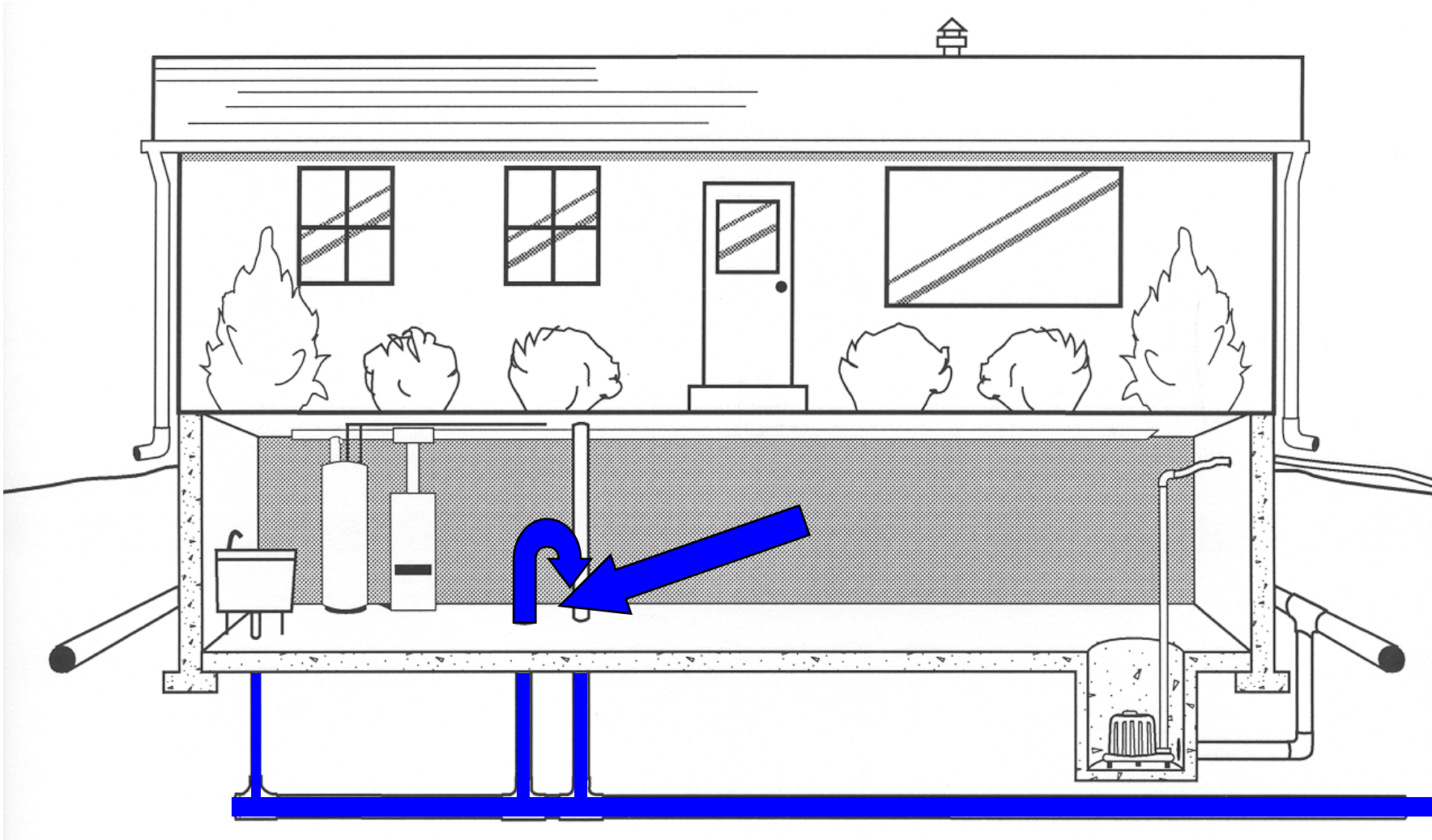


NFIP/CRS

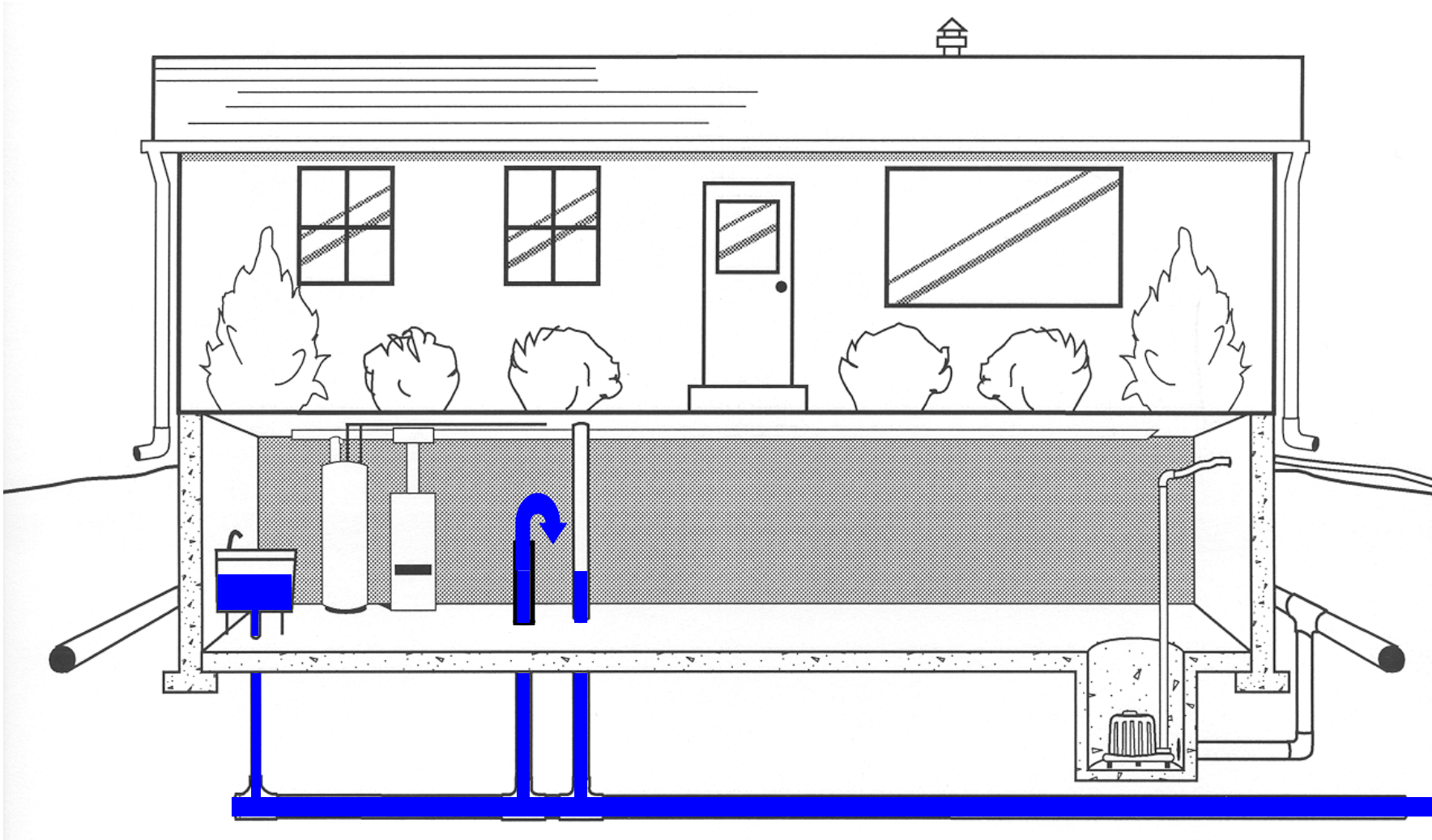
530 – Flood Protection



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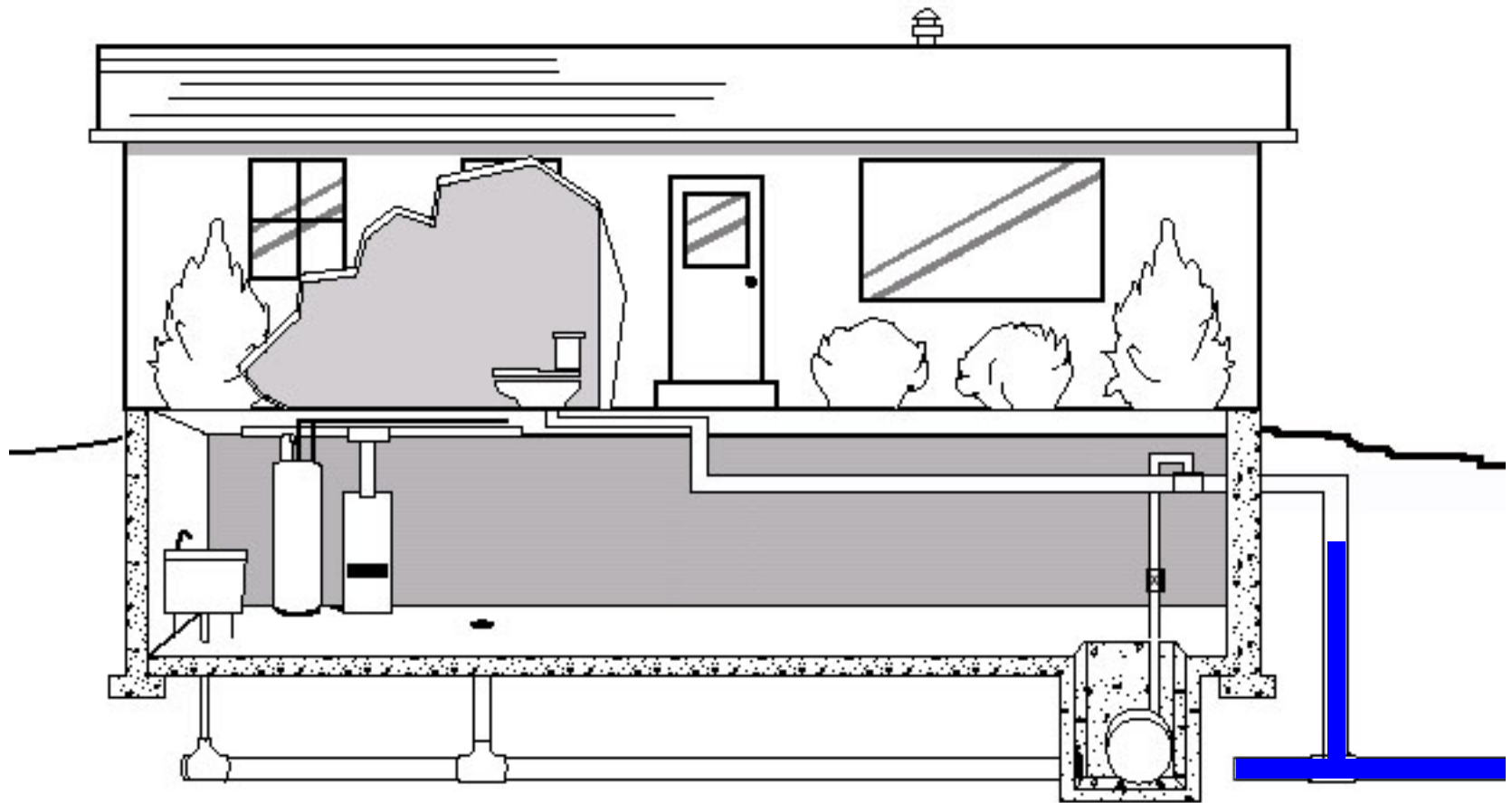


530 – Flood Protection



530 – Flood Protection

Technique used: TUS– Sewer backup protection



530 – Flood Protection



Technique used: TUB –Barrier
If > 1 property: 620



FEMA



530 – Flood Protection



FEMA



NFIP/CRS

530 – Flood Protection



FEMA



NFIP/CRS

530 – Flood Protection



FEMA



530 – Flood Protection



530 – Flood Protection



Technique used:
TUC – Channel modifications

530 – Flood Protection



TUC – Channel modifications includes storm sewer improvements and diversions

530 – Flood Protection



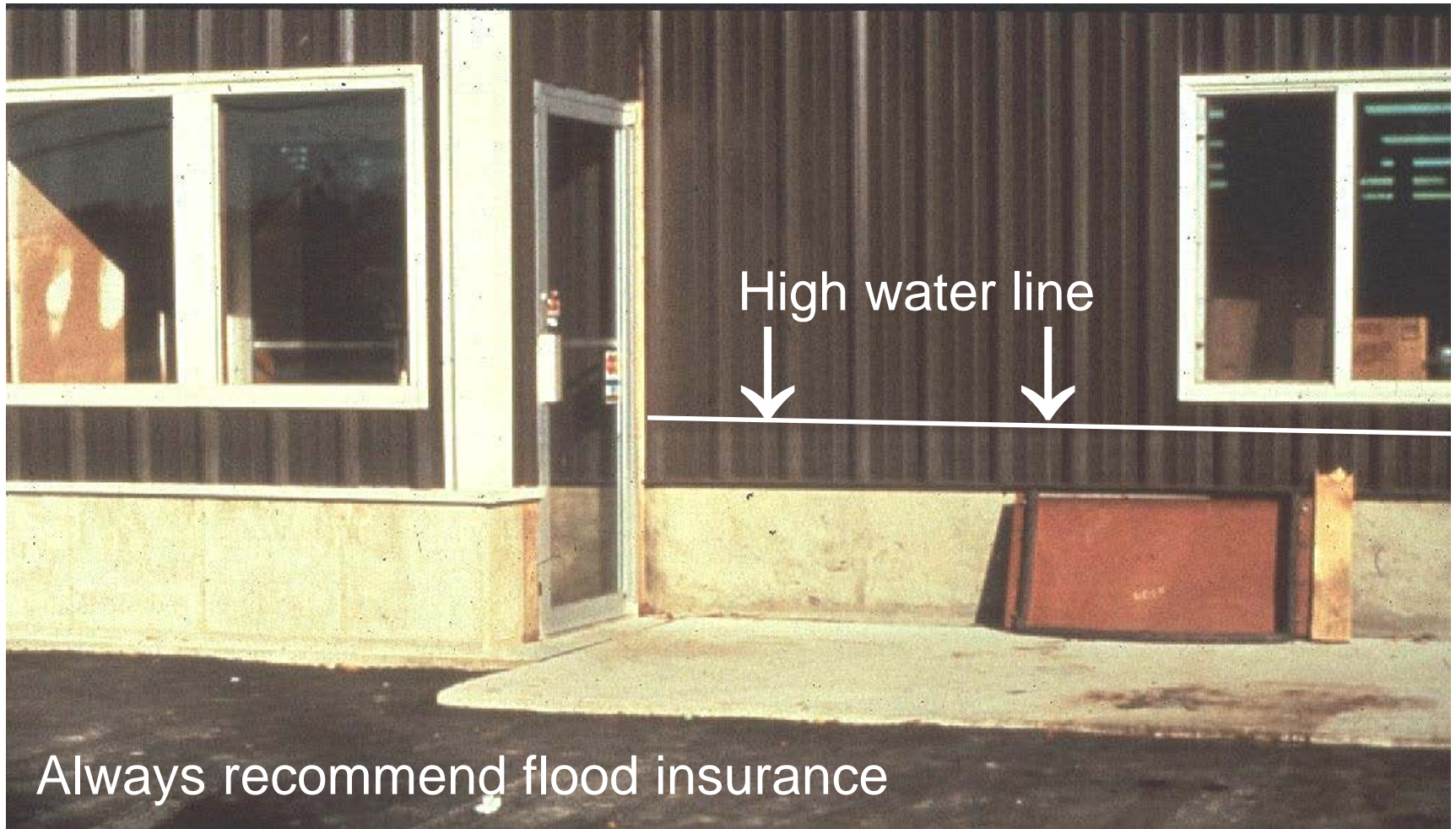
Technique used:
TUF – Storage facility



FEMA



530 – Flood Protection



530 – Flood Protection

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532.b Flood protection improvements (FPI)

$FPI_i = FPP_i - FPB_i$, where

FPI_i = flood protection improvement

FPP = flood protection provided

FPB = flood protection required

Table 530-2. Values for FPP and FPB

Flood Protection Level	FPP or FPB
Less than the 10-year flood	0.0
10-year flood, but less than the 25-year flood	0.3
25-year flood, but less than the 50-year flood	0.5
50-year flood, but less than the 100-year flood	0.7
100-year flood	0.8
100-year flood plus one foot of freeboard	0.9
100-year flood plus two or more feet of freeboard	1.0
500-year flood	1.0

530 – Flood Protection

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532.c Protected buildings (PB)

$PB_i = TU_{-} \times FPI\#_i$ for each building protected using one or more of the techniques described in Section 531.a

PB = the sum of all $PB\#_i$

Additional multipliers:

- (1) Repetitive loss property: x 2
- (2) Severe repetitive loss property: x 3
- (3) Critical facility: x 2
- (4) FMA funded: x 0.25



530 – Flood Protection

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533 Credit calculation

533.a Option 1

$c530 = 2.4 \times \text{the number of buildings that qualify for Activity 530 credit}$

533.b Option 2

$PB = TU \times FPI \times \text{multiplier}$

$$c530 = 16 \times \frac{PB \times 100}{bSF}$$

530 – Flood Protection

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534 Documentation

- (a) [For elevation projects] Elevation Certificates
- (b) [For retrofitting] List and CC-530
- (c) [Flood control projects]
 - (i) FPB and FPP for each building
 - (ii) Dam safety letter, if needed
- (d) Map showing all buildings
- (e) [Post-2013 *Manual*] EHP worksheets
- (f) [Option 2] bSF
- (g) Regs if regulatory floodplain > SFHA
- (h) [Flood control projects that change BFE] CLOMR

CC-530 Retrofitted Buildings

This certification is used for retrofitting projects that are not in a high-hazard area and that do not need to be designed or approved by a registered design professional. Completed FEMA Elevation Certificates are used for buildings retrofitted by elevation (TUE).

Part 1. For Credit Calculations Option 1 and Option 2

Part 1 is used for all submissions for credit under TUD, TUW, TUS, and TUB.

I certify that, for the buildings on the attached list,

- All retrofitting projects were completed after the effective date of our initial FIRM: _____ [date];
- All retrofitting projects provide protection to at least the 25-year flood level;
- All required permits were issued for each project, or the project complies with all federal, state, and local codes and regulations;
- None of the retrofitting projects was mandated by the substantial improvement or substantial damage requirements of our floodplain management regulations; and
- All retrofitting projects are currently in good condition.

Part 2. For Credit Calculation Option 2

Part 2 is needed only if the community is requesting credit under Section 533 b. Option 2 for buildings submitted for credit under TUD, TUW, and TUS.

One copy of this certification can be used for multiple properties that have the same score.

Dry floodproofed buildings (TUD)

The buildings listed as property numbers _____ have been dry floodproofed and [check one]

- The project was designed by a registered design professional and the design accounts for openings, internal drainage, seepage, and underdrainage. (TU = 0.6)
- The project does not depend on human intervention to close openings; the project protects to a level less than 3 feet over the first floor; the design accounts for internal drainage, seepage, and underdrainage; and the building does not have a basement (i.e., any floor below grade on all sides). (TU = 0.4)
- There is no documentation of how openings, interior drainage, seepage, or underdrainage are handled. (TU = 0.2)

[continued on next page]

530 – Flood Protection



Verification

Office check:

- ✓ Check all documentation
- ✓ Verify repetitive losses
- ✓ Check funding source

Field check:

- ✓ 520: lot still vacant
- ✓ 530: property still protected, project well maintained

AW-530-4. Calculations for Option 2 Credit

No.	Property Address	Flood Protection Provided (FPP) *1	Flood Protection Before (FPB) *1	Flood Protection Improvement (FPI)	x	Technique Used Score (TU) *2	x	Multi- plier *2	=	Protected Building Score (PB)
1	421 E. Liberty	0.9	0.0	0.9	x	TUE 1.0	x	—	=	0.9
2	423 E. Liberty	0.9	0.0	0.9	x	TUE 1.0	x	—	=	0.9
3	433 E. Liberty	0.9	0.0	0.9	x	TUE 1.0	x	—	=	0.9
4	434 E. Liberty	0.9	0.0	0.9	x	TUE 1.0	x	3	=	2.7
5	436 E. Liberty	0.9	0.0	0.9	x	TUE 1.0	x	2	=	1.8
6	1014 S. 1st	0.5	0.0	0.5	x	TUD 0.4	x	2	=	0.4
7	1002 S. 2nd	0.5	0.0	0.5	x	TUD 0.4	x	—	=	0.2
8	1101 W. Elm	1.0	0.0	1.0	x	TUS 0.2	x	—	=	0.2
9	1102				x		x		=	0.2
10	1103				x		x		=	0.2
11	1104				x		x		=	0.2
12	1105				x		x		=	0.2
13	1106				x		x		=	0.2
14	1107				x		x		=	0.2
15	1108				x		x		=	0.2



530 – Flood Protection

Questions?



530 – Flood Protection

Activity 520 (Acquisition and Relocation) Activity 530 (Flood Protection)

Assignment

Bill Demrite, Dundee's Building Commissioner, checked through his permit files. The Village has permitted the following projects in the SFHA since 1981. All buildings are pre-FIRM. The maps in the 503 Repetitive Loss Area Mapping exercise will help you locate some of these properties and the 420 Open Space Preservation exercise will help determine if a property qualifies as open space.

1. 1 Main Street and 107, 111, 113, and 115 Water Street were purchased with FEMA Hazard Mitigation Grant funds after the last flood. 1 Main was a Severe Repetitive Loss property. All five parcels have been cleared.
2. South of Main Street, four homes on Johnson Street and Maiden Lane, between the Fox River and River Street, have been altered:
 - a. Two houses on Johnson were voluntarily raised above the base flood elevation.