

## Orland Hills' CDR Procedures

The Village of Orland Hills, Illinois, is a Chicago suburb that has been particularly concerned with drainage problems. Before the early 1990s it had widespread flooding and drainage problems that affected buildings, yards, and streets throughout town. Heavy rains caused water problems several times each year.

In 1995, the Village prepared a Flood Protection Plan, which reviewed the situation and recommended a series of activities to reduce the damage caused by flooding and drainage problems. One of those activities was a formalized drainage system maintenance program. Another was to join the CRS.

In 1995, drainage maintenance procedures were prepared, modeled on an example provided by the CRS. In 2000, the procedures were updated to receive full credit under the 1999 *CRS Coordinator's Manual*. The updated procedures are shown on pages 16–25. They are marked to show the five items that need to be documented in a CRS submittal.

Responding to drainage problems is only one facet of the Village's efforts. It has a proactive public information program and enforces strict construction regulations. It has a public information program strategy that also qualifies for CRS credit. In 1999, it focused on the slogan "Don't forget your drainage" and used a variety of means to convey that message to property owners. An excerpt from a property owner's booklet is shown on pages 26–27.



**VILLAGE OF ORLAND HILLS, ILLINOIS**

**DRAINAGE SYSTEM MAINTENANCE SOP**

**1. Objective:** This Standard Operating Procedure (SOP) specifies responsibilities and procedures for inspecting and cleaning the streams, ditches, storm sewers, and storage basins in the Village of Orland Hills.

**2. Responsibilities:**

*1. Who is responsible*

- a The Director of the Public Works Department is responsible for the administration of this SOP. He shall inspect the streams, ditches, storm sewers, and storage basins and ensure that they are cleaned in accordance with this SOP.
- b The Director of the Recreation and Parks Department is responsible for maintenance of all drainage facilities in Village parks.
- c The Chief of Police and/or the Building Commissioner are responsible for enforcing Section 51.01 of the Village's municipal code and related regulations on dumping or depositing material in the drainage system. The Chief of Police and/or the Building Commissioner are also responsible for serving maintenance notices to private property owners.
- d All work on county property shall be coordinated with the appropriate county offices.
- e Private property owners are responsible for maintaining the streams, ditches, storm sewer inlets, and retention basins on their properties.

**3. Jurisdiction:** This SOP covers the following public and private surface drainage facilities delineated in the drainage system map in Attachment 1.

*2. Area covered*

- a Tinley Creek from 169th Place (retention area Map #12) to its outlet from the Village at 88th Avenue.
- b Lake Lorin.
- c Ashbourne Lake and its drain to Lake Lorin (Map #18)
- d Highview Ditch from the retention basin at Map #1 to its confluence with Tinley Creek.
- e The drainage facilities to be constructed in the Pepperwood subdivision, north of Lake Lorin (Map #18 and 19).

- 2. Area covered*
- f The Village owned retention areas shown as Map #1–9, 11, 12, and 15 as detailed in the Municipal Owned Property list (Attachment 2).
  - g Marley Creek, west of 96th Street.
  - h The privately owned retention areas, shown as Map #A–L.
  - i All future drainage ways dedicated to the Village in accordance with the Village’s subdivision ordinance.

**4. Identification of Problems:**

- 3. Inspection procedures*
- a. The Director of Public Works or his designee shall inspect all the watercourses, sewers and basins listed in Section 3 twice a year. One inspection will be run before the Spring rainy season. The other will be conducted during the middle of the summer storm season.
  - b Inspections shall consist of walking the length of Tinley Creek and Highview Ditch and a visual check through all culverts. Inspections of detention basins shall include a check of each inlet and outlet.
  - c On the first Monday of each month and within 24 hours after each major storm, the Director of Public Works or his designee shall inspect the following “choke points” where debris has been known to accumulate:
    - i The culverts over Tinley Creek
      - on:
      - 169th Place
      - Hobart Ave
      - 93rd Ave
      - Haven Ave
      - 92nd Ave
      - 167th Street
      - 88th Ave
    - ii The dam at Lake Lorin.
  - d The Director of Public Works or his designee shall complete the Drainage Inspection Report (Attachment 3) after each inspection. A copy of the report shall be kept in an appropriate file.
- More frequent inspection of problem sites*

5. Records

- e The Director of Public Works or his designee shall inspect all complaints submitted by residents, Trustees, or other offices. Such complaints and the subsequent action taken by the Village shall be recorded on a Complaint/Inquiry Form (Attachment 4). The Director of Public Works shall ensure that an inspection is conducted and the findings provided to the person submitting the complaint within one week.
- f If a problem is found, a Complaint/Inquiry Form (Attachment 4) shall be completed and forwarded to the appropriate person. The Complaint/Inquiry Forms shall be recorded and maintained in accordance with the Village's Complaint Procedures. If the problem is on private property, a letter shall also be sent to the owner, using the format in Attachment 5.

**5. Maintenance:**

4. Maintenance procedures

- g. There are four types of maintenance problems:
  - i Trash: human-made objects, such as garbage, shopping carts, tires, lumber, furniture, and appliances. Animal carcasses are also included as trash.
  - ii Minor problem: vegetation growth, tree limbs, and other “naturally” occurring debris. Sedimentation in a retention basin is also included.
  - iii Obstruction: fallen tree, culvert damage, large appliance, etc., that, by itself, obstructs the flow of the ditch, inlet or outlet.
  - iv Structural project: bridge or culvert replacement, bank stabilization, dredging, or other major project.
- h Maintenance duties:
  - i On public property: The Director of Public Works or the Director of Recreation and Parks shall ensure that trash and minor problems are removed at the next convenient time. Obstructions shall be removed within two working days of being reported.
  - ii Kelly Park and Lake Lorin: These areas of Tinley Creek shall be kept in a condition approximating their natural state. Trash and obstructions shall be removed, but natural growth shall not be cut.
  - iii On County property: Trash, minor problems, and obstructions shall be reported to the appropriate office by the Director of Public Works. If the County does not remove the problem within seven days, it shall be treated as a problem on private property in accordance with c., below.
  - iv Structural projects require budget approval by the Village Board of Trustees and, sometimes, a separate permit from the Department of Natural

Resources, Office of Water Resources. If necessary, a drainage maintenance easement shall be obtained from all affected property owners. Structural projects shall be advertised for bid and scheduled in the same manner as other contracted public works projects.

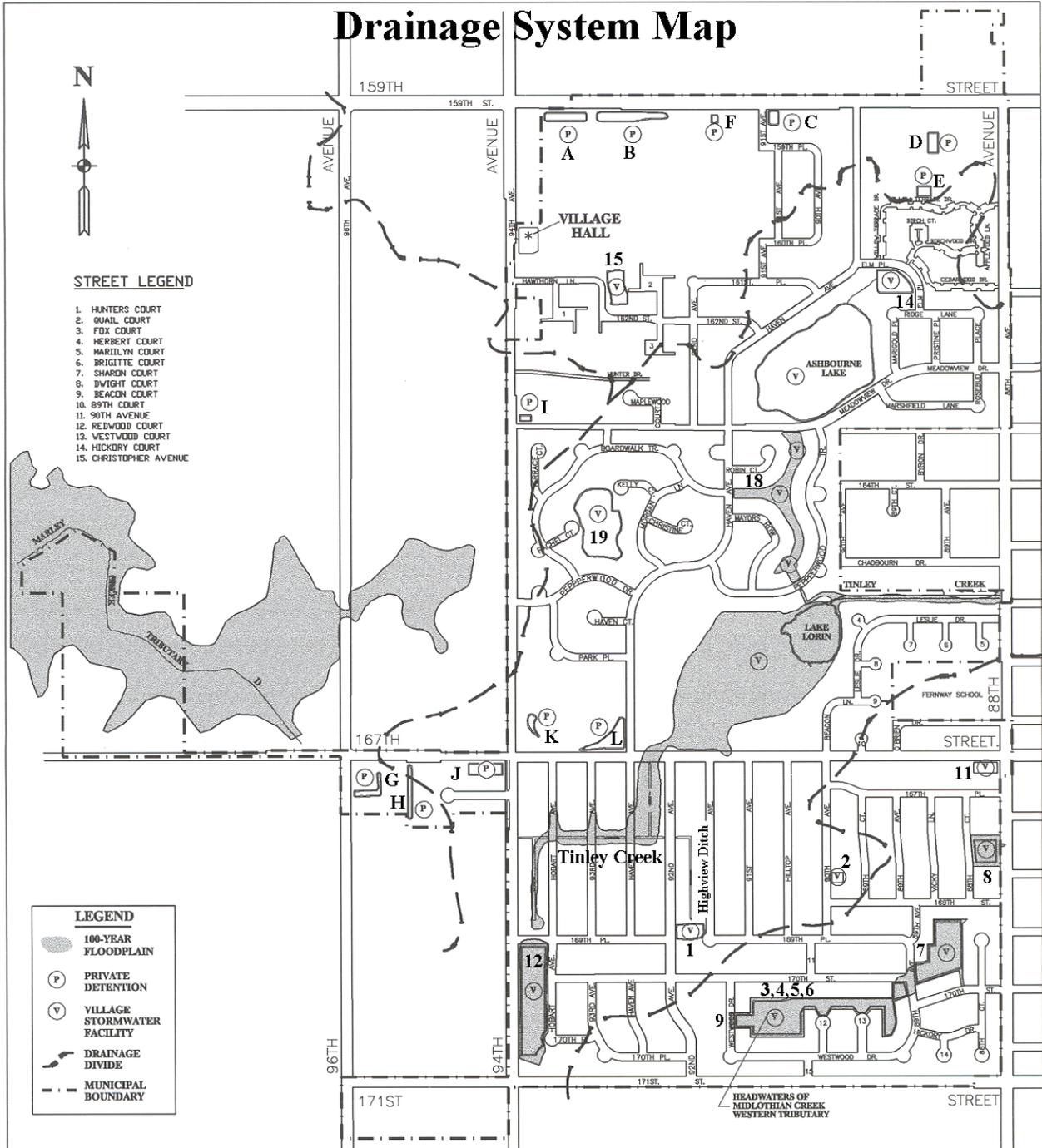
4. Maintenance procedures

- v Upon completion of a maintenance project, the responsible person shall complete the Complaint/Inquiry Form and provide it to the Building Department Permit Clerk for filing.
- i Maintenance on private property:
  - i Property owners are responsible for maintaining the streams, ditches, swales, storm sewer inlets, and retention basins on their properties.
  - ii The Village shall publicize the need for maintenance of drainage facilities and encourage residents to correct or report problems before the next storm causes damage.
  - iii The Director of Public Works shall inspect all drainage facilities listed in Section 3 from streets or other public property or via access on dedicated easements in accordance with the inspection schedule in Section 4. The Director shall inspect all other drainage problems on private property only in response to complaints.
  - iv Trash, minor problems, and obstructions shall be reported to the owner by the Chief of Police in the format included as Attachment 6.
  - v If the owner does not remove the problem within ten days, the Village shall assume responsibility for the problem. If the problem is large enough to cause flooding of another property, the Director shall enter the property and remove the problem in accordance with Illinois Compiled Statutes, Chapter 65, Section 11-111.1-1.
  - vi If the problem does not cause an immediate hazard, the Village Attorney may take action to have the owner remove the problem or pay for the maintenance work performed by the Village.

Attachments:

1. Drainage system map
2. Municipal owned property
3. Drainage Inspection Report forms
4. Complaint/Inquiry Form
5. Private property notice format

Attachment 1.



## Attachment 2.

## Municipal Owned Property

November 30, 1998

P.I.N.	Map Loc.	Acres	Use	Approx. location
27-22-101-019	16	1.15	New Village Complex	16033 S. 94th Ave.
27-22-104-062	15a	1.50	Park/detention	Hawthorne @ 16151
27-22-104-071	15b	0.10	Park/Tot-Lot	Hawthorne @ 9302 W.
27-22-202-003	30	18.12	Ashbourne/wetland/detention/path	8980 w. Meadowview
27-22-207-069	14	0.90	Storm Detention/Tot lot	Elm Pl. @ 8901
27-22-301-002p	19	4.55	Future Storm Detention (outlot A)	Pepperwood Outlot A
27-22-302-010	21	4.90	Kelly Park	Haven @ 16675
27-22-302-012	22	2.01	Kelly Park w/Tot Lot	167th @ 9200 w.
27-22-302-015	20	6.93	Kelly Park - Phase II (outlot C)	Haven @ 16595
27-22-302-017	17	0.86	Public Works/PSVS Facility	16533 S. 94th Ave.
27-22-400-004p	18	3.30	Future Storm Detention (outlot B)	Pepperwood Outlot B
27-22-402-010	24	0.23	open access to Lake Lorin	16636 S Beacon Ln.
27-22-402-045	23a	23.00	Kelly Park - Lake Lorin	167th @ 9150 w.
27-22-402-047	23b	4.34	Kelly Park	167th @ 9250-9000 w.
27-22-403-007	25	1.42	Storm Detention outfall	88th Ave @ 16520
27-22-403-008	26	1.58	Storm Detention outfall	88th Ave @ 16520
27-22-413-014	23c	0.05	Kelly Pk-Lake Lorin (25 x 80)	167th @ 9104 w.
27-27-103-053	27	0.15	Old Village Hall (51x125)	16795 S. 94th Ave.
27-27-103-054	28	0.22	Old Police Station (77x125)	16801 S. 94th Ave.
27-27-103-062	13	0.66	Storm Detention	94th Ave @ 16941
27-27-114-005	12	4.13	Storm Detention	94th Ave @ 17001
27-27-201-027	11	0.71	Storm Detention	88th Ave @ 16700
27-27-205-051	29	0.12	Buildable Open Lot (40x125)	91st Ave @ 16720
27-27-208-014	02a	0.11	Storm Detention	90th Ave @16811
27-27-208-015	02b	0.11	Storm Detention	90th Ave @16811
27-27-208-046	02c	0.03	Storm Detention-rear	90th Ave @16811
27-27-208-047	02d	0.03	Storm Detention-rear	90th Ave @16811
27-27-210-024	10a	0.16	Park - Tot lot	167th Pl. @ 8926
27-27-210-025	10b	0.01	Park - Tot lot (sliver)	167th Pl. @ 8926
27-27-214-010	08a	1.35	Storm Detention	88th Ave @ 16840
27-27-214-024	08b	0.66	Dedicated Right-of-way	88th Ave. (west 50')
27-27-214-025	08c	0.34	Dedicated Right-of-way	88th Ave. (west 50')
27-27-215-035	07a	3.25	Storm Detention	89th Ave @ 17001
27-27-215-036	07b	0.34	Storm Detention	89th Ave @ 17001
27-27-219-001	06b	0.35	Storm Detention	SW<8900 w.170th St.
27-27-221-015	06a	2.90	Storm Detention	Westwood - 89th Ave
27-27-222-031	01	0.96	Storm Detention	92nd Ave @ 16901
27-27-223-038	09	1.21	Storm Detention	Westwood @ 17007
27-27-224-006	04	1.24	Storm Detention	Westwood - 89th Ave
27-27-224-012	05	0.83	Storm Detention	Westwood - 89th Ave
27-27-224-013	03	1.24	Storm Detention	Westwood - 89th Ave
		96.05	Total Acreage	

**Attachment 3.**

**Village of Orland Hills, Illinois**

**Drainage Inspection Report - Public Properties**

Date: \_\_\_\_\_ Inspector: \_\_\_\_\_

Type of inspection:  Semi-annual  Monthly Choke Point Check  Post-storm

I have inspected the following surface drainage facilities and found them as noted. The numbers and letters refer to locations on the Village's drainage system map. A Complaint/ Inquiry Form has been completed for all problems found on Village property. A notification letter has been sent to the owners of private property where problems were found.

- |   |                                     |  |
|---|-------------------------------------|--|
| Retention basin, 17001 94th Ave (#12)             | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Tinley Creek from 169th Place to 167th Street     | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention basin, 16901 92nd Ave (#I)              | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Highview Ditch                                    | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Tinley Creek from 167th Street to Lake Lorin      | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Lake Lorin and dam                                | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention area, 8901 Elm Place (#14)              | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Ashbourne Lake and drain to Tinley Creek          | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Tinley Creek from Lake Lorin to 88th Avenue       | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention area, 17007 Westwood (#9)               | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention areas, Westwood and 89th Ave (#3,4,5,6) | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention area, 17001 89th Ave (#7)               | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention area, 16840 88th Ave (#8a)              | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention area, 16811 90th Ave (#2)               | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention area, 16700 88th Ave (#11)              | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Retention area, 16151 Hawthorne (#15b)            | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Pepperwood Outlot A (19)                          | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Pepperwood Outlot B (18)                          | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| Marley Creek                                      | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| _____   | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |
| _____   | <input type="checkbox"/> No problem | <input type="checkbox"/> Problem found |





**Attachment 4.**

**VILLAGE OF ORLAND HILLS  
COMPLAINT/INQUIRY FORM**

TAKEN BY: \_\_\_\_\_ COMPLAINT #: \_\_\_\_\_

ROUTED TO: \_\_\_\_\_ DATE: \_\_\_\_\_

COPY TO: \_\_\_\_\_ TIME: \_\_\_\_:\_\_\_\_AM/PM

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COMPLAINT ADDRESS: \_\_\_\_\_

COMPLAINT: \_\_\_\_\_

COMPLAINANT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ COMPLAINANT WANTS A REPORT: \_\_\_\_\_

HOME NUMBER: \_\_\_\_\_ CALL: Y OR N SEND COPY: Y OR N

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ACTION TAKEN: \_\_\_\_\_

DATE: \_\_\_\_\_ INVESTIGATOR: \_\_\_\_\_

TALKED TO: \_\_\_\_\_

=====

DATE CLOSED: \_\_\_\_\_ HANDED NOTICE TO: \_\_\_\_\_ DATE: \_\_\_\_\_

DATE FOLLOW UP: \_\_\_\_\_ DATE POSTED NOTICE: \_\_\_\_\_

REFERRED TO: \_\_\_\_\_ DATE SENT NOTICE: \_\_\_\_\_

=====

DATE COMPLAINANT NOTIFIED OF ACTION TAKEN: \_\_\_\_\_

CALLED: Y OR N

SENT COPY: Y OR N

=====

Misc: \_\_\_\_\_

**Attachment 5. Private property notice format**

Date

Name  
Address

Certified Mail Receipt No.

Dear Name:

This letter is official notification that property owned by you is in violation of the Municipal Code of the Village of Orland Hills, Illinois. The [stormwater detention facility/stream channel] has not been kept clear of debris as required by Section 95.05 of the Municipal Code. Specifically, the following problems have been found:

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To rectify this violation, please remove the debris within ten days of the date of this letter. Failure to meet this deadline can be cause for a fine as well as the cost of abating the violation.

If you have any questions on this notice, please call \_\_\_\_\_ [name] \_\_\_\_\_, Building Commissioner, at 349-4887.

Sincerely,

[Name]

Building Commissioner

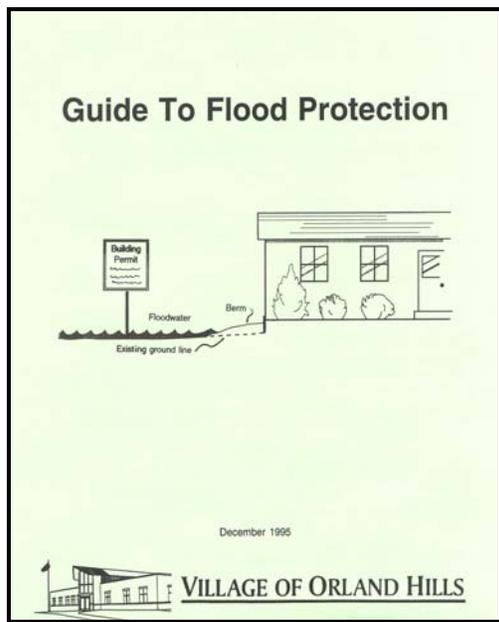
cc: [Name] Chief of Police



## Excerpts from Orland Hills' *Guide to Flood Protection*

### 1. Flooding in Orland Hills

Orland Hills' drainage system is subject to three flood problems: yard drainage problems, underdesigned or obstructed storm sewers, and overbank flooding from Tinley Creek and certain detention areas. This guide reviews these problems and what can be done about them.



**Yard drainage:** When an area is laid out for development, strips along the lot lines are set aside to carry water. Usually a five or ten foot easement is established. This is shown in the figure below. When the lot is built on, there should be no construction in this easement.

Filling on the lot should slope to the easement so drainage will run away from the building. A shallow depression or *swale* is kept along the lot lines. The swale guides stormwater runoff to the front or back yards where it is sent to the street or storm sewer. Downspouts and sump pump discharge pipes should point to the swale so excess water is drained properly.

Over the years, this yard drainage system has been disrupted. Many property owners are not aware of the need to keep their easements and swales open. They installed sheds, planters,

railroad ties or swimming pools in the easements. They built fences right on their lot lines to enclose the largest part of their properties. As a result, the water stands in the yards because it cannot go anywhere. Eventually it percolates into the ground.

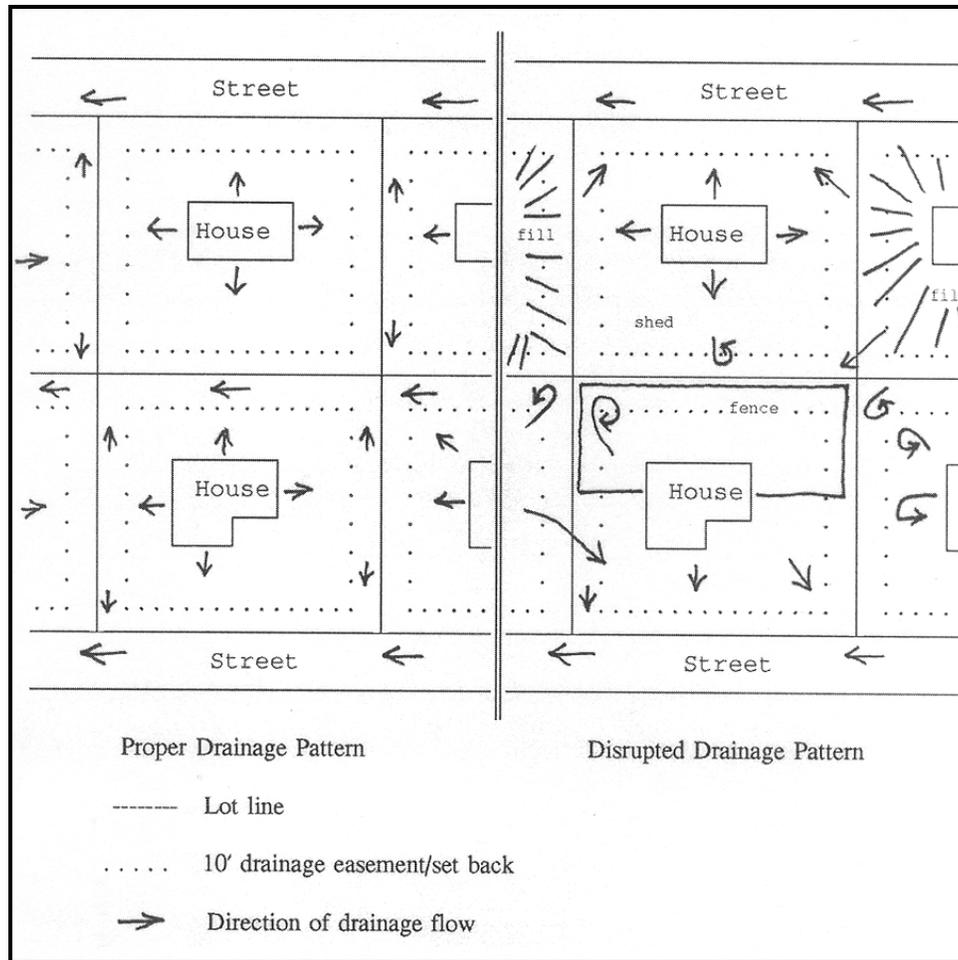
**Storm sewers:** Storm sewers have been installed in some areas of town to augment the drainage system. *Inlets* collect water in the streets or gutters. Stormwater flows through the pipe to a larger sewer or a body of water.

When storm sewers work, the streets and yards are drained quickly. Storm sewers won't work if they are underdesigned or when they are blocked. Blockages can be caused by debris in the inlet, an outlet or *outfall* that is underwater, a broken pipe, or debris or sediment in the pipe.

**Overbank flooding:** The swales, streets and storm sewers carry water to detention ponds or to Tinley Creek. When these become overloaded, water leaves their banks and floods neighboring properties. The overbank flood problem areas are shown on the map on page 3. The Village's largest problem is flooding from Tinley Creek.

Sometimes, the result of flooding is a nuisance, such as wet streets or a soaked backyard. However, either shallow water on the surface or saturated ground can cause flooding several feet deep on a floor that is below grade. Some houses in Orland Hills do not have finished basements because of chronic flooding.





### 3. Flood Protection Regulations

As shown on page 2, every lot was built so water would flow away from the building and along property lines to the street, storm sewer, or ditch. Fences, railroad ties, landscaping and regrading block this flow. So do construction projects in the ditches or the floodplain.

Every piece of trash can contribute to flooding. Even grass clippings and branches can accumulate and plug channels. If your property is next to a ditch or storage basin, please do your part and keep the banks clear of brush and debris.

**Do not dump or throw anything into the ditches or basins.** Dumping in our ditches and storage basins is a violation of Village Code.

**Always check with the Building Department before you build on, fill, alter, or regrade your property.** A permit is needed to ensure that such projects do not cause problems on other properties.

If you see dumping or debris in the ditches or basins, filling or construction near property lot lines, or filling or construction in the floodplain shown on page 3 without a permit sign posted, contact the Village at 349-6666. The debris or project may cause flooding on your property.