



MEMORANDUM

Date: May 13, 2020

To: Local Floodplain Managers, Zoning and Building Officials

From: Michelle Staff, Floodplain Policy Coordinator, Dam Safety and Floodplain Section

RE: Substantial Improvement/Substantial Damage (SI/SD) Permit Packet Template

The attached permit packet is provided to help you explain the substantial improvement and substantial damage provisions of your floodplain ordinance. Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the equalized assessed value of the structure before the damage occurred. Most damage occurs during a single and sudden event, such as a fire, wind storm, lightning strike, falling tree, tornado, earthquake, flood, or natural gas explosion. Damage may also be unrelated to a specific event, such as soil settlement, exposure to the elements, termite infestation, vandalism, deterioration over time, and other causes.

This packet may be used following a flood, when damage repairs are being made, or during a building improvement permit process. The estimated cost form provided may be used by the applicant or you may use a contractor cost estimate, your post-flood damage assessment, or some other cost accounting.

The proposed work is determined to be an SI/SD if the ratio of the cost of the work to the equalized assessed value (EAV) equals or exceeds 50 percent. Your community has a cumulative provision in your ordinance, which means you will also need to account for any previous improvements or repairs as well as the proposed work. A spreadsheet is available to help with tracking and an example is provided.

There are four steps to the SI/SD determination process:

1. Determine cost of work (improvements or repairs), including all materials and labor costs
2. Determine Equalized Assessed Value (EAV) of the building prior to the work
3. Determine ratio of work to market value, along with previous improvements and make SI/SD determination.
4. Advise property owner of the determination in writing and require mitigation if the work is an SI/SD (Optional SI/SD determination form is provided.)

Once a permit is issued, watch for changes in materials or the scope of the permit, as these may increase the cost of the work. You may consider using the attached affidavits to address this common problem or you can work with your inspectors to catch any changes.

Finally, FEMA has developed the manual [*Substantial Improvement /Substantial Damage Desk Reference*](#), FEMA P-758, May 2010. The manual goes into detail on every step of the SI/SD process. Most questions can be answered by reviewing this manual. Please remember to always consult with your ordinance as many Federal materials are only addressing Federal minimum standards and does not consider other State or local standards.

If you have any questions, please contact Michelle Staff at Michelle.Staff@Wisconsin.gov or (608) 266-3093.

SUBSTANTIAL IMPROVEMENT OR SUBSTANTIAL DAMAGE

NOTICE TO PROPERTY OWNERS

Repairing your home or business after a flood?

Adding on, renovating, remodeling your home?

Here's information YOU need to know about the "50% Rule".

For structures located in the regulatory floodplain, damage repairs or proposed improvements must be reviewed to determine if the building has **Substantial Damage** or if you are proposing a **Substantial Improvement**. The detailed definitions for these terms and equalized assessed value for a building are listed below.

The formula used for making a substantial damage or substantial improvement determination is:

$$\frac{\text{Cost to Repair to Pre-damage Condition or Cost of Proposed Improvements}}{\text{Present Equalized Assessed Value}} \geq 50\%$$

If your building was damaged or you are making improvements, a detailed cost estimate is required for a determination to be made. This is required by the National Flood Insurance Program to protect lives and investment from future flood damages. Our community must adopt and enforce these rules so that federally backed flood insurance is available to our residents and property owners.

SUBSTANTIAL DAMAGE means damage or destruction, regardless of cause, sustained by a structure whereby the cost of restoring the structure to its previous condition would equal or exceed 50 percent of the equalized assessed value of the structure. The equalized assessed value is based on the value before the damage occurred. All labor and materials must be included in this determination. **Note: The cost to repair the structure must be calculated for fully repairing the building to its before-damage condition, even if the owner elects to do less.**

SUBSTANTIAL IMPROVEMENT means any repair, reconstruction, rehabilitation, addition, or other construction of a structure (including materials and labor), whereby the cumulative percentage cost of the project would equal or exceed 50 percent of the equalized assessed value of the current structure before the improvement or repair is started. This term includes structures which have incurred repetitive loss or substantial damage, regardless of the actual repair work performed.

PRESENT EQUALIZED ASSESSED VALUE: Present equalized assessed value is determined results when the community applies an adjustment factor to the assessed value. On the tax bill, the equalized value is shown as "total estimate of fair market value" and is calculated by dividing the individual structure's assessed value by the level of assessment. When the level of assessment is 100%, the assessed value is the same as the estimate of equalized assessed value/fair market value.

BUILDING PERMIT PROCESS:

As part of the building permit application, you must submit a detailed cost estimate. The attached Estimated Cost Form may be used or a detailed cost estimate can be provided by a contractor. If the house has been damaged, such as by flood or fire, you may also submit the insurance adjusters estimate. The cost estimate must provide enough detail to allow our staff to review for completeness.

The owner and contractor must also sign attached affidavits indicating that the cost estimate submitted includes all damage repairs or all proposed construction to the building.

A signed contract must be submitted with your detailed cost estimate. If the owner is acting as their own contractor, the owner is responsible for submitting the cost estimate and providing documentation, including subcontractor bids, to document the cost estimate.

We will evaluate the cost of construction or repairs based on recognized cost estimating manuals and determine if they are complete and accurate and reflect current construction market cost for labor and supplies. For damage repairs, pre-damage prices and rates will be utilized. Please refer to the list of items on the next page that should be included and excluded from the cost estimate.

SUBSTANTIAL DAMAGE OR SUBSTANTIAL IMPROVEMENT DETERMINATIONS

Using the cost estimate and the equalized assessed value, a determination will be made if you have equaled or exceeded 50% of the existing building's market value. The attached **SUBSTANTIAL DAMAGE/ SUBSTANTIAL IMPROVEMENT DETERMINATION** form will be used.

Once the determination is made you will be asked to sign the determination. If you wish to dispute the equalized assessed value, you will need to contact your local City/Village/Town assessor. For additional improvements, you may also modify your scope to reduce the costs and resubmit revised plans and the cost estimate.

If the building is determined to be "substantially damaged" (SD) or "substantially improved"(SI), it must be brought into compliance with the development standards of our community's floodplain regulations.

For existing structures where there is an SD or SI determination there are three options:

- demolish the structure
- relocate the structure out of the regulatory floodplain
- elevate the house; raising the lowest floor above the flood protection elevation. This includes all elevating electrical and mechanical equipment, such as water heater, furnace and ducts.

IMPORTANT NOTE ON DONATED MATERIALS AND VOLUNTEER LABOR:

The value placed on materials should be equal to the actual or estimated fair market cost of all materials to be used. Where materials or servicing equipment are donated or discounted below normal market values, the value should be adjusted to an amount equivalent to that estimated through normal market transaction.

Self or Volunteer Labor: The value placed on labor should be equal to the actual or estimated labor charge for repairs of all damages sustained by the structure. Where non-reimbursed (volunteer) labor is involved, the value of the labor should be estimated based on applicable published hourly wage scales, for example using prevailing wages for the type of construction work to be completed.

COSTS FOR SUBSTANTIAL IMPROVEMENTS /REPAIR OF SUBSTANTIAL DAMAGE

Included Costs: Items that must be included in the costs of improvement or costs to repair are those that are directly associated with the building. The following list of costs that must be included is not intended to be exhaustive, but characterizes the types of costs that must be included:

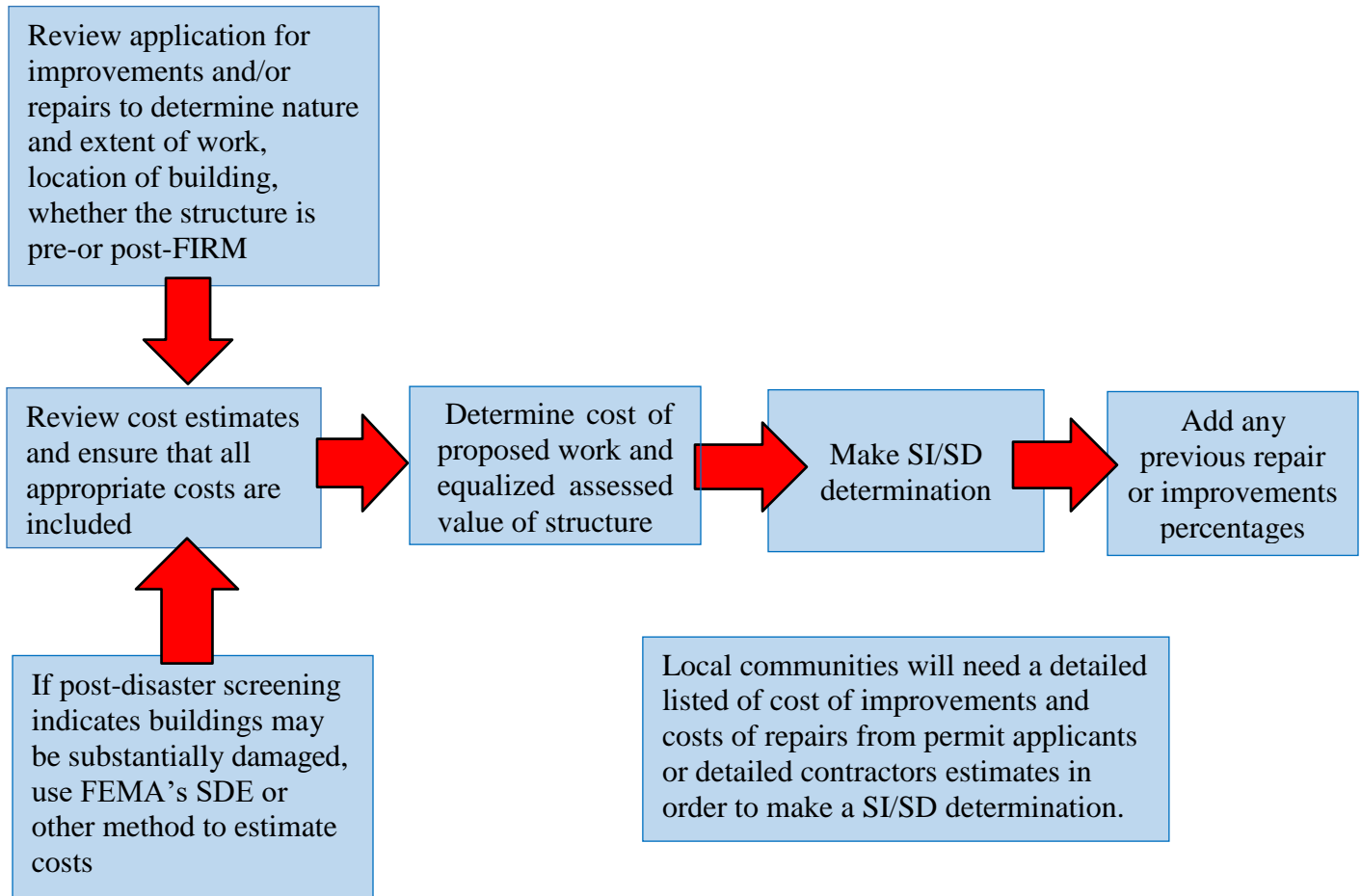
- Materials and labor, including the estimated value of donated or discounted materials and owner or volunteered labor
- Site preparation related to the improvement or repair (foundation excavation, filling in basements)
- Demolition and construction debris disposal
- Labor and other costs associated with demolishing, moving, or altering building components to accommodate improvements, additions, and making repairs
- Costs associated with complying with any other regulation or code requirement that is triggered by the work, including costs to comply with the requirements of the Americans with Disabilities Act (ADA)
- Costs associated with elevating a structure to an elevation that is lower than the FPE.
- Construction management and supervision
- Contractor's overhead and profit
- Sales tax on materials
- Structural elements and exterior finishes, including:
 - ◊ Foundations
 - ◊ Monolithic or other types of concrete slabs
 - ◊ Bearing walls, tie beams, trusses
 - ◊ Joists, beams, subflooring, framing, ceilings
 - ◊ Exterior finishes (brick, stucco, siding, painting, trim, etc.)
 - ◊ Interior non-bearing walls
 - ◊ Windows and exterior doors
 - ◊ Roofing, gutters, and downspouts
 - ◊ Hardware
 - ◊ Attached decks and porches
- Interior finish elements, including:
 - ◊ Floor finishes (hardwood, ceramic, vinyl, linoleum, stone and wall-to-wall carpet over subflooring, etc.)
 - ◊ Bathroom tiling and fixtures
 - ◊ Wall finishes (drywall, paint, stucco, plaster, paneling, marble, etc.)
 - ◊ Built-in cabinets (kitchen, bathroom, utility, entertainment, storage, etc.)
 - ◊ Interior doors
 - ◊ Interior finish carpentry
 - ◊ Built-in bookcases and furniture
 - ◊ Hardware
 - ◊ Insulation
- Utility and service equipment, including:
 - ◊ HVAC equipment
 - ◊ Plumbing fixtures and piping
 - ◊ Electrical wiring, outlets and switches
 - ◊ Light fixtures and ceiling fans
 - ◊ Security systems
 - ◊ Built-in appliances

Excluded Costs

- Plans and specifications & survey costs
- Permit fees
- Clean up and debris removal (e.g., removal of debris from building or lot, dumpster rental, transport fees to landfill and landfill tipping fees), and clean-up (e.g., dirt and mud removal, building dry out, etc.)
- Plug in appliances like washing machines, dryers and stoves
- Outside improvements, including driveways, fences landscaping, sidewalks, yard lights, irrigation systems
- Items not considered real property such as: throw rugs (carpeting over finished floors), furniture, refrigerators, appliances which are not built-in, etc.
- Costs required for the minimum necessary work to correct existing violations of health, safety and sanitary codes

APPLICATION SUBMITTAL CHECKLIST

- _____ 1. Estimated Cost of reconstruction/improvement (included in package) and additional documentation that substantiate the costs. Include subcontractor's bids and itemized cost lists. One (1) Estimated Cost Form shall be submitted for each impacted structure.
- _____ 2. Property Owner's Substantial Damage/ Substantial Improvement Cost Estimate Affidavit signed, notarized and dated.
- _____ 3. Contractor(s) Substantial Damage/ Substantial Improvement Cost Estimate Affidavit signed, notarized and dated.
- _____ 4. Contractor(s) contract. If the owner is the general contractor, submit all subcontractor bids as part of the cost estimate.
- _____ 5. Any additional items as needed (fees, site plans, etc.)



ESTIMATED COST FORM

STRUCTURAL ELEMENTS	LABOR	MATERIAL	TOTAL COST
EXCAVATION (Ex: prep work, gravel base)			
FOUNDATION (Ex: monolithic slabs, piers, spread footing, CMU, ICF, wood)			
DAMPROOFING, WEATHERPROOFING, TILE, FOUNDATION INSULATION			
FLOOR SYSTEMS (Ex: trusses, lumber, steel, concrete, in-floor heat, vapor barrier)			
BEAMS (Ex: steel, wood, pre-engineered, columns)			
WALLS, FRAMING (EXTERIOR & INTERIOR) (Ex: wood, metal, sheathing)			
CEILING, RAFTERS, TRUSSES			
ROOFING SYSTEM (Ex: sheathing, felt, ice & water shield, asphalt, wood shake, tile, clay, metal, shingling, venting)			
EXTERIOR WALL COVERING (Ex: lap siding, vinyl, aluminum, brick, stucco, house wrap shutters)			
WINDOWS (Ex: escape window, double-hung, casement, slider, awning)			
WOOD DECKS (EXTERIOR & INTERIOR)			
INSULATION (Ex: walls, floors, roof)			
HARDWARE (Ex: door hardware, nails, screws, brackets, handrails)			
INTERIOR FINISH ELEMENTS	LABOR	MATERIAL	TOTAL COST
FLOORING (Ex: tile, linoleum, stone, laminate, wood, carpet, sub-flooring)			
WALL FINISHES (Ex: drywall, plaster, stucco, paneling, stone, paint, tape, mud)			
BUILT-INS, CABINETRY (Ex: bookcases, entertainment centers, kitchen cabinets, countertops, built-in stove, vanities, furniture)			
DOORS (EXTERIOR & INTERIOR) (Ex: side-hinged, sliding, pocket, bi-fold)			
HARDWARE (Ex: interior door hardware, screws, nails, handrails)			
UTILITY & SERVICE EQUIPMENT	LABOR	MATERIAL	TOTAL COST
HVAC (Ex: furnace, a/c unit, baseboard heat, radiant heat, duct-work venting, registers, material associated with system)			
PLUMBING (Ex: fixtures, faucets, tubs, showers, toilets, sinks, material, venting, water heater, sump & ejector pumps)			
ELECTRICAL (Ex: panel, wiring, boxes/outlets, switches, light fixtures, fans, raceway, etc.)			
MISCELLANEOUS	LABOR	MATERIAL	TOTAL COST
OVERHEAD & PROFIT			
OTHER	LABOR	MATERIAL	TOTAL COST
TOTAL			

SUBSTANTIAL DAMAGE/SUBSTANTIAL IMPROVEMENT

PROPERTY OWNER'S COST ESTIMATE AFFIDAVIT

Permit Number: _____

Property Address: _____

Property Owner's Name: _____

Property Owner's Address: _____

Property Owner's Phone Number(s): _____

I hereby attest that the list of work and cost estimate submitted with my Substantial Damage or Substantial Improvement Application reflects **ALL OF THE WORK TO BE CONDUCTED** on the subject structure including all additions, construction and repairs and, if the work is the result of Substantial Damage, this work will return the structure at least to the "before damage" condition and bring the structure into compliance with all applicable codes.

Neither I nor any contractor or agent will make any repairs or perform any work on the subject structure other than what has been included in the attached list.

Property Owner's Signature

Property Owner's Signature

Sworn to and subscribed before me this
_____ day of _____, 20____.

Sworn to and subscribed before me this
_____ day of _____, 20____.

NOTARY PUBLIC

NOTARY PUBLIC

**SUBSTANTIAL DAMAGE/
SUBSTANTIAL IMPROVEMENT**

CONTRACTOR'S COST ESTIMATE AFFIDAVIT

Permit Number: _____

Property Address: _____

Contractor's Name: _____

Contractor's Address: _____

Contractor's Phone Number(s): _____

I hereby attest that I, or a member of my staff personally inspected the subject property and produced the attached itemized list of repairs, reconstruction and/or remodeling which are hereby submitted for a Substantial Damage or Substantial Improvement Review. The list of work contains **ALL OF THE WORK TO BE CONDUCTED** on the subject property. If the property sustained Substantial Damage, this list of work will return the structure to at least its condition prior to damage and bring the structure into compliance with all applicable codes. I further attest that all additions, construction or repairs proposed for the subject building are included in this estimate and that neither I nor any contractor or agent representing me will make any repairs or perform any work on the subject structure other than what has been included in the attached list.

Contractor's Signature

Sworn to and subscribed before me this
_____ day of _____, 20____.

NOTARY PUBLIC

**SUBSTANTIAL DAMAGE/
SUBSTANTIAL IMPROVEMENT DETERMINATION**

Permit Number: _____

Owner or Contractor's Cost Estimated Total Cost: _____

Building Staff Review of Cost Estimate: Reviewed by: _____

- ☐ Cost provided by Owner/Contractor is a reasonable estimate for work performed
- ☐ Cost provided by Owner/Contractor is not a reasonable estimate for work performed and should be adjusted as follows

Equalized Assessed Value: _____

Percentage of Damage or Improvement: _____

Cumulative Percentage of repair and/or improvements since _____ (including current improvement):

- ☐ I accept the estimated cost of construction as a fair cost of the repair/improvement of my home.
- ☐ I accept the equalized assessed value from the tax assessment

Property Owner's Signature

Property Owner's Signature

Sworn to and subscribed before me this
_____ day of _____, 20____.

Sworn to and subscribed before me this
_____ day of _____, 20____.

NOTARY PUBLIC

NOTARY PUBLIC

EXAMPLE CUMMULATIVE SI/SD TRACKING SPREADSHEET

Substantial Improvement/Substantial Damage Tracking

PIN:

Property Address:

Buildings on Property:

Fair Market Value of Building (FMV) Source (select one):

_____ Township Assessor

_____ Homeowner Provided Appraisal

Improvements

Building Permit # or SDE	Date	Work Done	FMV at Time of Permit/ Damage Assessment	Value of Work	Percentage	Percentage to Date
Cumulative tracking						
02070003	2/2/2011	Addition	\$100,000.00	\$15,800.00	15.80%	15.80%
05050028	4/18/2013	SDE/ April 2013 flood	\$112,320.00	\$5,520.00	4.91%	20.71%
17010060	1/19/2017	Kitchen and bathroom	\$114,540.00	\$22,280.00	19.45%	40.16%
17010060	03/01/2018	Deck and Front Porch repairs, not reflected in initial scope of work	\$114,540.00	\$7,500.00	6.55%	46.71%

**EAV = Assessment with local multiplier

April 2023

Substantial Improvement Letter

NAME AND ADDRESS
OF OWNER

Dear Property Owner:

We have reviewed your recent application for a permit to [describe proposed improvement/addition]

for the existing residential structure located at [structure address] .

The <Planning & Zoning Office> has determined that this structure is located within a mapped Special Flood Hazard Area (SFHA) on the Flood Insurance Rate Map (FIRM), Panel [redacted], with an effective date of <DATE> . As required by our <Village of Bagley > Floodplain Zoning Ordinance, we have evaluated the proposed work and determined that it constitutes Substantial Improvement (SI) of the building. This determination is based on a comparison of the cost estimate of the proposed work to the equalized assessed value of the structure (excluding land value). When the cost of improvements equals or exceeds 50 percent of the equalized assessed value of the structure, the work is considered to be Substantial Improvement (SI) under the requirements of the National Flood Insurance Program (NFIP) and the <Community Name> Floodplain Zoning Ordinance.

As a result of this determination, you are required to bring the building into compliance with the <Village of Bagley> Floodplain Zoning Ordinance provisions.

We would be pleased to meet with you and your designated representative (architect/builder) to discuss the requirements and potential options for bringing the structure into compliance. The lowest floor of the structure must be elevated to at or above the Flood Protection Elevation (FPE) as defined in the ordinance. You may wish to contact your insurance agent to understand how raising the lowest floor higher than the minimum required elevation can reduce NFIP flood insurance premiums.

Please resubmit your permit application along with plans and specifications that incorporate compliance measures or reduce the scope of work proposed. Construction activities that are undertaken without a proper permit are violations and may result in citations, fines, the removal of the non-compliant construction, or other legal action.

If you have any questions regarding this issue, please contact me at 608-996-2195.

Village of Bagley
Department of Planning and Zoning/Building Inspections
608-996-2195
bagleyfd@tds.net

Cc:

Floodplain Requirements for Residential Development in Zone AE

Floodplain regulations are intended to help protect life, health & property; minimize expenditures of public funds for flood control projects; & minimize rescue & relief efforts undertaken at the expense of the taxpayers.

This is only general information for construction in the floodfringe (Zone AE); additional regulations may apply. Please see the Floodplain Zoning Ordinance for more details.

Regional Flood: A regional flood is a flood with a one percent chance of being equaled or exceeded in any given year.

Regional Flood Elevation (RFE): The elevation assigned to a flood with a one percent (1%) chance in any given year, which may also be referred to as a Base Flood Elevation (BFE).

Flood Protection Elevation (FPE): Two feet (2') above the RFE, sometimes called two feet (2') of "freeboard".

Residential Development (includes new construction or additions to a habitable structure)

- ✓ Surveyed elevations of the natural ground shall be submitted by a Registered Land Surveyor (RLS) to determine if the proposed building location is in the floodplain. If an addition is proposed, elevations of the existing first floor and crawlspace shall also be obtained.
- ✓ If the property is located in the floodplain, have a permanent elevation benchmark placed on the property.
- ✓ Contiguous dryland access shall be provided from a structure to land outside of the floodplain
- ✓ If a crawlspace is proposed, it shall be placed at or above the RFE and shall be dry floodproofed to the FPE. A dry floodproofed crawlspace requires a certified plan by Professional Engineer or Registered Architect.
- ✓ Most new residences are constructed with a slab on fill (no crawlspace). The lowest floor shall be at or above the Flood Protection Elevation (FPE). An attached garage floor shall also be at or above the FPE.
- ✓ Fill shall be one foot or more above the RFE, extending at least 15 feet beyond the limits of the dwelling, then sloped to match original grade. Compacted fill material must retain structural bearing capacity when saturated and meet the standards within FEMA Tech Bulletin 10-01.
- ✓ Certificate of Compliance completed by the RLS certifying that the final elevations of the fill, lowest floor, and dry floodproofing elevations are in compliance with permit. Certification is required by a Professional Engineer or Registered Architect that floodproofing measures have been completed as designed. ***No occupancy is allowed without a Certificate of Compliance from the local community Zoning/Building Inspection Department.***

Building in compliance with a floodplain permit does NOT remove a structure from the floodplain.

Private Onsite Wastewater Treatment System (POWTS)

- ✓ Vents & manhole covers shall be floodproofed to FPE per SPS 383, WI Admin. Code.

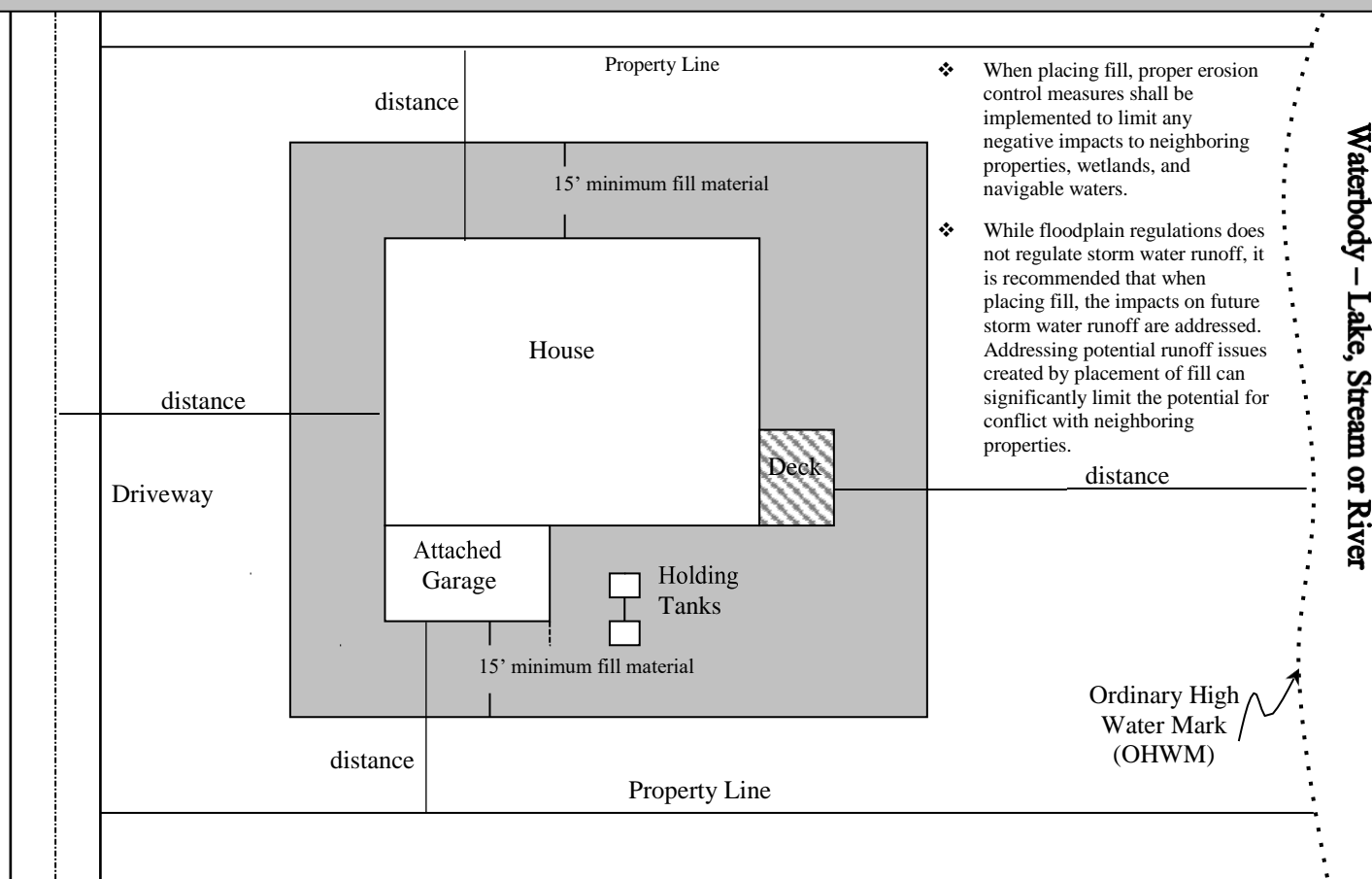
Accessory Structures (not connected to a principal structure & not for human habitation)

- ✓ Floor shall be at or above RFE.
- ✓ All heating, electrical, buoyant, flammable, or explosive materials shall be at or above FPE.
- ✓ Firmly anchored to prevent floating away.

Protect your investment: purchase flood insurance.

Note: The least expensive flood insurance rates are for structures that have their lowest floor constructed two feet above the RFE.

Typical Residential Floodplain Development Diagram



Cross-Section of Floodproofed Home on Fill

