

# ***Grading Handbook***

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Copies may be obtained at the  
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The manual is also provided at the following website:  
<http://www.olmstedcounty.com/planning/zoningordinances.htm>

# Index

Chapter 50 of Rochester Code of Ordinances.....	1
International Building Code.....	3
Section K101 General.....	3
Section K102 Definitions.....	3
Section K103 Permits Required.....	4
Section K014 Permit Application and Submittals .....	4
Section K107 Fills.....	5
Section K108 Setbacks .....	6
Figure K107.3 Benching Details.....	7
Figure K108.1 Drainage Dimensions .....	8
Section K109 Drainage and Terracing.....	9
Section K110 Erosion Control .....	9
Zoning Ordinance Excerpts .....	11
Definitions.....	11
Section 61.153 Minor Grading Permit Required .....	13
Section 61.243 Timing of Improvements .....	13
61.240 Construction Plans .....	14
61.241 Application for Construction Plans.....	14
61.243 Timing of Improvements .....	14
61.244 Modification of Construction Plans .....	14
61.245 Record Drawings .....	15
61.246 Inspection and Acceptance of Improvements .....	15
61.247 Failure to Complete Improvements .....	16
61.550 Drainage Plan.....	16
61.551 Drainage Plan Required .....	16
61.552 Modifications .....	17
61.553 Waiver.....	17
61.554 Contents .....	17
61.555 Approval .....	17
61.560 Grading Plan .....	17
61.561 Grading Plan Required.....	17
61.562 Contents .....	18
61.563 Exemptions .....	18
61.564 Violations.....	18
62.1100 Excavation Activities & Substantial Land Alteration.....	18
62.1101 Applicability .....	18
62.1102 Exempt Activities.....	21
62.1103 Purpose and Intent.....	21
62.1104 Procedures .....	22
62.1105 Findings Necessary for Issuance of Conditional Use Permits .....	23
62.1106 Required Plans and Information .....	24
62.1107 Standards for Quarries .....	32
62.1108 Standards for Sand and Gravel Excavation .....	37
62.1109 Standards for Substantial Land Alteration Activities .....	42

62.1110 Permits .....	48
62.1111 Financial Assurances .....	52
62.1112 Annual Inspection Report and Monitoring Guidelines .....	53
64.150 Lot Grading Principles .....	53
64.151.....	54
64.152.....	54
64.310 Stormwater Runoff.....	54
64.311 Overland Drainage Encouraged.....	54
64.312 Channel Restrictions Prohibited .....	54
64.320 Erosion Control.....	54
64.321 Erosion Control Standards .....	55
64.322 Stockpiling of Fill in Right-of-way Prohibited.....	55
64.330 Lot Grading Standards .....	55
64.331 Positive Drainage Required .....	55
64.332 Drainage Plans to Account for All Development .....	55
64.340 Hillside Development .....	56
64.350 Wetlands .....	56
Related Ordinance Provisions and Rules.....	57
Floodplain Districts:.....	57
Shoreland Districts:.....	57
Wetland Conservation Act:.....	57
Protected Waters Permit Program:.....	57
Construction Storm Water Program: .....	58

## Chapter 50 of Rochester Code of Ordinances

Subd. 2. Grading Requirements. (A) Street Rough Grading. No permit shall be issued for construction of a new building until the rough grading of public streets providing access thereto has been completed, sewer and water construction in connection therewith has been completed or is under construction, and the rough grading of planned private streets and roadways within the project area has been completed. From and after the commencement of building framing, the public streets and private streets and roadways shall be maintained without obstruction and the rough grading shall consist of at least an all-weather base construction sufficient to provide adequate support at all times for emergency and fire protection vehicles. The City Engineer or Building Official may issue a stop order if the streets and roadways are not maintained as required herein. Additionally, the Building Official may revoke building permits, and may deny the issuance of additional building permits for the subdivision(s) served by such streets and roadways, if the streets and roadways are not maintained as required herein.

(B) Site Grading. No permit shall be issued for construction of a new building until the City Engineer has inspected and approved the site grading. The City Engineer shall approve the site grading when the rough grading of the site is substantially complete and the storm water facilities serving the site are complete and stable, in accordance with the following requirements:

- (i) Rough grading of the site shall be such that the ground elevations at property corners are in conformance with the property corner elevations indicated on the approved plans;
- (ii) Temporary seeding or permanent cover in accordance with the approved plans shall be complete in all site areas that have not been or will not be worked for 45 days or that period indicated in any storm water permit applicable to the site, whichever is less;
- (iii) All drainage easements on the site shall be graded in accordance with the approved plans, and shall have permanent and temporary erosion and sediment control measures in place as indicated on the approved plans;
- (iv) All storm water conveyance facilities located within easements and right of way, through which storm water from the site flows, shall be complete in accordance with the approved plans, and shall have permanent and temporary erosion and sediment control measures in place as indicated on the approved plans; and,
- (v) All ponds and other storm water facilities to which storm water from the site flows shall be complete in accordance with the approved plans, and shall have permanent and temporary erosion and sediment control measures in place as indicated on the approved plans.

(C) The City Engineer may waive one or more of the requirements listed in paragraph (B) above when:

- (i) An overall grading plan has been approved for the site;
- (ii) An interim/staged grading plan which depicts the proposed grading and building has been approved. The interim/staged grading plan shall show that the proposed building is compatible with the overall grading plan of the site and shall include interim erosion and sediment control measures acceptable to the City Engineer such that no lands

outside of the control of the developer are adversely impacted by drainage, erosion, or sediment from the proposed grading and building; and,

(iii) Sediment control measures indicated on the approved interim/staged plan are in place.

All erosion and sediment control measures indicated on the interim/staged grading plan shall remain functional until site grading and storm water facility requirements listed in paragraph (B) above have been completed.

(D) Building permits. Building permits issued following the City Engineer's approval shall have attached to them a notation indicating that permittee's work on the property is subject to the provisions of the grading plan covering that property, including the appropriate temporary erosion control measures.

(E) Grading violations. No person, firm, partnership or corporation shall perform any grading work without first receiving a grading permit as the same may be required by the Building Code or any other provision of local ordinance. No person, firm, partnership or corporation, whether the permittee under a grading permit or otherwise, shall perform grading work in any manner that is inconsistent with the conditions of a grading permit applicable to that site. Additionally, no person, firm, partnership or corporation shall, after initiation of a grading project, discontinue such project except with the permission of the City Engineer and subject to those reasonable conditions that may be imposed by the City Engineer to prevent unsafe conditions, drainage, erosion, and sediment problems on adjacent public and private property. For the purpose of this ordinance, a grading project shall be considered discontinued if no grading work has been accomplished for 60 days excluding the period from November 15 to April 15 (inclusive), and the project is not complete in accordance with the approved plans.

The City Engineer may issue stop orders to stop persons performing grading work in violation of this section, and correction orders to gain compliance with the provisions of this section. Correction orders shall identify the work to be performed and shall provide a reasonable time in which to perform the work. Any violation of this section, any failure to stop work as required by the provisions of a stop order issued by the City Engineer, and any failure to take corrective action as required by a correction order, is a misdemeanor. Violations of this section shall also be considered a public nuisance and the City Attorney is authorized to initiate any legal or equitable action in the District Court to abate such public nuisance.

# International Building Code

## ***Section K101 General***

**K101.1 Scope.** The provisions of this chapter apply to grading, excavation and earthwork construction, including fills and embankments. Where conflicts occur between the technical requirements of this chapter and the soils report, the soils report shall govern.

**K101.2 Flood hazard areas.** The provisions of this chapter shall not apply to grading, excavation and earthwork construction, including fills and embankments, in floodways within flood hazard areas established in Section 1612.3, unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed work will not result in any increase in the level of the base flood.

**K101.3 Standards.** The following standard of quality shall apply: ASTM D1557-91 E01, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/ft).

## ***Section K102 Definitions***

**K102.1 Definitions.** For the purpose of this appendix chapter, the terms, phrases and words listed in this section and their derivatives shall have the indicated meanings.

**BENCH.** A relatively level step excavated into earth material on which fill is to be placed.

**COMPACTION.** A densification of a fill by mechanical means.

**CUT.** See "Excavation."

**DOWN DRAIN.** A device for collecting water from a swale or ditch located on or above a slope, and safely delivering it to an approved drainage facility.

**EROSION.** The wearing away of the ground surface as a result of the movement of wind, water or ice.

**EXCAVATION.** The removal of earth material by artificial means, also referred to as a cut.

**FILL.** Deposition of earth materials by artificial means.

**GRADE.** The vertical location of the ground surface.

**GRADE, EXISTING.** The grade prior to grading.

**GRADE, FINISHED.** The grade of the site at the conclusion of all grading efforts.

**GRADING.** An excavation or fill or combination thereof.

**KEY.** A compacted fill placed in a trench excavated in earth material beneath the toe of a slope.

**SLOPE.** An inclined surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

**TERRACE.** A relatively level step constructed in the face of a graded slope for drainage and maintenance purposes.

## ***Section K103 Permits Required***

**K103.1 Permits Required.** Except as exempted in Section K103.2, no grading shall be performed without first having obtained a permit therefore from the building official. A grading permit does not include the construction of retaining walls or other structures.

**K103.2 Exemptions.** A grading permit shall not be required for the following:

1. Grading in an isolated, self-contained area, provided there is no danger to the public, and that such grading will not adversely affect adjoining properties.
2. Excavation for construction of a structure permitted under this code.
3. Cemetery graves.
4. Refuse disposal sites controlled by other regulations.
5. Excavations for wells, or trenches for utilities.
6. Mining, quarrying, excavating, processing or stockpiling rock, sand, gravel, aggregate or clay controlled by other regulations, provided such operations do not affect the lateral support of, or significantly increase stresses in, soil on adjoining properties.
7. Exploratory excavations performed under the direction of a registered design professional for the sole purpose of preparing a soils report.

Exemption from the permit requirements of this appendix shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

## ***Section K014 Permit Application and Submittals***

**K104.1 Submittal requirements.** In addition to the provisions of Section 105.3, the applicant shall state the estimated quantities of excavation and fill.

**K104.2 Site plan requirements.** In addition to the provisions of Section 106, a grading plan shall show the existing grade and finished grade in contour intervals of sufficient clarity to indicate the nature and extent of the work and show in detail that it complies with the requirements of this code. The plans shall show the existing grade on adjoining properties in sufficient detail to identify how grade changes will conform to the requirements of this code.

**K104.3 Soils Report.** A soils report prepared by registered design professionals shall be provided and shall identify the nature and distribution of existing soils; conclusions and

recommendations for grading procedures; soil design criteria for any structures or embankments required to accomplish the proposed grading; and, where necessary, slope stability studies, and recommendations and conclusions regarding site geology.

**Exception:** A soils report is not required where the building official determines that the nature of the work applied for is such that a report is not necessary.

K104.4 Liquefaction study. For sites with mapped maximum considered earthquake spectral response accelerations at short period ( $S_s$ ) greater than 0.5g as determined by Section 1615, a study of the liquefaction potential of the site shall be provided, and the recommendations incorporated in the plans.

**Exception:** A liquefaction study is not required where the building official determines from established local data that the liquefaction potential is low.

## ***Section K105 Inspections***

K105.1 Special inspections. The special inspection requirements of Section 1704.7 shall apply to work performed under a grading permit where required by the building official.

## ***Section K106 Excavations***

K106.1 Maximum slope. The slope of cut surfaces shall be no steeper than is safe for the intended use, and shall be no steeper than one unit vertical in two units horizontal (50% slope) unless the applicant furnishes a soils report justifying a steeper slope.

### **Exceptions:**

1. A cut surface may be at a slope of one unit in 1.5 units horizontal (67-percent slope) provided that all the following are met.
  - 1.1. It is not intended to support structures or surcharges;
  - 1.2. It is adequately protected against erosion;
  - 1.3. It is no more than 8 feet (2438 mm) in height;
  - 1.4. It is approved by the building official.
2. A cut surface in bedrock shall be permitted to be at a slope of one unit vertical in one unit horizontal (100-percent slope).

## ***Section K107 Fills***

K107.1 General. Unless otherwise recommended in the soils report, fills shall conform to the provisions of this section.

K107.2 Surface preparation. The ground surface shall be prepared to receive fill by removing vegetation, topsoil and other unsuitable materials, and scarifying the ground to provide a bond with the fill material.

K107.3 Benching. Where existing grade is at a slope steeper than one unit vertical in five units horizontal (20-percent slope) and the depth of the fill exceeds 5 feet (1524 mm), benching shall

be provided in accordance with Figure K107.3. A key shall be provided which is at least 10 feet (3048 mm) in width and 2 feet (610 mm) in depth.

K107.4 Fill material. Fill material shall not include organic, frozen or other deleterious materials. No rock or similar irreducible material greater than 12 inches (305 mm) in any dimension shall be included in fills.

K107.5 Compaction. All fill material shall be compacted to 90 percent of maximum density as determined by ASTM D1557, in lifts not exceeding 12 inches (305 mm) in depth.

K107.6 Maximum slope. The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes steeper than one unit vertical in two units horizontal (50-percent slope) shall be justified by soils reports or engineering data.

## ***Section K108 Setbacks***

K108.1 General. Cut and fill slopes shall be set back from the property lines in accordance with this section. Setback dimensions shall be measured perpendicular to the property line and shall be as shown in Figure K108.1, unless substantiating data is submitted justifying reduced setbacks.

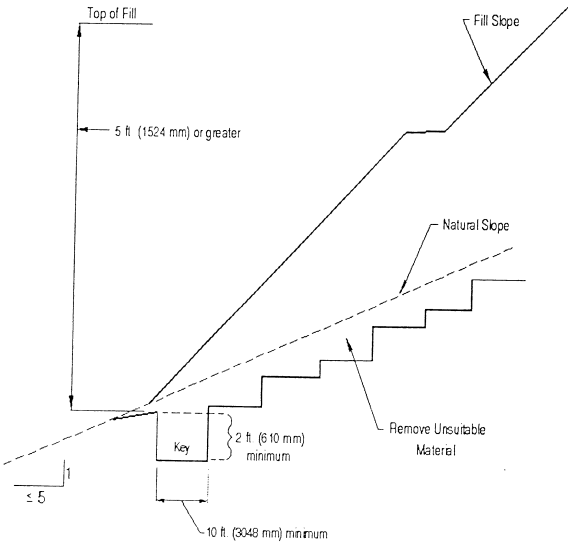
K108.2 Top of slope. The setback at the top of a cut slope shall not be less than that shown in Figure K108.1, or than is required to accommodate any required interceptor drains, whichever is greater.

K108.3 Slope protection. Where required to protect adjacent properties at the toe of a slope from adverse effects of the grading, additional protection, approved by the building official, shall be included. Such protection may include by shall not be limited to:

1. Setbacks greater than those required by Figure K108.1
2. Provisions for retaining walls or similar construction.
3. Erosion protection of the fill slopes.
4. Provision for the control of surface waters.

# Figure K107.3 Benching Details

FIGURE K107.3  
BENCHING DETAILS



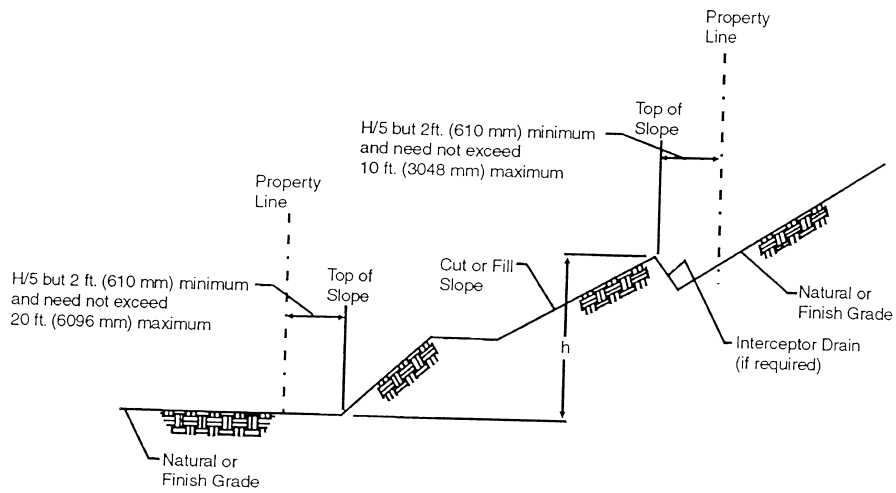
For SI: 1 foot = 304.8 mm

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# Figure K108.1 Drainage Dimensions

2002 ACCUMULATIVE SUPPLEMENT TO THE IBC

FIGURE K108.1  
DRAINAGE DIMENSIONS



For SI: 1 foot = 304.8 mm

## ***Section K109 Drainage and Terracing***

**K109.1 General.** Unless otherwise recommended by a registered design professional, drainage facilities and terracing shall be provided in accordance with the requirements of this section.

**Exception:** Drainage facilities and terracing need not be provided where the ground slope is not steeper than one unit vertical in three units horizontal (33-percent slope).

**K109.2 Terraces.** Terraces at least 6 feet (1829 mm) in width shall be established at not more than 30-foot (9144 mm) vertical intervals on all cut or fill slopes to control surface drainage and debris. Suitable access shall be provided to allow for cleaning and maintenance.

Where more than two terraces are required, one terrace, located at approximately mid-height, shall be at least 12 feet (3658 mm) in width.

Swales or ditches shall be provided on terraces. They shall have a minimum gradient of one unit vertical in 20 units horizontal (5-percent slope) and shall be paved with concrete not less than 3 inches (76 mm) in thickness, or with other materials suitable to the application. They shall have a minimum depth of 12 inches (305 mm) and a minimum width of 5 feet (1524 mm).

A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (1256 m<sup>2</sup>) (projected) without discharging into a down drain.

**K109.3 Interceptor drains.** Interceptor drains shall be installed along the top of cut slopes receiving drainage from a tributary width greater than 40 feet (12192 mm), measure horizontally. They shall have a minimum depth of 1 foot (305 mm) and a minimum width of 3 feet (915 mm). The slope shall be approved by the building official, but shall not be less than one unit vertical in 50 units horizontal (2-percent slope). The drain shall be paved with concrete not less than 3 inches (76 mm) in thickness, or with materials suitable to the application. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the building official.

**K109.4 Drainage across property lines.** Drainage across property lines shall not exceed that which existed prior to grading. Excess or concentrated drainage shall be contained on site or directed to an approved drainage facility. Erosion of the ground in the area of discharge shall be prevented by installation of nonerosive down drains or other devices.

## ***Section K110 Erosion Control***

**K110.1 General.** The faces of cut and fill slopes shall be prepared and maintained to control erosion. This control shall be permitted to consist of effective planting.

**Exception:** Erosion control measures need not be provided on cut slopes not subject to erosion because of to the erosion-resistant character of the materials.

Erosion control for the slopes shall be installed as soon as practicable and prior to calling for final inspection.

**K110.2 Other devices.** Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

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# Zoning Ordinance Excerpts

## *Definitions*

- ❖ **DEVELOPMENT:** Any man-made change to improved or unimproved real estate, including a change in use or the creation of a subdivision.
- ❖ **DRAINAGE PLAN:** An integrated set of documents which identifies the impact of a development on drainage systems and provides pertinent data necessary for the design of drainage facilities.
- ❖ **DRAINAGEWAY:** A channel which provides for the collection and conveyance of stormwater runoff from a watershed area of over 1,200 acres in size, which is not part of a designated floodplain. The area of the drainageway shall be calculated as that area needed to convey the water of a 100 year rainfall within the watershed.
- ❖ **EASEMENT, DRAINAGE:** An easement required for the installation of storm water sewers or surface drainage channels, or the preservation or maintenance of a natural stream or watercourse.
- ❖ **EROSION, SOIL:** The removal and/or loss of soil by the action of water, ice, gravity or wind, including both the detachment and transport of soil particles.
- ❖ **EXCAVATION:** The artificial removal of earth material.
- ❖ **EXCAVATION ACTIVITIES:** Activities involving “substantial land alteration,” “quarry,” or “sand or gravel excavation” as those terms are defined by Section 62.1101(1).
- ❖ **FILL:** A deposit of earth material placed by artificial means.
- ❖ **GRADING:** Any excavation or fill combination thereof.
- ❖ **GRADING PLAN:** An integrated set of documents which addresses how a proposed development will satisfy the requirements of part 50.01 (2) of the Building Code.
- ❖ **INTENSIVE VEGETATION CLEARING:** Means the complete removal of trees or shrubs in a contiguous patch, strip, row or block.
- ❖ **OBSTRUCTION:** Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, wire, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory flood plain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.
- ❖ **QUARRY:** See definition under Section 62.1101(2)(b)(1).
- ❖ **RECLAMATION PLAN:** A plan, including a Final Site Plan and Report, required to be submitted by applicants for conditional use permit approval of excavation activities which

describes how the site will be reclaimed for subsequent use after conclusion of the excavation activity.

- ❖ **SAND OR GRAVEL EXCAVATION:** See definition under Section 62.1101(2)(c).
- ❖ **SEDIMENTATION:** Sedimentation shall mean the settling out of soil particles which have been transported by water or wind. (Sedimentation occurs when the velocity of water or wind in which soil particles are suspended is slowed to a sufficient degree and for a sufficient period of time to allow the particles to settle out of suspension or when the degree of slope is lessened to achieve the same result).
- ❖ **SUBSTANTIAL LAND ALTERATION:** See definition under Section 62.1101(2)(a).
- ❖ **UNDISTURBED, AREA OF:** Area of special site preservation to qualify for floor area or density bonus. Undisturbed shall mean that the natural ground cover and plant or woodland growth shall not be removed except through actions 1) necessary to limit the spread of disease and noxious weeds, 2) to trim or remove dead trees or parts thereof that are a hazard, or 3) control the erosion of soil from the site.
- ❖ **WETLAND:** Means a surface water feature classified as a wetland in the United States Fish and Wildlife Service Circular No. 39 (1971 edition).
- ❖ **WOODLAND:** An area of planted material covering one (1) acre or more with a minimum dimension of 66 feet, having a density of twenty trees or more per acre with a caliper of eight inches or more.

**Section 61.153 Minor Grading Permit Required**

- 1) **Applicability:** A minor grading permit shall be required for any non-agricultural project involving the movement of 50 cubic yards or more of earth that involves a change in natural or preexisting grades of less than 10 vertical feet, except for excavation of a basement for which a building permit has been issued.
- 2) **Approval Process:** The application for a minor grading permit shall be reviewed through a Type I process.
- 3) **Submittal Requirements:** The applicant shall submit a completed application and grading plan to the City Engineer in accordance with Section 61.154.
- 4) **Review Criteria:** The City Engineer shall consider the following factors when reviewing a Minor Grading Permit:
  - a) Restoration and stabilization of cut and fill areas;
  - b) Impact on drainage patterns;
  - c) Impact on groundwater quality;
  - d) Permanent and interim erosion and sediment control plans;
  - e) The amount and type of material being moved to or from the site; and
  - f) Compliance with the Uniform Building Code, adopted Department of Public Works policies, and other state and federal requirements.

**Approval:** If the application is consistent with the standards established in Chapter 64 of the Rochester Code of Ordinances and adopted engineering standards, the permit shall be issued to authorize the proposed grading work. The duration of the permit shall not exceed 24 months.

**Section 61.243 Timing of Improvements**

Land clearance prior to development of a parcel is prohibited. The owner of an undeveloped tract may remove not more than 10 percent of the trees or other vegetation on a site for the purpose of providing access for site survey and evaluation. This section precludes unauthorized land clearance and timber removal and is not intended to interfere with the normal management of landscaping. Except as provided in this Section no grading, removal of trees or other vegetation, land filling, construction of improvements, or other material change shall commence on the subject property without written approval of the City Engineer until the applicant has:

- 1) Received the approval of the Construction Plans and all necessary permits from the Zoning Administrator and City Engineer;
- 2) Entered into a Development Agreement with the City or otherwise arranged for completion of all required improvements; or

- 3) Received approval of a grading permit pursuant to Section 61.150.

### **61.240 Construction Plans**

Following approval of the Subdivision Permit, the applicant shall have prepared, by a professional engineer, registered in the State of Minnesota, construction plans, consisting of complete construction drawings and specifications of all easements, streets, traffic control devices, sanitary sewers, storm water facilities, water system facilities, sidewalks and other improvements required by this Land Development Manual. Construction plans shall be submitted to the City Engineer for review and approval.

All improvements required pursuant to these regulations shall be constructed in accordance with the design standards and plan requirements of the Land Development Manual, the standards and specifications of the City, and, where applicable, the requirements and authorization of the appropriate state agency, utility company or local franchisee.

### **61.241 Application for Construction Plans**

Application for Construction Plans shall be consistent with the engineering standards adopted by Public Works in conjunction with the development of subdivisions.

#### **61.242 Public Agency Reviews:**

The City Engineer shall review and act on all construction plan applications within 30 days of submittal.

### **61.243 Timing of Improvements**

Land clearance prior to development of a parcel is prohibited. The owner of an undeveloped tract may remove not more than 10 percent of the trees or other vegetation on a site for the purpose of providing access for site survey and evaluation. This section precludes unauthorized land clearance and timber removal and is not intended to interfere with the normal management of landscaping. Except as provided in this Section no grading, removal of trees or other vegetation, land filling, construction of improvements, or other material change shall commence on the subject property without written approval of the City Engineer until the applicant has:

- 1) Received the approval of the Construction Plans and all necessary permits from the Zoning Administrator and City Engineer;
- 2) Entered into a Development Agreement with the City or otherwise arranged for completion of all required improvements; or
- 3) Received approval of a grading permit pursuant to Section 61.150.

### **61.244 Modification of Construction Plans**

All installations of improvements and all construction shall conform to the approved construction plans. If the applicant chooses to make minor modifications in design and/or specifications during construction, such changes shall be made at the applicant's own risk, but only with the written approval of the City Engineer. It shall be the responsibility of the applicant to notify the City Engineer in advance of any changes to be made from the approved drawings. In the event that actual construction work deviates from that shown on the approved construction plans and such deviation was not approved in advance by the City Engineer, the applicant may be required to correct the installed improvements to conform to the approved construction plans. In addition, the City may take such other actions as may be deemed appropriate including, but not limited to, revocation of permits already issued and/or withholding of future approvals and permits.

### **61.245 Record Drawings**

Record drawings shall be consistent with the engineer's standards adopted by Public Works in conjunction with the development of subdivisions.

### **61.246 Inspection and Acceptance of Improvements**

- 1) **Inspection Required:** All improvements required by these regulations shall be inspected by the City Engineer, except as agreed to pursuant to an owner contract or development improvement agreement. Improvements made under the jurisdiction of other City-approved public agencies, shall be inspected by engineers or inspectors of such agencies. Where inspections are made by other agencies, the applicant shall provide the City Engineer with written reports of each final inspection.
- 2) **Inspection Schedule:** It shall be the responsibility of the applicant to notify the City Engineer of the commencement of construction of improvements twenty-four (24) hours prior thereto. Inspections shall be required at each of the following stages of construction or as otherwise determined through and owner contract or development improvement agreement:
  - a) Site grading/erosion control completion.
  - b) Underground utility installation.
  - c) Subgrade preparation prior to aggregate base installation.
  - d) Aggregate base compaction.
  - e) Concrete curb and gutter installation.
  - f) Bituminous binder placing.
  - g) Final surfacing prior to seal coat
- 3) **Compliance with Standards:** Installation and construction of improvements shall be consistent with the engineering standards adopted by Public Works in conjunction with the development of subdivisions.
- 4) **Acceptance:**
  - a) Approval of the installation and construction of improvements by the City Engineer shall constitute acceptance by the City of the improvement for dedication purposes.

- b) Except for the removal of snow from substantially completed streets, the City shall not have any responsibility with respect to any street, or other improvement, notwithstanding the use of the same by the public, unless the street or other improvements shall have been **accepted**.
- c) When improvements have been constructed in accordance with the requirements and conditions of these regulations and the specifications of the City, and the applicant has submitted as-built reproducibles to the City Engineer, the City Engineer shall accept the improvements for maintenance by the City, except that this shall not apply to improvements maintained by another entity.

### **61.247 Failure to Complete Improvements**

If a Development Agreement has been executed and security has been posted and required public improvements are not installed pursuant to the terms of the Agreement, the City may:

- 1) Declare the Agreement to be in default and require that all public improvements be installed regardless of the extent of completion of the development at the time the agreement is declared to be in default;
- 2) Obtain funds pursuant to the surety and complete the public improvements by itself or through a third party;
- 3) Assign its right to receive funds pursuant to the surety in whole or in part to any third party, including a subsequent owner of the subdivision or addition for whom the public improvements were not constructed, in exchange for the subsequent owner's Agreement to complete the required public improvements; and/or
- 4) Exercise any other rights available under the law.

### **61.550 Drainage Plan**

A drainage plan shall be prepared to address the impact a development will have on existing drainage facilities and to provide a basis for designing the storm drainage system within the development. The plan shall be consistent with the Rochester Stormwater Management Plan or adopted drainage or stormwater policies.

### **61.551 Drainage Plan Required**

A drainage plan shall accompany an application for: A General Development Plan or Site Planning Permit involving an increase in impervious surface area. The drainage plan for a General Development Plan is conceptual in nature. A Preliminary Plat of land for which no Drainage Plan has been prepared. The master plan of any multi-phase development requiring only zoning certificate or conditional use approval. Any lands not covered by a detailed drainage plan, including but not limited to lands subdivided through a Type I, II, or III process. Other development requiring a grading plan, unless waived by the City Engineer.

## **61.552 Modifications**

Modifications: Modifications to an approved drainage plan may be submitted along with a Land Subdivision Permit or the application for approval of any phase of a multi-phase development.

## **61.553 Waiver**

The requirement for a Drainage Plan may be waived by the City Engineer where the system of drainage for an area has been defined by development of surrounding property or where a plan for the entire watershed has been prepared. In the case of the review of General Development Plans, the Zoning Administrator upon agreement by the City Engineer may allow a period of grace on the submittal of the required drainage plan. If it will create problems, review of the General Development Plan maybe allowed to proceed prior to the drainage plan submittal, but the drainage plan shall be provided before the Planning Commission hears the application for a General Development Plan.

## **61.554 Contents**

Refer to the document Engineering Standards for Public Works in Conjunction with the Development of Subdivision, Commercial and Industrial Property to determine Drainage Plan requirements.

## **61.555 Approval**

The City Engineer shall approve any drainage plan that complies with the requirements of Section 61.554 and the Site Design Standards in Chapter 64 of this ordinance. The drainage plan shall be valid so long as development on which the plan is based is completed within three years or within the timeframe of a valid General Development Plan. If development has not been completed within 3 years of initial approval of the drainage plan (or within the timeframe of a valid General Development Plan) or the applicant modifies the development, the City Engineer may require the plan to be modified to address changing site conditions, standards or drainage plans.

## **61.560 Grading Plan**

A grading Plan shall be prepared to address the manner a proposed development will satisfy the Site Alteration Policies of Article 64.300 of the Ordinance.

## **61.561 Grading Plan Required**

An approved grading plan shall he required:

- 1) As part of an application for a Final Plat;

- 2) As part of an application for a zoning certificate or conditional use which involves a development which was not included in a previously approved grading plan and will disturb over 10,000 square feet of area;
- 3) When any land disturbing activity involving the excavation or fill of earth material not associated with the development of a structure or the use of land on a site exceeds an accumulative total of 50 cubic yards of material and is left exposed for more than 45 days.

## **61.562 Contents**

Refer to part 50.01 (2) of the Rochester Code of Ordinance (also referred to as Chapter 70 of the Uniform Building Code) for identification of the information to be included in a grading plan.

## **61.563 Exemptions**

The following activities are exempt from the grading plan requirement:

- 1) Agricultural operations involved in crop production or in the propagation and management of timber or landscape materials;
- 2) Activity necessary as an emergency measure for the safety or protection of life or property.

## **61.564 Violations**

Any person who does any grading work when an approved grading plan is required, without first receiving such approval, is guilty of a misdemeanor.

## ***62.1100 Excavation Activities & Substantial Land Alteration***

### **62.1101 Applicability**

- 1) **General Application:** This section applies to certain specific, intensive land use activities that have unique impacts both on- and off-site, and which, therefore, require special regulations and approval processes to ensure their short- and long-term compatibility with adjacent properties and neighborhoods. The ordinance applies to quarries, sand or gravel excavation, and substantial land alteration activities, herein defined below. For purposes of simplicity, all three (3) activities are sometimes collectively referred to herein as “**excavation activities.**”
- 2) Definition of Activities
  - a) **Substantial Land Alteration:**

- 1) A development activity that meets or exceeds any of the following thresholds AND exceeds practices allowed through a minor grading permit as defined by Section 61.153 of the Land Development Manual:
  - a) Grading activities designed to occur for more than 24 months and less than 48 months; or
  - b) The removal from a site of more than 10,000 cubic yards of earth material per acre (gross) and less than 20,000 cubic yards of earth material per acre (gross); or
  - c) Resulting at any time during or following excavation, in an exposed bedrock slope steeper than 3:1 that is over 10' and less than 25' in height; or
  - d) A movement of 500 cubic yards or more of earth that involves a change in natural or pre-existing grades of 10 or more vertical feet for any portion of a parcel; or
  - e) Any movement of earth on the entire parcel in excess of 100,000 cubic yards.
  
- 2) A substantial land alteration activity shall only be permitted in the following zoning districts:
  - a) Residential Districts
  - b) B-1 Restricted Commercial
  - c) B-4 General Commercial
  - d) B-5 Neighborhood Commercial
  - e) M-1 Mixed Commercial-Industrial
  - f) M-2 Industrial
  - g) Agricultural

pursuant to the Type III, Phase II conditional use permit (CUP) process and standards and the site location criteria, exterior storage regulations and reclamation standards as set forth in this Code.

**b) Quarry:**

- 1) A development activity that meets or exceeds any of the following thresholds AND exceeds practices allowed through a minor grading permit as defined by Section 61.153:
  - a) Activities principally designed to mine, extract, or remove bedrock materials for commercial purposes; or
  - b) Resulting at any time during or following excavation, in an exposed bedrock slope steeper than 3:1 that is over 25' in height; or
  - c) The temporary or permanent exposure of rock face, made as part of or following excavation, in excess of 25 feet in height. The measurement of height of the exposed rock face shall be the vertical measurement from the lowest elevation of the excavation to the top of the exposed face. Multiple faces shall be added together to determine height; or

- d) Removal from a site of more than 20,000 cubic yards of earth material per acre of land being excavated or 100,000 cubic yards of earth for the entire site; or
  - e) An excavation activity utilizing a crusher; or
  - f) A substantial land alteration (see above) meeting any of the above characteristics.
- 2) A quarry shall only be permitted in the following zoning districts:
- a) B-4 General Commercial
  - b) M-1 Mixed Commercial-Industrial
  - c) M-2 Industrial
  - d) Agricultural

pursuant to the Type III, Phase II conditional use permit (CUP) process and standards and the site location criteria, exterior storage regulations and reclamation standards as set forth in this code.

**c) Sand or Gravel Excavation:**

- 1) An excavation of unconsolidated sediments that meets or exceeds any of the following thresholds AND exceeds practices allowed through a minor grading permit as defined by Section 61.153:
  - a) Activities principally designed to mine, extract, or remove unconsolidated sediments for commercial purposes; or
  - b) Removal from the site of more than 20,000 cubic yards of unconsolidated sediments per acre of land being excavated, or more than 100,000 cubic yards from a single site; or
  - c) A substantial land alteration (see above) designed to occur for more than 48 months.
- 2) Sand and gravel excavation activities shall be permitted only in the following zoning districts:
  - a) Residential Districts
  - b) B-1 Restricted Commercial
  - c) B-4 General Commercial
  - d) B-5 Neighborhood Commercial
  - e) M-1 Mixed Commercial-Industrial
  - f) M-2 Industrial
  - g) Agricultural

pursuant to the Type III, Phase II conditional use permit (CUP) process and standards and the site location criteria, exterior storage regulations and reclamation standards as set forth in this code.

## **62.1102 Exempt Activities**

- 1) Except as required for a reclamation plan, which may be imposed on any of the following activities as part of any required City permit or approval process, the provisions of these Sections 62.1100 through 62.1113 shall not apply to the following activities:
  - a) The land area included within 15' or as reasonably defined by the City Engineer to allow soil stabilization of the identified boundaries of a building submitted for a building footing and foundation permit.
  - b) Stormwater management facilities or other public infrastructure approved by the City.
  - c) Excavations or blasting for wells, tunnels or utilities that have received all necessary governmental approvals.
  - d) Refuse disposal sites controlled by other applicable City, State or federal regulations.
  - e) On-going cemetery (burial) operations.
  - f) Development activity for which a general development plan, subdivision permit or other Type III approval has resulted in the review of the proposed cut and fill work and for which a grading permit is required. To qualify for this exemption, the Council shall have made the findings established in Section 62.1105.
  - g) Uses in the Central Development Core (CDC) District.

## **62.1103 Purpose and Intent**

- 1) To protect the health, safety and welfare of the citizens of Rochester and to preserve the quality of life, the economy, infrastructure, environment, natural resources and natural landscapes;
- 2) To protect the environment of Rochester and to protect its residents from the harmful or hazardous effects of, or nuisances resulting from, substantial land alteration activities, quarrying, and sand or gravel excavation including, but not limited to, degradation of air quality, ground water quality, and/or visual quality; erosion of soils; adverse noise and vibration; explosive hazards; adverse traffic and road conditions; and any adverse effects of processing materials;
- 3) To protect the scenic quality of Rochester, its natural landscapes, environment, wildlife and wildlife habitat and to protect its residents from significant adverse effects of excavation activities;
- 4) To ensure the compatibility of the proposed excavation activities with existing development and development anticipated in the future pursuant to the City's adopted Comprehensive Plan;

- 5) To assure that the required reclamation of affected areas which are disturbed by excavation activities is sufficient to provide for short term and long term environmental and aesthetic benefits to the City and to the surrounding properties and neighborhoods;
- 6) To assure that necessary off-site maintenance and improvements to public roads or utilities required as a result of the on-site effects of excavation activities are adequately and fully funded and implemented;
- 7) To provide for a fair and efficient system for the regulation and monitoring of excavation activities;
- 8) To protect the long term usefulness of adjacent properties for the permitted purposes as identified in the City's adopted, current Land Use Plan;
- 9) To protect the tax base of the community;
- 10) To protect the use and enjoyment of adjacent properties;
- 11) To protect and make reasonable use of the sand and gravel and other mineral resources excavated or extracted from the site of the excavation activities;
- 12) To establish regulations and performance standards for the excavation, processing, use and transport of earth materials, mined materials, quarried materials and unconsolidated sediments in such a manner as to ensure maximum protection to surrounding properties and to the physical environment through proper siting of activities and structures, and through the use of buffering, setbacks, visual screening, height limitations, proper access routing, and appropriate noise, vibration, air quality and water quality controls;
- 13) To ensure that all permitted excavation activities are compatible with the South Zumbro Water Quality Plan and the Stormwater Management Plan or adopted City drainage or stormwater policies; and
- 14) To ensure that all permitted excavation activities are compatible with all current and applicable neighborhood plans, area or regional plans, public facility master plans, City policies and the City's budget and Capital Improvements Program.

## **62.1104 Procedures**

### **1) Conditional Use Permit Required**

All excavation activities as defined herein shall be considered "Conditional Uses" in all of the zoning districts in which they are listed, and requests for approval of such activities shall be processed pursuant to the Type III, Phase II hearing process (public hearing with both the Planning & Zoning Commission and City Council) as set forth in Section 61.140 *et seq.*

## 2) Other Required Permits

Excavation activities, as defined herein, include a broad range of land-disturbance activities, some of which may require additional City permits and many of which require other local, State and federal permits. It is the sole responsibility of the Applicant to secure any additional permits required by other governmental entities for the proposed use. The City may, at its sole discretion, require that the Applicant obtain all other required permits prior to applying for the required City conditional use permit and to require the Applicant to submit evidence of such other permits to the City as part of the conditional use permit application.

## 3) Other Requirements

Applicants are not required to submit subdivision plans/plats for “excavation activities” nor are they required to obtain preliminary or final plat approval; provided, however, that if “development” is proposed, subdivision and platting shall be required in accordance with City regulations. [See § 62.1110, Permits, *infra*.]

## 62.1105 Findings Necessary for Issuance of Conditional Use Permits

The City shall approve a conditional use permit authorizing an excavation activity only if all of the following findings with respect to the proposed activity are made, in addition to those listed in Section 61.146:

- 1) The activity will not result in a danger to life or property due to (1) steep or unstable slopes, (2) unsafe access to the property, (3) excessive traffic, or (4) proximity to existing or planned residential areas, parks and roadways;
- 2) Visual, noise, dust, and/or excessive on- or off-site environmental impacts on public parks, roadways and residential areas can be adequately mitigated by the Applicant and a fully detailed plan is submitted by the Applicant to demonstrate the mitigation methods to be used, the cost of such mitigation, the source of funds for such mitigation, and adequate legal assurance that all of such mitigation activities are carried out;
- 3) The use of trucks and heavy equipment will not adversely impact the safety and maintenance of public roads providing access to the site, or such impacts will be mitigated;
- 4) The proposed use will not adversely affect air quality or ground water or surface water quality;
- 5) The proposed use will not adversely affect the scenic quality of Rochester or the natural landscapes, environment, wildlife and wildlife habitat; or if such effects are anticipated to occur, the reclamation plan provides for adequate restoration of the site following completion of the excavation activity;
- 6) The activity will be compatible with existing development and development anticipated in the future, including other uses as shown in the Comprehensive Plan, including but not limited to: patterns of land use, recreational uses, existing or

planned development, public facilities, open space resources and other natural resources;

- 7) The activity will not unduly affect the use and enjoyment of adjacent properties;
- 8) The site plan provides for adequate buffers and screening year-round from unsightly features of the excavation operation;
- 9) The reclamation plan provides for adequate and appropriate restoration and stabilization of cut and fill areas;
- 10) The excavation activity will not result in negative impacts on drainage patterns or stormwater management facilities;
- 11) The proposed activity will minimize impacts on sinkholes, wetlands and other natural features affecting ground water or surface water quality;
- 12) The intensity and the anticipated duration of the proposed excavation activity is appropriate for the size and location of the activity;
- 13) Permanent and interim erosion and sediment control plans have been approved by the City;
- 14) Surety has been provided that guarantees the site will be fully restored, after completion of the excavation activity, to a safe condition, and one that permits reuse of the site in a manner compatible with the Comprehensive Plan, neighborhood plans, the Land Use Plan and applicable City policies.
- 15) The proposed activity complies with the requirements of the adopted building code.

## **62.1106 Required Plans and Information**

An application for a Conditional Use Permit for an excavation activity shall include the following information, in addition to that required by Section 61.140 (information required for Conditional Use Permits). Information shall be submitted in proper written and/or graphic form. The Zoning Administrator may waive informational requirements for required plans subject to a recommendation from the City Engineer that such information is redundant or unnecessary to evaluate compliance with the findings and standards established herein.

### **1) Required Plans:**

- a. All Applicants for a conditional use permit for an excavation activity must, in addition to all other requirements for conditional use permits as set forth in Section 61.140 *et seq.*, submit the following plans:
  1. Site/Grading Plan
  2. Permanent and Interim Erosion and Sediment Control Plan
  3. Traffic Plan
  4. Operational Plan
  5. Reclamation Plan
  6. Phasing Plan

7. Drainage Plan
8. Completed Wetland Delineation
9. Other plans and/or information, as may be reasonably requested by Staff, the Planning Commission or the City Council.

2) **Assessment of Existing/Pre-Alteration Conditions:** The Assessment shall be submitted at the time of submission of the conditional use permit application pursuant to Section 61.140, and shall include the following additional information:

- a. Soil types - including soil borings and soils report, depth of overburden, and area to be disturbed;
- b. Existing topography (at 2 ft. contours) of the property and 200 ft. beyond the property lines of the site; where there is an existing water body, 2 ft. contours for a distance of 20 ft. from the waters edge into the water body shall be included;
- c. Existing roads and rights-of-way, proposed roads as identified in the Long Range Transportation Plan, including adopted Official Map boundaries;
- d. An assessment of existing roadway conditions adjacent to the site and proposed to be used for hauling. This assessment is to be prepared in coordination with, and approved by, the City Engineer;
- e. Existing land use, land cover and structures, including fences and abandoned structures on the site and properties abutting the subject site; identification of the distance to the nearest habitable dwelling;
- f. Boundaries of any previous excavations or excavation activities on the site or on adjacent properties;
- g. Wells, abandoned or active, on the subject property. Where blasting is proposed, all wells, abandoned or active, within ½ mile of the property; where open water bodies will be created, active or abandoned wells within ¼ mile of the property;
- h. Location of any Floodway, 100 yr. flood fringe, shoreland areas and Wetland Delineation;
- i. The existence and location of any historic sites on the property;
- j. Existing Water and/or Sanitary sewer lines crossing the site and any existing water or sanitary sewer facilities on the site or on property adjacent to the site;
- k. Existing public facilities on the site or on property adjacent to the site;
- l. Any schools within 1,000 feet of the outer boundaries of any portion of the site;
- m. Existing land use on all adjacent properties and on properties within 1,000 feet of the site;

- n. If adjacent and nearby properties are undeveloped, the current zoning of such parcels and the land use description of such parcels as shown on the adopted City Comprehensive Plan;
  - o. Any adopted area or specific plans which include the site and surrounding areas;
  - p. Any public facility master plans which indicate the probable future expenditure of public funds for facilities on or adjacent to the site;
  - q. Any proposed or future public improvements on the site or adjacent to the site as indicated in the City's Annual Budget or current Capital Improvements Program;
  - r. Any traffic studies including the site, areas adjacent to the site, or existing or future roads serving the site or adjacent parcels, including traffic counts, levels of service, demand/capacity ratios and other relevant traffic information or analyses;
  - s. The present use of the site, if any;
  - t. Any previous uses of the site, including a description of the use and when the site was utilized for such use; why the previous use was stopped, if known;
  - u. Existing zoning of the site and any previous rezonings;
  - v. Other information as may be deemed relevant by the City staff, the Planning Commission or the City Council.
- 3) **Grading Plan:** The Grading Plan shall be consistent with the Engineering Standards adopted by the Public Works Department in Conjunction with the Development of Subdivisions. The Grading Plan shall be submitted at the time of submission of the conditional use permit application pursuant to Section 61.140. The staff, the Planning Commission and/or the City Council may recommend and the City Council may impose reasonable conditions to mitigate the potential impacts of extensive grading, if deemed to be necessary. The City shall consider the following factors in its review of the Grading Plan:
- a) Restoration and stabilization of cut and fill areas;
  - b) Impact on drainage patterns and stormwater management facilities, as well as the consistency with the Stormwater Management Plan or adopted drainage or stormwater policies;
  - c) Potential impacts on sinkholes, wells and other features affecting groundwater quality;
  - d) Impact on wetlands and compliance with the Wetlands Conservation Act;
  - e) The duration of the proposed grading activity;
  - f) The amount and type of material being removed from, or imported to, the site;

- g) Compliance with erosion and sediment control standards as set forth in Section 64.321;
  - h) Adequate and appropriate surety, approved by the City Engineer and City Attorney, provided to ensure that the site will be restored to a safe condition;
  - i) Visual, noise and dust impact upon public parks, major roadways and residential areas;
  - j) Impacts of trucks and heavy equipment on the safety and maintenance of roads providing access to the site and adjacent properties; and
  - k) Compliance with the Uniform Building code, adopted City policies and other state and federal requirements.
- 4) **Operations Plan:** The Operations Plan shall be submitted at the time of submission of the conditional use permit application pursuant to Section 61.140, and shall include the following information in the form of a Site Plan and an attached Report. The scale of the overall Operations Plan should be consistent with that required generally for conditional use permits. However, if the Operations Plan also shows grading, then the required scale for Grading Plans shall apply.
- a) **Site Plan:** The site plan shall show the following:
    1. The area of the site to be disturbed or used as part of an excavation activity;
    2. The area of the site to be used for ancillary purposes, but not specifically the area to be disturbed, *e.g.*, roads, buildings, structures, storage areas, etc.;
    3. The area of the site to remain completely in open space, including bufferyards, with no man-made structures or activities (see subsection (2), Required Bufferyards, *infra*);
    4. The location and types of buffering and screening to be used;
    5. The location of access roads, haul roads, storage areas, structures, buildings and any other man-made structures;
  - b) **Required Bufferyards:**
    1. During the excavation activity, a minimum bufferyard of 50 feet shall be maintained adjacent to all property boundaries and all existing rights of way and any proposed rights of way for roadways included in the Long Range Transportation Plan or for which an official map has been prepared. Upon completion of the excavation activity, the bufferyard may be discontinued and the bufferyard land area may be used for development purposes.
    2. If the duration of an excavation activity will not exceed 24 months from the date of conditional use permit issuance to the date of completion of all activities, bufferyard plantings shall not be required. In all other cases,

bufferyard plantings are required to be installed within the first planting season.

3. No excavation shall occur within the bufferyard and no storage of equipment or materials may be located within the bufferyard.
  4. A vegetated earthen berm for erosion control purposes pursuant to the required stormwater runoff, erosion and sedimentation control plan, may be placed in the bufferyard, where approved.
  5. An excavation activity shall have a bufferyard indicator of VIII and shall include bufferyard plantings as required in Section 63.260 within the 50' bufferyard. If bufferyard plantings are not required by Section 63.260, the bufferyard shall be maintained in grass or other permanent vegetation. Where bufferyard plantings are required by Section 63.260, plantings within the 50' bufferyard may be concentrated along the property boundary in accordance with the requirements of Section 63.265, with the balance of the bufferyard maintained in grass or other permanent vegetation. The Council may require additional screening, including berms, to protect the adjacent property owners from the visual and operational impacts of the excavation activity.
  6. An excavation activity may be conducted closer than 50' from an adjacent platted or planned road right-of-way as identified on the Long Range Transportation Plan, only if approved by the City Engineer and by the appropriate road authority.
  7. The location of storage areas, proposed stockpiles, processing and loading areas and any other areas or portions of the site not kept permanently in open space.
  8. A signage plan, both on-site and immediately off-site, if necessary.
  9. A traffic plan showing the movement of the trucks on to the site, within the site, and from the site. The off-site portion of this plan shall show the vehicle movement to the nearest arterial street, the identification of truck movement on collector and local streets, and the land uses along the routes, paying special attention to residential land uses, schools, churches, public parks and other places where the public may gather;
  10. Such other information as the City staff, the Planning Commission or the City Council deems relevant and necessary.
- c) **Report:** The report shall include a complete description of the following:
1. All materials intended to be excavated, quarried, mined or otherwise removed from the site;
  2. The method of removal of these materials including the type of all equipment to be used;

3. The nature, type, use and hazards posed by any chemicals to be used or stored on the site or used in the excavation activity, processing or other activity on the site;
4. The nature, type, use and hazards posed by any toxic materials of any kind to be used or stored on the site or used in the excavation activity, processing or other activity on the site;
5. The phases (and associated timetable) for excavation of the site;
6. The method of removal and disposal of vegetation from the site, including the types of vegetation to be removed, plant communities to be removed or affected, and habitat loss;
7. The amount of overburden to be removed and total per phase;
8. The amount of mineral to be removed and total per phase;
9. The method of land alteration activity and sequence of progression, including phasing and progressive reclamation and site stabilization;
10. The proposed hours and days of operation on the site, including hauling and ancillary activities in addition to the excavation activity;
11. A dust control plan;
12. A noise control plan, including a map showing the decibel range at various distances from the site, in all directions from the site;
13. A stormwater runoff, erosion and sedimentation control plan pursuant to Sections 64.300 *et seq.*;
14. A drainage plan in accordance with Sections 61.550 *et seq.*;
15. A safety plan including, but not limited to, the location and type of all site security and safety features, including signs, gates and fences;
16. An emergency evacuation plan;
17. A lighting plan;
18. An emergency lighting plan;
19. The quantity of material anticipated to be removed per day;
20. The method of hauling the material to be removed, including the number and types of trucks to be used each day;
21. A traffic impact analysis in accordance with Sections 61.520 *et seq.*, to the extent applicable;
22. A description of any effects of the excavation activity off site;

23. A maintenance schedule and plan for cleaning vehicles, equipment and adjacent off-site public roadways;
24. A description of the total anticipated duration (in months or years) of excavation activities on the site;
25. A description of the anticipated extent of use of City sewer, water, gas, electricity and other utilities on a monthly basis;
26. The proximity of the nearest police and fire stations to the site and insurance of access for emergency vehicles pursuant to Sections 63.530 *et seq.*

In all respects, the Operations Plan shall be consistent with, and fulfill all of the standards and requirements of the Operation/Performance Standards for Quarries, Section 62.1107(A); for Sand or Gravel Excavation, Section 62.1108(A); and for Substantial Land Alteration Activities, Section 62.1109(A).

- 5) **Reclamation Plan:** The Reclamation Plan shall be submitted at the time of submission of the conditional use permit application pursuant to Section 61.140 and shall include the following information in the form of a Final Site Plan and an attached Report. The scale of the overall Reclamation Plan should be consistent with that required generally for conditional use permits. However, if the Reclamation Plan also shows grading, then the required scale for Grading Plans should apply.

a) Final Site Plan (Reclaimed Land)

The final site plan shall clearly and effectively show the condition of the site after all excavation activities have been completed and after the Applicant has undertaken and completed full reclamation of the site in accordance with State statutes and regulations, and the standards, requirements and conditions set forth herein. If reclamation is proposed to be done in phases, a final post-reclamation site plan shall be submitted for the reclaimed portion of the site after the completion of each phase. The Final Site Plan shall include the following information: provided, however, that reclamation standards shall be consistent with all information and exhibits attached hereto including, but not limited to, consistency with the Engineering Standards adopted by the City Public Works Department in conjunction with the development of subdivisions.

- 1) The area of the site reclaimed;
- 2) Grading plan, including finished grades of all disturbed areas at 2 ft. interval contours. Where a water body is created, 2 ft. contours to the bottom of the water body;
- 3) The proposed use of the reclaimed area of the site, including any structures proposed to be built on the site as part of, or subsequent to, reclamation;
- 4) The grade of the reclaimed area and of the entire site;

- 5) Public services which need to be provided to the proposed use of the reclaimed area, including the size of water and sewer lines, and the demand for other public facilities and services;
  - 6) The compatibility of the proposed use with adjacent properties, with the existing zoning in the area and with the neighborhood as a whole;
  - 7) The buffering or screening of the site after reclamation;
  - 8) The elimination of haul roads, storage facilities and other site features no longer needed after the excavation activity has been completed;
  - 9) A new access at a location to be approved by the Public Works Department and internal/external roadway system for the site, based on its proposed use after reclamation;
  - 10) The demolition of any buildings on the site;
  - 11) A vegetation plan for the site after reclamation;
  - 12) The timetable for development of the site for the proposed use;
  - 13) A noise assessment of the proposed use, at a level of detail to be determined by the City Engineer.
- b) Report: The Report shall include the following:
- 1) Phasing and schedule of reclamation;
  - 2) Methods and process of reclamation;
  - 3) Erosion control plan;
  - 4) Planting/re-vegetation plan including number and size of plants to be used and placement;
  - 5) Maintenance and replacement plan for monitoring and ensuring survival of reclamation efforts;
  - 6) Conformance with future roadways and ultimate land use as reflected in the City's Comprehensive Plans for Land Use, Transportation, Stormwater Management (or adopted drainage or stormwater policies) and The Olmsted County Water Quality Plan;
  - 7) Lighting and/or signage plan;
  - 8) Schedule for the removal of stockpiles, unneeded signage or lighting, or erosion control devices when excavation or substantial land alteration activities are complete;
  - 9) Where open water bodies are created:

- a) The normal depth of water bodies at 2 foot contour intervals;
  - b) Cross section views of reclaimed area showing grading of shoreline, depth of lake, sub-surface lake shoreline grading, anticipated design normal pool elevation, anticipated 2-year storm event lake level bounce elevation, depth of soil cover on reclaimed areas and floodplain elevations;
  - c) Maintenance plan.
- 10) Where surface alternatives are proposed, above the water table, method of stabilization of the disturbed areas;
  - 11) A narrative report must be provided examining possible hydrogeologic effects on any existing or proposed bodies of surface water, wetlands and on groundwater, including public and private wells. The report shall also include a description of the controls needed to assure compliance with Federal, State and Local surface water quality, erosion controls, sediment control, stormwater management and other standards applicable to surface waters;
  - 12) A description of any proposed uses to be conducted on the site;
  - 13) A description of any proposed structures to be built on the site, including the size, scale, height, building footprint and location of such structures and a description including all other requirements necessary for Site Plan Approval and Building Permit Issuance.

## 62.1107 Standards for Quarries

- 1) **Operations/Performance Standards:** The following minimum operation/performance standards shall apply to quarries unless otherwise specified:
  - a) Any topsoil removed from the surface and retained on the site shall be removed carefully and stockpiled in a manner to prevent erosion, for re-application to disturbed areas during reclamation.
  - b) Hours of operation for quarries shall be limited to the hours of 7 a.m. through 10 p.m. for operational activities including blasting, excavation, processing and hauling. Hours and days of operation may be restricted by the Council for operations within 1,000 feet of any residential uses or operations that rely on residential roadways for access.
  - c) To the extent possible, designated truck routes shall be used for all hauling as well as for all access to the site. All other routes and access shall be approved by the City Engineer prior to Conditional Use Permit approval.
  - d) Stormwater runoff, erosion and sedimentation shall be controlled by a plan submitted to the City by the Applicant and approved by the City Engineer, pursuant to Section 64.300 *et seq.* The Plan shall address the compatibility of the proposed use with the County Water Quality Plan and the City Stormwater Management Plan or adopted City drainage or stormwater policies applicable to the area.

- e) The Applicant shall provide signs on the property and along haul routes where deemed necessary to promote the safety and general welfare of the neighborhood and general area. Required signs may include, but shall not be limited to, “No Trespassing,” “Trucks Hauling,” “Blasting,” “Danger,” etc. Other signs may be required if necessary.
- f) Operations shall maintain compliance with local and state standards for noise, dust and vibration. All equipment and machinery shall be operated and maintained in such a manner as to minimize dust, noise, and vibration. Access roads shall be maintained in a dust-free condition by surfacing or other treatment on a regular basis as may be specified by the City Engineer. A water truck for the purposes of dust control may be required on site.
- g) Adequate dust control methods shall be implemented. Roadways adjacent to the property shall be swept and cleaned on a regular basis and, in addition, when directed by the City Engineer as being necessary.
- h) A performance bond or other financial security in an amount satisfactory to the City Engineer, and in a form approved by the City Attorney shall be secured from the Applicant to ensure that all standards are fully met during operation and to ensure that proper reclamation of the site is completed in a timely manner.
- i) A 6' continuous security fence shall be provided around the entire perimeter of the property on which the quarrying activity will take place. Additional fencing requirements may be imposed on portions of the site abutting residentially zoned or planned areas, parks, playgrounds, sidewalks, trails, schools, churches and other public facilities and gathering places.
- j) Required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial shall be as shown on the following table:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
excavation area with an elevation change of greater than 10 feet	500'	100'	50'
to vegetated stockpiles	500'	100'	50'
to any non-vegetated stockpiles or loading points	750'	200'	50'
to any crushing or processing	1000'	500'	100'
to any blasting - from a developed property	1000'	500'	400'

Provided, however, that if a 6' vegetated berm is constructed meeting all applicable City standards to screen the activity, the required distance of specific on-site activities from adjacent property zoned residential, commercial and industrial shall be as shown on the following table:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
excavation area with an elevation change of greater than 10 feet	250'	50'	50'
to vegetated stockpiles	250'	50'	50'
to any non-vegetated stockpiles or loading points	300'	100'	50'
to any crushing or processing	1000'	500'	100'
to any blasting - from a developed property	1000'	500'	400'

If a sound barrier is constructed that is capable of reducing sound levels at the nearest residential lot line to a level meeting the performance standards of Section 63.650, the required distance from residential zones for crushing, processing, and blasting may be reduced to 500 feet.

- k) Where a stockpile is visible from an arterial roadway or residential district, the height of a stockpile may be limited by the Council. In any case, the height of a stockpile may not exceed 50 feet for permanent stockpiles and 75 feet for temporary stockpiles.
- l) Any lighting or signage, other than security signage, on the property shall meet the standards for the zoning district in which the activity is located.
- m) A Blasting Plan shall be submitted to the City Fire, Public Works and Planning Departments with proof of insurance in an amount and form as approved by the City Attorney. Such activity shall be conducted only by licensed, insured individuals or entities and in conformance with all applicable federal, state and local regulations.
- n) No quarry activity shall be conducted in such a manner as to permanently lower the water table of surrounding properties, except in quaternary deposits, nor shall such excavation activity cause the drainage of a Wetland without the applicant first obtaining an approved Wetland replacement plan.
- o) A weight scale may be required to be located at the site and, if necessary, other restrictions may be imposed if roadways adjacent to the site and operations are not suitable for heavy truck traffic. A record of all truck load weights exiting the site must be maintained for no less than two (2) years as evidence of weight limit compliance and such records shall be available for inspection by the City Engineer.
- p) Where applicable, no excavation shall occur within 100 feet of a protected water body, unless otherwise permitted by the MnDNR. Where excavation occurs on more than one side of a protected water body, a setback of 50' may be maintained on one side when a setback of 200' or more is maintained on the other, if approved by MnDNR and the City Engineer.

- q) A traffic analysis may be required by the City Engineer to determine the impacts of the proposed activity on the traffic flows and service levels of area roadways and intersections in the vicinity of the site.
- 2) **Reclamation Standards:** The following minimum reclamation standards shall apply to quarries unless otherwise specified:
- a) Topsoil. Topsoil capable of sustaining vegetative growth shall be provided and evenly spread on all disturbed areas.
  - b) Timing. Disturbed areas shall be stabilized and seeded at the earliest possible time or as specified, and any permits issued for the proposed use shall establish a schedule for stabilization and temporary and permanent seeding for the site. Seeding and planting shall occur during the appropriate seasons and times of year in accordance with published guidelines for this climate and region (MnDOT, DNR, SWCD guidelines).
  - c) Drainage. Any alteration of the natural drainage system or public waters or jurisdictional Wetlands shall not adversely affect any other adjacent properties or public facilities.
  - d) Erosion Control.
    - 1) Erosion control shall conform with the standards, criteria and requirements of Sections 64.300 *et seq.*
    - 2) Use of silt fences, bale checks, sediment basins, and other similar structures and methods that require ongoing maintenance will generally not be acceptable for long-term reclamation. The intent of final reclamation is to leave the site in a maintenance free and stable condition.
    - 3) Seeding shall be done in accordance with NRCS technical standards.
    - 4) Erosion control measures shall be kept in place until permanent vegetation has been established on site and erosion is controlled.
  - e) Revegetation. In addition to required seeding, the reclaimed site shall be landscaped. The applicant shall have the flexibility to arrange plant material to best suit the ultimate proposed use and design of the property, provided that:
    - 1) At least 8 deciduous and 8 evergreen trees from the City's approved plant list, and consistent with the requirements of Section 63.150, are planted for each disturbed acre; and
    - 2) At least 25 percent of required trees are planted within 30 feet of the perimeter of the site.
  - f) All equipment, stockpiles, debris, signs, silt fence and other erosion control structures shall be removed from the site after completion of the activity.

- g) Adjacent roadways shall be swept and cleared of loose or foreign materials resulting from the reclamation operation.
- h) A permanent 6' security fence shall be provided along the perimeter of the entire site to protect adjacent residentially zoned or planned areas, parks, playgrounds, sidewalks, trails, schools, churches and other public facilities and gathering places.
- i) Final reclamation of each phase of the operation shall be completed within six (6) months of completion of each phase of the operation. Extensions may be granted by the Zoning Administrator should the activity cease after September of any given year. No building permits shall be issued on the property prior to completion of reclamation of the site.
- j) Slope:
  - 1) No site shall exceed 3 feet horizontal to 1 foot vertical incline over a distance of 30 feet. This angle of repose shall be modified to a flatter angle, but not steeper angle, if it is shown that the site will be unstable at 3:1 ratio or that vegetation cannot be established on the 3:1 slope. This provision may be waived or modified by the Council upon the recommendation of the City Engineer.
  - 2) For all locations where water bodies are created, the slope of the bottom of the lake from water's edge shall not exceed 4:1 for a distance of 20' from waters edge and shall not exceed a depth of 10 ft. beyond that point for a distance of 20 ft. The slope above the water's edge shall not exceed 3:1 for a distance of 20 feet from the water's edge.
- k) Water Bodies - Shaping and Enhancement:
  - 1) Where water bodies are created in commercial and residential zones, only freeform and natural form water bodies will be allowed. All water bodies shall include variation in shoreline and depth and shall include curvilinear shorelines.
  - 2) Where practical, the minimum size of water bodies fed by groundwater and not connected to streams shall be five (5) acres, with a minimum average depth of 24-30 feet. Shallow water bodies may be considered where the Applicant can provide evidence that such water body will not result in poor water quality and that it will not result in a nuisance to the area.
- l) Post-Reclamation Land Use:
  - 1) If the owner proposes to construct structures on the site as part of the post-reclamation land use activities, all of such uses shall be specified.
  - 2) The owner shall submit all necessary documentation for such proposed uses including, but not limited to, a Site Plan, an application for rezoning, an application for a building permit, or other required documentation necessary for approval of the proposed use on the reclaimed site.

- 3) Where a development is proposed as part of a post-reclamation plan, all applicable City permits and approvals will be required including, but not limited to, Site Capacity Calculation (§ 61.530), Driveway Permit (§§ 61.140 and 61.141) and others.

## **62.1108 Standards for Sand and Gravel Excavation**

- 1) **Operation/Performance Standards:** The following minimum operation/performance standards shall apply to Sand & Gravel Excavation activities unless otherwise specified:
  - a) Any topsoil removed from the surface and retained on the site shall be removed carefully and stockpiled in a manner to prevent erosion, for re-application to disturbed areas during reclamation.
  - b) Hours of operation shall be limited to the hours of 7 a.m. - 10 p.m. for operational activities including blasting, excavation, dredging, processing and hauling. Hours and days of operation may be restricted by the Council for operations within 1,000 feet of any residential areas or operations that rely on residential roadways for access.
  - c) To the extent possible, designated truck routes shall be used for all hauling as well as for all access to the site. All other routes and access shall be approved by the City Engineer prior to conditional use permit approval. The Plan shall address the compatibility of the proposed use with the County Water Quality Plan and the City Stormwater Management Plan or adopted City drainage or stormwater policies applicable to the area.
  - d) Stormwater runoff, erosion and sedimentation shall be controlled by a plan submitted to the City by the Applicant and approved by the City Engineer, pursuant to Section 64.300 *et seq.* The Plan shall address the compatibility of the proposed use with the County Water Quality Plan and the City Stormwater Management Plan or adopted City drainage or stormwater policies applicable to the area.
  - e) The Applicant shall provide signs on the property and along haul routes where deemed necessary to promote the safety and general welfare of the neighborhood and general area. Required signs may include, but shall not be limited to, "No Trespassing," "Danger - No Swimming," and "Trucks Hauling." Other signs may be required if necessary.
  - f) Activities shall be phased to identify the sequence of operation. A new phase shall not begin until at least 50% of an active/current phase is reclaimed as per the reclamation plan, and the City has verified the completion of the reclamation of the phase to the extent that it can be reclaimed.
  - g) Operations shall maintain compliance with local and state standards for noise, dust and vibration. All equipment and machinery shall be operated and maintained in such a manner as to minimize dust, noise, and vibration.

Access roads shall be maintained in a dust-free condition by surfacing or other treatment on a regular basis as may be specified by the City Engineer. A water truck for the purpose of dust control may be required on-site.

- h) Adequate dust control methods shall be implemented. Roadways adjacent to the property shall be swept and cleaned on a regular basis and, in addition, when directed by the City Engineer as being necessary.
- i) A performance bond or other financial security in an amount satisfactory to the City Engineer and in a form approved by the City Attorney shall be secured from the Applicant to ensure that all applicable standards are fully met during operation and to ensure that proper reclamation of the site is completed in a timely manner.
- j) A 6' continuous security fence shall be provided around the entire perimeter of the property on which the sand or gravel excavation activity will take place. Additional fencing requirements may be imposed on portions of the site abutting residentially zoned or planned areas, parks, playgrounds, sidewalks, trails, schools, churches and other public facilities and gathering places.
- k) Required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial, when the proposed activity **will exceed 24 months**:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
Excavation area with an elevation change of greater than 10 feet	500'	100'	50'
to vegetated stockpiles	500'	100'	50'
to any non-vegetated stockpiles or loading points	750'	200'	50'
to any processing – from a developed property	1000'	500'	100'

Provided, however, that if a 6' vegetated berm is constructed to screen the activity, which meets all applicable City standards and is approved by the City Engineer, the required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial, when the proposed activity **will exceed 24 months** shall be as follows:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
Excavation area with an elevation change of greater than 10 feet	250'	50'	50'
to vegetated stockpiles	250'	50'	50'
to any non-vegetated stockpiles or loading points	300'	100'	50'
to any processing - from a developed property	1000'	200'	100'

If a sound barrier is constructed that is capable of reducing sound levels at the nearest residential lot line to a level meeting the performance standards of Section 63.650, the required distance from residential zones for crushing, processing, and blasting may be reduced to 500 feet.

- i) Required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial, when the proposed activity **will not exceed 24 months**:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
excavation area with an elevation change of greater than 10 feet	200'	50'	50'
to vegetated stockpiles	200'	50'	50'
to any non-vegetated stockpiles or loading points	400'	100'	50'
to any processing – from a developed property	750'	250'	100'

Provided, however, that if a 6' vegetated berm is constructed to screen the activity, which meets all applicable City standards and is approved by the City Engineer, the required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial, when the proposed activity **will not exceed 24 months** shall be as follows:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
excavation area with an elevation change of greater than 10 feet	100'	50'	50'
to vegetated stockpiles	100'	50'	50'
to any non-vegetated stockpiles or loading points	200'	100'	50'
to any processing – from a developed property	750'	100'	100'

If a sound barrier is constructed that is capable of reducing sound levels at the nearest residential lot line to a level meeting the performance standards

of Section 63.650, the required distance from residential zones for crushing, processing, and blasting may be reduced to 300 feet.

- m) Where a stockpile is visible from an arterial roadway or residential district, the height of a stockpile may be limited by the Council. In any case, the height of a stockpile may not exceed 50 feet for permanent stockpiles and 75 feet for temporary stockpiles in a non-residential district.
- n) Any lighting or signage, other than security signage, on the property shall meet the standards for the zoning district in which the activity is located.
- o) No excavation operation shall be conducted in such a manner as to permanently lower the water table of surrounding properties, except in quaternary deposits, nor shall such excavation activity cause the drainage of a Wetland without the applicant first obtaining an approved Wetland replacement plan.
- p) A weight scale may be required to be located at the site and, if necessary, other restrictions may be imposed if roadways adjacent to the site and operations are not suitable for heavy truck traffic. A record of all truck load weights exiting the site must be maintained for no less than two (2) years as evidence of weight limit compliance and such records shall be available for inspection by the City Engineer or the agents of other applicable road authorities.
- q) Where applicable, no excavation shall occur within 100 feet of a protected water body unless otherwise permitted by the MnDNR. Where excavation occurs on more than one side of a protected water body, a setback or 50' may be maintained on one side when a setback of 200' or more is maintained on the other, if approved by the MnDNR and the City Engineer.
- r) A traffic analysis may be required by the City Engineer to determine the impacts of the proposed activity on the traffic flows and service levels of area roadways and intersections in the vicinity of the site.

## 2) **Reclamation Standards:**

The following minimum reclamation standards shall apply to sand or gravel excavation activities unless otherwise specified. However, the reclamation standards must be consistent with all the Grading Plan Checklist specified by the Public Works Department.

- a) Topsoil. Topsoil capable of sustaining vegetative growth shall be provided and evenly spread on all disturbed areas.
- b) Timing. Disturbed areas shall be stabilized and seeded at the earliest possible time or, as specified, and any permits issued for the proposed use shall establish a schedule for stabilization and temporary and permanent seeding for the site. Progressive reclamation practices shall be utilized to continue to reclaim and stabilize disturbed areas prior to moving to a new phase. Seeding and planting shall occur during the appropriate seasons and times of year in accordance with

published guidelines for this climate and region (MnDOT, DNR, SWCD guidelines).

- c) Drainage. Any alteration of the natural drainage system or public waters or jurisdictional Wetlands shall not adversely affect any other adjacent properties or public facilities.
- d) Slope.
  - 1) No site shall exceed 3 feet horizontal to 1 foot vertical incline over a distance of 30 feet. This angle of repose shall be modified to a flatter angle, but not steeper angle, if it is shown that the site will be unstable at 3:1 ratio or that vegetation cannot be established on the 3:1 slope. This provision may be waived or modified by the Council upon the recommendation of the City Engineer.
  - 2) For all locations where water bodies are created, the slope of the bottom of the lake from water's edge shall not exceed 4:1 for a distance of 20' from water's edge and shall not exceed a depth of 10 ft. beyond that point for a distance of 20 ft. The slope above the water's edge shall not exceed 3:1 for a distance of 20 feet from the water's edge.
- e) Water Bodies - Shaping and Enhancement.
  - 1) Where water bodies are created in commercial and residential zones, only freeform and natural form water bodies will be allowed. All water bodies shall include variation in shoreline and depth and shall include curvilinear shorelines.
  - 2) Where practical, the minimum size of water bodies fed by groundwater and not connected to streams shall be five (5) acres, with a minimum average depth of 24-30 feet. Shallow water bodies may be considered where the Applicant can provide evidence that such water body will not result in poor water quality and that it will not result in a nuisance to the area.
- f) Erosion Control.
  - 1) Use of silt fences, bale checks, sediment basins, and other similar structures and methods which require ongoing maintenance will generally not be acceptable for long-term reclamation. The intent of final reclamation is to leave the site in a maintenance free and stable condition.
  - 2) Seeding shall be done in accordance with NRCS technical standards.
  - 3) All exposed area shall be seeded and stabilized with an appropriate seeding mixture so as to prevent erosion. Sodding or other erosion control methods or materials approved by the City Engineer may be required for highly erodible areas or in areas where seed growth cannot be established in a reasonable time period.
  - 4) All equipment, stockpiles, debris, signs, silt fence and other erosion control structures shall be removed from the site after completion of the activity.

- 5) Adjacent roadways shall be swept and cleared of loose or foreign materials resulting from the reclamation operation.
- 6) Erosion control measures shall be kept in place until permanent vegetation has been established on site and erosion is controlled.
- g) Revegetation. In addition to required seeding, the reclaimed site shall be landscaped. The applicant shall have the flexibility to arrange plant material to best suit the ultimate proposed use and design of the property, provided that:
  - 1) At least 8 deciduous and 8 evergreen trees from the City's approved plant list, and consistent with the requirements of Section 63.150, are planted for each disturbed acre; and
  - 2) At least 25 percent of required trees are planted within 30 feet of the perimeter of the site.
- h) Final reclamation of each phase of the operation shall be completed within six (6) months of completion of each phase of the operation. Extensions may be granted by the Zoning Administrator should the activity cease after September of any given year. No building permits shall be issued on the property prior to completion of reclamation of the site.
- i) Post-Reclamation Land Use
  - 1) If the owner proposes to construct structures on the site as part of the post-reclamation land use activities, all of such uses shall be specified.
  - 2) The owner shall submit all necessary documentation for such proposed uses including, but not limited to, a Site Plan, an application for rezoning, an application for a building permit, or other required documentation necessary for approval of the proposed use on the reclaimed site.
  - 3) Where a development is proposed as part of a post-reclamation plan, all applicable City permits and approvals will be required including, but not limited to, Site Capacity Calculation (§ 61.530), Driveway Permit (§§ 61.140 and 61.141) and others.

## **62.1109 Standards for Substantial Land Alteration Activities**

- 1) **Operations/Performance Standards:** The following minimum operation/performance standards shall apply to all other substantial land alteration activities unless otherwise specified
  - a) Any topsoil removed from the surface and retained on the site shall be removed carefully and stockpiled in a manner to prevent erosion, for re-application to disturbed areas during reclamation.
  - b) Hours of operation shall be limited to the hours of 7 a.m. - 10 p.m. for operational activities including blasting, dredging, excavation, processing

and hauling. Hours and days of operation may be restricted by the Council for operations within 1,000 feet of any residential areas or operations that rely on residential roadways for access.

- c) To the extent possible, designated truck routes shall be used for all hauling as well as for all access to the site. All other routes and access shall be approved by the City Engineer.
- d) Stormwater runoff, erosion and sedimentation shall be controlled by a plan submitted to the City by the Applicant and approved by the City Engineer pursuant to Section 64.300 *et seq.* The Plan shall address the compatibility of the proposed use with the County Water Quality Plan and the City Stormwater Management Plan or adopted City drainage or stormwater policies applicable to the area.
- e) The Applicant shall provide signs on the property and along haul routes where deemed necessary to promote the safety and general welfare of the neighborhood and general area. Required signs may include, but shall not be limited to, "No Trespassing," "Trucks Hauling," "Danger," "Blasting" and others. Other signs may be required if necessary.
- f) Activities shall be phased to identify the sequence of operation. A new phase shall not begin until at least 50% of an active/current phase is reclaimed as per the reclamation plan and the City has verified the completion of the reclamation of the phase to the extent that it can be reclaimed.
- g) Operations shall maintain compliance with local and state standards for noise, dust and vibration. All equipment and machinery shall be operated and maintained in such a manner as to minimize dust, noise, and vibration. Access roads shall be maintained in a dust-free condition by surfacing or other treatment on a regular basis and as may be specified by the City Engineer. A water truck for the purposes of dust control may be required on-site.
- h) Adequate dust control methods shall be implemented. Roadways adjacent to the property shall be swept and cleaned on a regular basis and, in addition, when directed by the City Engineer as being necessary.
- i) A performance bond or other financial security in an amount satisfactory to the City Engineer and in a form approved by the City Attorney shall be secured from the Applicant to ensure that all applicable standards are fully met during operation and to ensure proper reclamation of the site is completed in a timely manner.
- j) A 6' continuous security fence shall be provided around the entire perimeter of the property on which the substantial land alteration activity will take place. Additional fencing requirements may be imposed on portions of the site abutting residentially zoned or planned areas, parks, playgrounds, sidewalks, trails, schools, churches and other public facilities and gathering places.

- k) Required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial, when the proposed activity **will exceed 24 months**.

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
Excavation area with an elevation change of greater than 10 feet	500'	100'	50'
to vegetated stockpiles	500'	100'	50'
to any non-vegetated stockpiles or loading points	750'	200'	50'
to any processing	1000'	500'	100'
to any blasting - from a developed property	1000'	500'	400'

Provided, however, that if a 6' vegetated berm is constructed to screen the activity, which meets all applicable City standards and is approved by the City Engineer, the required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial when the proposed activity **will exceed 24 months** shall be as follows:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
excavation area with an elevation change of greater than 10 feet	250'	50'	50'
to vegetated stockpiles	250'	50'	50'
to any non-vegetated stockpiles or loading points	300'	100'	50'
to any processing	1000'	200'	100'
to any blasting - from a developed property	1000'	400'	400'

If a sound barrier is constructed that is capable of reducing sound levels at the nearest residential lot line to a level meeting the performance standards of Section 63.650, the required distance from residential zones for crushing, processing, and blasting may be reduced to 500 feet.

- l) Required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial, when the proposed activity **will not exceed 24 months**:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
Excavation area with an elevation change of greater than 10 feet	200'	50'	50'
to vegetated stockpiles	200'	50'	50'
to any non-vegetated stockpiles or loading points	400'	100'	50'
to any processing	750'	250'	100'
to any blasting - from a developed property	750'	250'	400'

Provided, however, that if a 6' vegetated berm is constructed to screen the activity, which meets all applicable City standards, the required minimum distance of specific on-site activities from adjacent property zoned residential, commercial and industrial when the proposed activity **will not exceed 24 months** shall be as follows:

Required minimum distance from adjacent property zoned:	Residential	Commercial	Industrial
Excavation area with an elevation change of greater than 10 feet	100'	50'	50'
to vegetated stockpiles	100'	50'	50'
to any non-vegetated stockpiles or loading points	200'	100'	50'
to any processing	300'	100'	100'
to any blasting - from a developed property	750'	400'	400'

If a sound barrier is constructed that is capable of reducing sound levels at the nearest residential lot line to a level meeting the performance standards of Section 63.650, the required distance from residential zones for crushing, processing, and blasting may be reduced to 500 feet.

- m) Where a stockpile is visible from an arterial roadway or residential district, the height of a stockpile may be limited by the Council. In any case, the height of a stockpile may not exceed 50 feet for permanent stockpiles and 75 feet for temporary stockpiles in a non-residential district.
- n) Any lighting or signage, other than security signage, on the property shall meet the standards for the zoning district in which the activity is located.
- o) A Blasting Plan shall be submitted to the City Fire, Public Works and Planning Departments with proof of insurance in an amount as approved by the City Engineer and in a form as approved by the City Attorney. Such activity shall be conducted only by licensed, insured individuals or entities and in conformance with all applicable federal, state and local regulations.

- p) No excavation operation shall be conducted in such a manner as to permanently lower the water table of surrounding properties, except in quaternary deposits, nor shall such excavation activity cause the drainage of a Wetland without the applicant first obtaining an approved Wetland replacement plan.
  - q) A weight scale may be required to be located at the site, and, if necessary, other restrictions may be imposed if roadways adjacent to the operations are not suitable for heavy truck traffic. A record of all truck load weights exiting the site must be maintained for no less than two (2) years as evidence of weight limit compliance and such records shall be available for inspection by the City Engineer.
  - r) Where applicable, no excavation shall occur within 100 feet of a protected water body unless otherwise permitted by the MnDNR. Where excavation occurs on more than one side of a protected water body, a setback of 50' may be maintained on one side when a setback of 200' or more is maintained on the other, if approved by MnDNR and the City Engineer.
  - s) A traffic analysis may be required by the City Engineer to determine the impacts of the truck traffic generated by the land alteration activity on the traffic safety and service levels of area roads and intersections in the vicinity of the site.
- 2) **Reclamation Standards:** The following minimum reclamation standards shall apply to substantial land alteration activities unless otherwise provided. However, the reclamation standards shall be consistent with the Grading Plan Checklist specified by the Public Works Department.
- a) Topsoil. Topsoil capable of sustaining vegetative growth shall be provided and evenly spread on all disturbed areas.
  - b) Timing. Disturbed areas shall be stabilized and seeded at the earliest possible time or, as specified, and any permits issued for the proposed use shall establish a schedule for stabilization and temporary and permanent seeding for the site. Progressive reclamation practices shall be utilized to continue to reclaim and stabilize disturbed areas prior to moving to a new phase. Seeding and planting shall occur during the appropriate seasons and times of year in accordance with published guidelines for this climate and region (MnDOT, DNR, SWCD guidelines).
  - c) Drainage. Any alteration of the natural drainage system or public waters or jurisdictional Wetlands shall not adversely affect any other adjacent properties or public facilities.
  - d) Slope.
    - 1) No site shall exceed 3 feet horizontal to 1 foot vertical incline over a distance of 30 feet. The angle of repose shall be modified to a flatter angle, but not steeper angle, if it is shown that the site will be unstable at 3:1 ratio or that vegetation cannot be established on the 3:1 slope.

This provision may be waived or modified by the Council upon the recommendation of the City Engineer.

- 2) For all locations where water bodies are created, the slope of the bottom of the lake from water's edge shall not exceed 4:1 for a distance of 20' from water's edge and shall not exceed a depth of 10 ft. beyond that point for a distance of 20 ft. . The slope above the water's edge shall not exceed 3:1 for a distance of 20 feet from the water's edge.

e) Water Bodies - Shaping and Enhancement.

- 1) Where water bodies are created, only freeform and natural form lakes will be allowed. in commercial and residential zones. All water bodies shall include variation of shoreline and depth and shall include curvilinear shorelines.
- 2) Where practical, the minimum size of water bodies fed by groundwater and not connected to streams shall be 5 acres, with a minimum average depth of 24 feet. Shallow water bodies may be considered where the Applicant can provide evidence that such water body will not result in poor water quality and that it will not result in a nuisance to the area.

f) Erosion Control.

- 1) Use of silt fences, bale checks, sediment basins, and other similar structures and methods that require ongoing maintenance will generally not be accepted for long-term reclamation. The intent of final reclamation is to leave the site in a maintenance-free and stable condition.
  - 2) Seeding shall be done in accordance with NRCS technical standards.
  - 3) All exposed areas shall be seeded and stabilized with an appropriate seeding mixture so as to prevent erosion. Sodding or other erosion control methods or materials approved by the City Engineer may be required for highly erodible areas or in areas where seed growth cannot be established in a reasonable time period.
  - 4) All equipment, stockpiles, debris, signs, silt fence and other erosion control structures shall be removed from the site after completion of the activity.
  - 5) Adjacent roadways shall be swept and cleared of loose or foreign materials resulting from the reclamation operations.
  - 6) Erosion control measures shall be kept in place until permanent vegetation has been established on site and erosion is controlled.
- f) Revegetation. In addition to required seeding, the reclaimed site shall be landscaped. The applicant shall have the flexibility to arrange plant material

to best suit the ultimate proposed use and design of the property, provided that:

- 1) At least 8 deciduous and 8 evergreen trees from the City's approved plant list, and consistent with the requirements of Section 63.150, are planted for each disturbed acre; and
  - 2) At least 25 percent of required trees are planted within 30 feet of the perimeter of the site.
- h) Final reclamation of each phase of the operation shall be completed within six (6) months of completion of each phase of the operation. Extensions may be granted by the Zoning Administrator should the activity cease after September of any given year. No building permits shall be issued on the property prior to completion of reclamation of the site.
- i) Post-Reclamation Land Use
- 1) If the owner proposes to construct structures on the site as part of the post-reclamation land use activities, all of such uses shall be specified.
  - 2) The owner shall submit all necessary documentation for such proposed uses, including but not limited to a Site Plan, an application for rezoning, an application for a building permit, or other required documentation necessary for approval of the proposed use on the reclaimed site.
  - 3) If an exposed bedrock slope steeper than 3:1 is proposed post-reclamation in a Residential District, the Council may waive the otherwise applicable height and steepness standards (i) if the slope will be screened by a structure, permitted pursuant to subsections (a) and (b) above, (ii) if safety features will be incorporated into the site to minimize risk and (iii) if sufficient financial assurances are provided by the owner/developer in an amount as determined by the City Engineer, and in a form approved by the City Attorney and the Finance Director, and provided to the City concurrently with the required Reclamation Plan.
  - 4) Financial assurances shall be in the form of surety bonds, irrevocable letters of credit or cash bonds. Other alternatives providing adequate assurances may be considered by the City Attorney and Finance Director and, if approved, may be recommended to the City Council.

## **62.1110 Permits**

### **1) Permits Required to be Obtained**

- a) A grading permit pursuant to all requirements of the Land Development Manual, Section 61.150 *et seq.*

- b) A land subdivision permit, when applicable, pursuant to all requirements of the Land Development Manual, Section 61.220 *et seq.*
- c) A final plat, when applicable, pursuant to all requirements of the Land Development Manual, Section 61.230 *et seq.*
- d) A site planning permit pursuant to all requirements of the Land Development Manual, Section 61.300 *et seq.*; provided, however, that the site planning permit may be reviewed concurrently with a required conditional use permit, pursuant to the Land Development Manual, Section 61.140 *et seq.*
- e) Conditional Use Permit pursuant to all requirements of the Land Development Manual, Section 61.140 *et seq.*, for a Type III use, Type III Review Procedure, pursuant to Section 60.530 *et seq.* of the Land Development Manual.
- f) Building Permit, where necessary, pursuant to Chapter 50 of the Rochester Code of Ordinances.
- g) A proposed “excavation activity,” as herein defined, shall be subject to appropriate Environmental Review pursuant to Section 61.540 and, where determined to be necessary, Environmental Review Program documents shall be prepared by the Applicant. These may include, *inter alia*, Environmental Assessment worksheets and Environmental Impact Statements. These documents shall be reviewed prior to final local action by the City on any development related permit needed for the proposed excavation activity.
- h) A driveway permit.

2) **Effect of Permit Approval**

- a) The original permit shall not be approved for more than nine (9) years. Extension of a permit may be considered in accordance with subsection G, Extension of Permit, below.
- b) Approvals of activities shall be valid for the length of time specified in the approval so long as all standards of the Ordinance and all conditions of approval are fully complied with.
- c) Any permit extension pursuant to subsection G, below, shall be required to conform to regulations and codes adopted by the Local, State and Federal Government, which may be applicable at the time of the application for the permit extension.
- d) The Applicant is responsible to ensure that all persons using the site, whether operators, lessors or others, comply with the standards of the Ordinance and all conditions of approval.

#### 4) **Permit Revocation or Suspension**

- a) Any permit issued by the City pursuant to the provisions of this chapter may be suspended or revoked upon a finding that the permittee has failed or is failing to comply with any applicable statute, rule or ordinance relating to the “excavation activity” or “substantial land alteration activity” or to any provision, standard or requirement of any permit or approval issued by the City to allow the “excavation activity” to occur.
- b) The Zoning Administrator, in consultation with the City Engineer shall make an initial determination as to whether there is a sufficient basis for the suspension or revocation of a permit. Upon such a determination, the Zoning Administrator shall prepare and issue a Notice of Default which shall be duly served by certified mail, return receipt requested, upon the permittee. Notification of such default shall also be given to the appropriate City officials. Upon receipt of the Notice of Default, the aggrieved permittee shall have ten (10) days to appeal the Zoning Administrator of City Engineer’s decision to the City Council by filing said appeal with the City Clerk within ten (10) days following receipt of the Zoning Administrator’s determination of suspension or revocation.
- c) Upon receipt of an appeal, the Council shall make a preliminary inquiry into the matter to determine whether there is cause to proceed to a public hearing. Whenever it appears to the Council that adequate grounds may exist for the suspension or revocation of a permit, the Council shall by resolution specify the nature of the basis for the suspension or revocation and order that a hearing on the matter occur at the Council’s next regularly-scheduled meeting.
- d) No suspension or revocation appealed to the Council shall be effective until the permittee has been afforded an opportunity for a hearing pursuant to sections 14.57 to 14.70 of the Minnesota Administrative Procedure Act.
- e) Upon a finding that the permittee has violated any applicable statute, rule or ordinance, the Council may either:
  - 1) suspend the permit for up to 60 days for each violation; or
  - 2) revoke the permit; and/or
  - 3) issue a “Stop Work Order.”

#### 5) **Project Site Expansion or Modification**

- a) Changes to the conditional use permit for the “excavation activity” on the site shall be applied for and reviewed in accordance with Section 61.148.
- b) Changes other than changes to the phasing plan and those expressly specified in section 61.148 shall be reviewed and approved in accordance with the process by which the original conditional use permit was approved, *i.e.*, Section 61.140 *et seq.* for a Type III use and the Phase II

Review Procedure pursuant to Section 61.530 *et seq.* Changes to the phasing plan shall be processed as a Type II review procedure pursuant to Section 60.520.

- c) An expansion of the site on which an “excavation activity” has previously been approved will require a complete review of the proposed new (expanded) site, as if an original application was being made, as well as a review of the relationship and coordination of activities between the original site and the expanded portion of the site. Of principal concern during this review shall be the additional and cumulative impacts that will be caused by the *combined* operations on environmental factors, traffic, safety, noise, air pollution, neighborhoods, adjacent land uses, etc.
- d) Contraction of the site on which the “excavation activity” has been approved will require a review in order to (a) understand how the loss of a portion of the site will affect buffers, land use compatibility, noise, reclamation and reuse of the site and related factors, and (b) determine what will be done on the excised portion of the site. For example, if another land use is proposed, a complete, original review may be required.

#### 6) **Transfer of Permits**

- a) No transfer of a conditional use permit by the original Applicant to another party nor a transfer of any other permit or approval issued by the City which was necessary to authorize or allow the “excavation activity” shall be permitted unless the City is notified not less than ninety (90) days prior to such transfer and has an opportunity to assure (a) that all conditions, standards and requirements imposed on the original Applicant will continue to be met, and (b) that all security instruments remain in full effect, and, if also transferred, that the new permit holder agrees to comply in full and has the necessary financial security to hold the City harmless.
- b) If the subject property is sold, the permits and all of the conditions, standards and requirements run with the land, and the new property owner is fully bound as if he were the original owner.
- c) When an operator succeeds to the interest of another on an uncompleted site, the Zoning Administrator shall release the first operator of the responsibilities imposed by the permit only if:
  - 1) Both operators are in full compliance with the requirements and standards of this Ordinance and all permits and approvals;
  - 2) The new operator assumes all responsibilities of the former operator including operations, maintenance and reclamation and provides a written, witnessed, notarized document asserting, *inter alia*, that reclamation of the entire site will be completed as planned; and

- 3) The new operator provides the City with all appropriate financial assurances, approved by the City Attorney, to ensure completion of the project.

#### **7) Extension of Permit**

- a) Requests for permit extensions must be submitted in writing to the Planning Department at least three (3) months prior to the expiration date of the existing permit. Extension of a permit shall be a Type III, Phase I process with the City Council as the designated hearing body.
- b) The City Council may grant a permit extension for not more than one-half the duration of the original permit approval.
- c) No permit extension shall be granted unless the project is in full compliance with the terms of the existing permit or a compliance plan and schedule has been submitted and approved by the City Council. If there have been any Notices of Default issued by the City, these shall be reviewed and may be taken into consideration by the City on the extension request.
- d) Permit extension may include the addition of conditions to address conflicts with adjacent properties or other circumstances unforeseen at the time of original permit approval.
- e) The extension of the permit shall not be unreasonably denied, provided that the permittee has complied with all of the conditions of the permit and the standards and requirements for "excavation activities" and has not been issued a Notice of Default nor cited for a violation of the City Code or state or federal regulations.

### **62.1111 Financial Assurances**

- 1) Financial assurances shall be required in an amount as determined by the City Engineer, but in no event to be less than \$10,000, and in a form approved by the City Attorney and the Finance Director, prior to commencement of any Substantial Land Alteration, Quarry or Sand or Gravel Excavation activity.
- 2) Financial assurances may be in the form of Surety Bonds, irrevocable Letters of Credit or Cash Bonds. Other alternatives providing adequate assurance may be considered by the City Attorney and Finance Director and, if approved by them, may be recommended to the City Council.
- 3) Failure to stabilize the site, to make necessary corrections and improvements to roadways caused by the excavation activity, failure to reclaim the property as specified in the approved reclamation plan and other inconsistencies between the approved Operations and Reclamation Plans and actual activities shall, at the discretion of the City, be cause for the City to redeem the financial assurance to make the necessary corrections.

## **62.1112 Annual Inspection Report and Monitoring Guidelines**

### **1) Annual Inspection and Report**

- a) At the discretion of the Zoning Administrator, not less frequently than once per year, the appropriate City officials may undertake and conduct a detailed inspection of the site, using the Required Plans and Information, the appropriate Standards for the Activity, the Permits Approved, with or without conditions and other relevant information and commitments as the compliance checklist.
- b) Based on the annual inspection and the compliance checklist, the City may identify any and all violations of the terms and conditions of the plans and permit approvals.
- c) In addition to the annual inspection, the City may make “spot” inspections at any time during the year, and multiple times as may be deemed appropriate utilizing the compliance checklist, and shall report such findings to the appropriate City officials.
- d) City staff may prepare a “Project Compliance Sheet” for each Quarry, Sand or Gravel Excavation and Substantial Land Alteration Activity as defined herein and may compile the individual Project Compliance Sheets into an Annual Report for presentation to the City Administrator.

### **2) Monitoring**

- a) At the discretion of the Zoning Administrator, the City may, in addition to site inspections, monitor the issuance of permits for the above-described “excavation activities” on a broader level, considering such issues as: the concentration of such activities and the effect of such concentration on particular neighborhoods and areas of the City; the effect of such activities on the transportation system and the provision of other required public facilities and services; the effect of numerous “excavation activities” on air and water quality and the environment; the effect of such activities on the land values of adjacent and nearby properties; the extra expenses incurred by the City relative to the operation and/or reclamation of such activities; the actual usability of the sites after reclamation; the average duration of “excavation activities”; the average time it takes to fully reclaim a site and make it available for an alternative use; etc.
- b) Based on the information collected, the Zoning Administrator may prepare an annual Monitoring Report for review by the City Administrator and, at the City Administrator’s discretion, by the Planning and Zoning Commission and/or the City Council.

## **64.150 Lot Grading Principles**

The following policies set forth general guidelines to be followed in establishing the grading plan for a development.

## **64.151**

Developments shall be designed so that stormwater is managed to provide positive drainage flow towards approved drainage facilities. Plans for drainage facilities shall be approved by the City Engineer.

## **64.152**

In the design of site grading plans the provision of adequate buildable areas as well as areas for off-street parking is encouraged. The site grading plan should also take into account the potential need for accessory buildings and, in the case of residential developments, required recreation area.

### ***64.310 Stormwater Runoff***

Increases in runoff from the 10 year and 100 year frequency storms due to development shall be detained within the development and released at a rate no greater than existed prior to the development unless otherwise permitted by the City Engineer. Storm sewers normally shall be designed for a 10 year frequency storm, however; sewers designed to a greater frequency storm may be required where safer overland flow routes to requiring waters or major drainage facilities or collector systems are provided in a manner consistent with the Stormwater Management Plan. Greater runoffs may be permitted by the City Engineer if downstream stormwater management facilities are adequate for the conveyance or if the development is adjacent to a receiving body of water such as a lake or river and proposed runoff is consistent with the Stormwater Management Plan.

### **64.311 Overland Drainage Encouraged**

The use of overland drainage and retention as an integral part of the control of stormwater runoff is encouraged where it is consistent with the Stormwater Management Plan, benefits groundwater recharge and reduces long-term maintenance costs.

### **64.312 Channel Restrictions Prohibited**

No fences or structures shall be constructed across an open drainage channel that will reduce or restrict the flow of water, unless part of an approved retention or detention facility.

- 1) All stormwater management facilities shall be designed and constructed in conformance with the City's stormwater management plan and other public works design criteria.
- 2) The City may require any water course or stormwater management facility to be located within a dedicated drainage easement that provides sufficient width for maintenance.

### ***64.320 Erosion Control***

Grading Permits shall address the manner in which soil erosion and sedimentation will be minimized during construction and following final completion of a development. The areas to be addressed include erodible slopes, streambanks and shorelines, drainageways, borrow and stockpile areas, and drainage structures.

### **64.321 Erosion Control Standards**

The plans for erosion and sedimentation control shall conform with the City's Stormwater Management Plan and following standards:

- 1) The smallest practical area of land shall be exposed at any given time during development.
- 2) The duration of exposure shall be kept to as short a time as possible.
- 3) If practical, temporary vegetation, mulching or other cover should be used to protect areas exposed during development.
- 4) Final plant covering or permanent surface treatment shall be installed as soon as possible after completion of final grading.
- 5) Measures shall be taken to prevent erosion of and sedimentation onto adjacent properties during and after completion of grading activities.
- 6) Compliance with applicable state and federal requirements shall be noted on the plans.

### **64.322 Stockpiling of Fill in Right-of-way Prohibited**

Material excavated from or to be used as fill on any lot under development shall not be stockpiled or deposited on any improved public right-of-way.

### **64.330 Lot Grading Standards**

#### **64.331 Positive Drainage Required**

Developments shall be designed and constructed with a positive drainage flow away from buildings towards approved drainage facilities. Plans for drainage facilities shall be approved by the City Engineer. All interim and permanent drainage facilities shall be designed and constructed in accordance with the standards established in the City's Stormwater Management Plan and the stormwater runoff standards in Section 64.310.

#### **64.332 Drainage Plans to Account for All Development**

In the design of site grading plans, the provision of adequate buildable areas and areas for off-street parking is required. The site grading plan shall also take into account the potential need for accessory buildings and, in the case of residential developments, required recreation area.

### **64.340 Hillside Development**

All slopes shall be stabilized, as required by the adopted Uniform Building Code. Revegetation or screening of permanent exposed slopes created by any new development shall be required to stabilize slopes or to enhance the character of development and provide visual and aesthetic benefit to the community. Where the use of seeding, sodding or other ground cover treatment cannot be expected to produce a growth cover, the use of vines or other plant materials to screen the slope shall be required.

### **64.350 Wetlands**

Stormwater runoff from a construction site directed to a wetland shall be substantially free of silt and debris and shall be discharged at a rate which will not disturb vegetation or increase turbidity.

## **Related Ordinance Provisions and Rules**

### ***Floodplain Districts:***

There are 3 floodplain related zoning districts that are a part of the Rochester Zoning Ordinance and Land Development Manual. The districts are overlay districts that exist along all of the “Protected Waters” within the city limits, except for Kings Run in northwest Rochester. Grading work within these districts is controlled not only by the requirements specified in the sections included in this handbook but also by strict standards for the floodplain areas. The floodplain areas are mapped by the Federal Emergency Management Agency and dated February, 1998 or March, 1995. Development that occurs in these districts must receive detailed review to insure that the grading work, fill, and other activities meet the extra requirements of these districts. Conditional use permits are required for many types of grading work in these districts. There are also detailed standards for different types of land uses that may affect a grading plan. Refer to Sections 62.800 – 62.883.

### ***Shoreland Districts:***

The Shoreland District is also an overlay district along several of the “Protected Waters” within the city. Many of the river corridors are exempt from these standards; the list of corridors covered appears in Section 62.1001 of the zoning ordinance. The shoreland area is defined by a 300’ wide corridor on both sides of “Protected Waters” measured from the Ordinance High Water Mark, or the landward extent of the floodplain, whichever is greater. The rivers are divided into various classes that are assigned development standards. There are also requirements for setbacks and intensity of use, vegetation alterations, grading and filling, storm water management including impervious surfaces, etc.

### ***Wetland Conservation Act:***

The act went into effect statewide in 1992. Simply stated, the law states that wetlands should be conserved and where they must be filled, drained or dredged they must be replaced at a 2:1 ratio. Wetlands are identified based on three criteria, that are also used by the Army Corps of Engineers for the federal wetland program, and includes 1) hydrology present, 2) hydric soils, 3) hydrophytic vegetation. There are many areas of the city where wetlands exist, although no thorough and complete inventory has ever been done. Activities in a wetland must be covered by permits issued by the Rochester-Olmsted Planning Department. As with other related rules, the landowner/developer is better prepared if they have a wetland inventory conducted on their property or property they intend on purchasing for development prior to initiating plans for development.

### ***Protected Waters Permit Program:***

The State of Minnesota for years has had laws to conserve the public’s water and to protect the rights of the public to use and enjoy the water resources of the state. Minnesota Statutes, Chapter 105 establishes Minnesota Department of Natural Resources authority to require

permits for any change in the course, current, or cross-section of Minnesota's protected waters and wetlands. The Protected Waters within Rochester include the South Fork Zumbro River, Bear Creek, Badger Run, Willow Creek and its tributary, Cascade Creek and its several tributaries, Silver Creek, Hadley Valley Creek, and Kings Run. The boundary of Protected Waters is defined by the "ordinary high water mark", generally, the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. The Regional Hydrologist in the Waters Division of the Department of Natural Resources should be contacted for information on permits.

### ***Construction Storm Water Program:***

Owners or operators of construction activity need to obtain a permit from the Minnesota Pollution Control Agency before any construction activity is undertaken that disturbs one acre or more of land. This permit, commonly referred to as the "NPDES permit", is required before any construction work starts on a property. The permit establishes conditions for discharging storm water to waters of the state from construction activities. The permit must include plans for temporary erosion and sediment control during construction and permanent erosion and sediment control following construction

**CITY OF ROCHESTER, MINNESOTA  
DEPARTMENT OF PUBLIC WORKS  
GRADING PLAN CHECKLIST**

revised May 2000

**KEY**

☐ = Yes

☒ = No

**Site:** \_\_\_\_\_

**Submitted By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Reviewed By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**GENERAL**

- ✍ Completed grading permit application submitted to Public Works with the grading plan.
- ✍ Final plan is signed by a registered professional.
- ✍ Plan is 1"=50' or larger scale. North arrow shown.
- ✍ Name and address of the owner are shown.
- ✍ Property limits are shown. Streets are labeled. Lot & block information shown if platted. Street address shown if unplatted.
- ✍ Plan is drawn in two-foot contours. All finished contours and adequate existing contours are labeled.
- ✍ Existing contours are dashed and proposed are solid.
- ✍ Directional arrows are shown for proposed drainage.
- ✍ Details of terrain and drainage are provided for areas adjacent to the proposed grading.
- ✍ Existing public and private utilities are shown.
- ✍ Wetland areas are shown and protected.
- ✍ All proposed lot corner elevations are shown.
- ✍ Proposed elevations of garage and lowest floor, ground at front and rear of building, along with the structure type are indicated on the plan.
- ✍ Untreated wood construction is min. 6" from the ground.
- ✍ Adequate freeboard to structures. Floor el. or the grade adjacent to the building is at least 1' above any overflow elevation, and at least 2' above any pond 100-year water level, whichever is greater. Min. 1' above FEMA flood el.
- ✍ Drainage flows away from structures.
- ✍ Minimum lot slopes for vegetated areas are 2% preferred, 1% absolute minimum.
- ✍ Percent of slope is shown for streets and drainage swales.
- ✍ Proposed walk is shown for commercial/industrial sites.
- ✍ Fill & cut setbacks which are > 2' (per UBC appendix chapter 33) are dimensioned on the

plans (where perimeter cut slope ht. is > 10' or fill slope ht. is > 4').

- ✍ County or Mn/DOT permit obtained for work their ROW.
- ✍ Substantial Land Alteration approved for elevation changes  $\geq 10'$  or other criteria that require a SLA.
- ✍ Any City Council approval conditions are met.
- ✍ Storm water management (if required) is addressed.
- ✍ The following areas are tabulated (in acres):
  - Total project area and total impervious and pervious surface areas of project.
  - Total estimated impervious and pervious surface areas of ultimate development.

**EROSION CONTROL & TURF ESTABLISHMENT**

- ✍ NPDES permit (if applicable) is referred to on the plan.
- ✍ Adjacent property protected from drainage and sediment.
- ✍ Stabilized vehicle exit(s) are provided.
- ✍ Silt fences are provided to protect adjacent property and water bodies from receiving untreated runoff. Silt fences

follow contour lines with ends flared uphill to provide storage capacity. If silt fence is used in concentrated flow areas it is "heavy duty" type.

- ✍ Temporary or permanent cover is indicated for all disturbed areas. Temporary seeding specifies seed mix and includes disk anchored mulch on all slopes longer than 200' or > 5%. Permanent cover specifies topsoil, seed mix and disk anchored mulch, or topsoil and sod.
- ✍ As a minimum, disturbed slopes in excess of 3:1 and slopes longer than 30' in excess of 4:1 are seeded and protected with erosion control blankets or they are sodded and staked. Blanket category specified per Mn/DOT 3885.1. Plan depicts required blanket locations.
- ✍ Temporary or permanent diversion swales to a protected outfall (turf mat, pipe, riprap) are used at the top of slopes exceeding 4:1 when applicable.
- ✍ For sites where temporary or permanent cover will not be complete by November 15, plan indicates adequate measures to control spring erosion & sedimentation.

#### **TEMPORARY SEDIMENTATION BASINS**

- ✍ Must be provided if  $\geq 10$  disturbed acres discharge at a discernable point. Otherwise highly recommended.
- ✍ Sized to detain 0.5" of runoff from the drainage area.
- ✍ Principal and emergency spillway designed per BMP storm frequency standards.
- ✍ Fenced if slopes exceed 4:1.
- ✍ Plan requires any permanent or temporary sediment ponds to be constructed at the beginning of construction.

#### **PERMANENT PONDS**

- ✍ Ponds serving less than 50 developable acres and not identified as regional ponds shall be privately owned and maintained.
- ✍ Pond areas are generally platted as outlots. A pond that will serve only the lot on which it is located should simply be a drainage easement on that lot.
- ✍ 50 scale or larger grading plan with pond cross section.
- ✍ Where possible, provide a forebay at the inlet; locate inlet and outlet at opposite ends of pond; and provide length to width ratio > 3.
- ✍ Multi-cell design where practical.

- ✍ 10:1 bench is provided for first 1 foot of depth below normal water elevation.
- ✍ 4:1 max slope from normal water elevation to 100-year water elevation.
- ✍ 3:1 max slope below normal water elevation.
- ✍ Pond depth is 4 to 10 feet based on normal water level.
- ✍ Normal water elevation is shown.
- ✍ 100-year high water level is shown.
- ✍ Inlets are at or below normal water level.
  
- ✍ Outlet is designed to prevent short circuiting and discharge of floating debris, and is designed to meet NPDES particle removal requirements.
- ✍ Piped outlet accommodates a minimum 10-year event.
- ✍ Emergency overflow spillway is provided to accommodate 100-year event. High point elevation and direction of overflow are marked on plans.
- ✍ Emergency overflow spillway is located to protect adjacent property and large fill sections.
- ✍ 100-year runoff which is designed to flow to the pond does not bypass the pond; unmodeled 100-year flow does not enter the pond.
- ✍ Minimum 10' width at top of dam (if dam is < 15' high).
- ✍ 12' wide access and turn-around area for maintenance vehicles is shown on a slope  $\leq 15\%$ , cross slope  $\leq 6\%$ .
- ✍ Pond access is included in a min. 15' wide portion of the pond outlet. If access is in an easement across private property, a 12' wide paved access road is provided.
- ✍ For public ponds, seed mix Mn/DOT 25A for a 10' perimeter around the pond. Seed mix Mn/DOT 15A for the remainder of the pond outlet.
- ✍ DNR dam safety permit obtained if dam height is > 6' and storage to top of dam is > 15 acre-ft.

#### **DRAINAGE SWALES & EASEMENTS**

- ✍ Drainage easements are provided where concentrated flow is received from more than 1 adjacent lot and also where concentrated flow is received from more than 1 acre of adjacent property.
- ✍ Drainage easements are shown and labeled on the plan.
- ✍ Minimum drainage easements for flows from 1 acre or less or 4 lots or less are a minimum of

15' wide. Ditch is 1.9' deep V-shaped with 4:1 slopes.

- ✍ Minimum drainage easements for flows from more than 1 acre or more than 4 lots are a minimum of 20' wide. Ditch is a minimum of 2' deep with a 4' bottom and 4:1 slopes up to the easement line.
- ✍ Control elevations for drainage ways are provided.
- ✍ Minimum slope of small drainage swales is 2%.
- ✍ Drainage easements are seeded and protected with erosion control blankets or they are sodded where concentrated flow from more than 1 acre or 4 lots is directed. Blanket category specified per Mn/DOT 3885.1. Plan depicts required blanket locations.
- ✍ Velocity computations are provided for drainage easements where concentrated flow from more than 2 acres or 8 lots is directed. Where 10-year velocities exceed 5 ft/sec, permanent turf reinforcement mats are installed per City std. plate 7-05. Blanket per Mn/DOT 3888.2A2 or manufacturer and product is specified. Plan depicts blanket locations and cross sections.
- ✍ Easement documents are signed and submitted to Public Works with a check for recording if not included in plat.

### **STORM DRAIN SYSTEM, INLETS, & OVERFLOWS**

- ✍ All apron elevations (inlets and outlets) are labeled. Area inlet elevations are labeled. Pipe sizes are labeled.
- ✍ 400' max. manhole spacing for lines 15" diameter or less.
- ✍ 500' max. manhole spacing for lines 18" to 30" diameter.
- ✍ Drainage from subdrains, sump pumps, and building storm drains does not flow through public CB's.
- ✍ Not more than 3 CB's in a series (at an intersection) before connecting to the storm sewer main.
- ✍ Storm sewer main generally does not flow through CB's.
- ✍ Flow direction change is  $\leq 90^\circ$  at junctions.
- ✍ Drainage does not cross intersections (no valley gutters).
- ✍ CB spacing as necessary for inlet capacity, and not exceeding 1000' on residential streets or 600' on collector and arterial streets.

- ✍ Apron inlets to the storm sewer include trash racks.
- ✍ Trash racks on inlet structures in wooded areas designed assuming a minimum of 50% plugging condition.
- ✍ Drainage from off street parking is collected on-site and not sheet drained onto sidewalks or adjacent property.
- ✍ Swale drainage is collected in CB before crossing walk.
- ✍ Overflow swales are provided which limit the depth of ponding in the street to 2' or less.
- ✍ Emergency overflow with the high point elevation and direction of overflow are marked on plans.
- ✍ Emergency overflow swale meets minimum drainage easement standards noted above.

### **OUTLETS & ENERGY DISSIPATION**

- ✍ Discharge direction of flow generally 45 degrees or less to the flow direction of receiving ditch or stream.
- ✍ Discharges to rear property lines shall generally be piped to at least the rear property line.
- ✍ Where discharge pipe velocities are 10 fps or less, riprap and filter volumes are indicated in accordance with Mn/DOT Standard Plate No. 3133 or 3134.
- ✍ Where discharge pipe velocities are greater than 10 fps, energy dissipater is provided along with riprap and filter.
- ✍ Discharges on slopes steeper than 2% shall not be allowed unless discharge is into existing drainage ditch and volume of water in ditch is not greater than 110% of the pre-developed condition.

**COMMENTS:**

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**CITY OF ROCHESTER, MINNESOTA  
DEPARTMENT OF PUBLIC WORKS**

*Individual Lot Abbreviated* **GRADING PLAN CHECKLIST**

revised May 2000

**KEY**

= Yes

= No

**Site:** \_\_\_\_\_

**Submitted By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Reviewed By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

NOTE: This checklist is not applicable if the project involves multiple lots, involves more than 5000 CY of earthwork, involves subdivision of land, or for other project conditions at Public Works' discretion. See the detailed checklist.

- If the project involves 50 CY or more of earthwork (not counting footing & foundation excavation), a completed grading permit application is submitted to Public Works with the grading plan.
- Drawn to scale, 1" = 50' or larger. Scale and north arrow are shown.
- Property limits are shown. Streets are labeled. Lot & block information shown if platted. Street address shown if unplatted.
- All property corner elevations are shown.
- If the street does not have both curb & gutter and sidewalk, then the edge of street elevations and ditch elevations in line with the front property corners are shown.
- Proposed structure(s) are shown. Proposed elevations of garage and lowest floor, proposed ground elevation at front and rear of building, along with the structure type are indicated on the plan.
- Untreated wood construction is min. 6" from the ground.
- Adequate freeboard to structures. Floor elevation or the grade adjacent to the building is at least 1' above any overflow elevation, and at least 2' above any pond 100-year water level, whichever is greater. Min. 1' above FEMA flood elevation.
- Adequate existing and finished grades are shown to depict the work and proposed drainage patterns.
- Directional arrows are shown for proposed drainage.
- Drainage flows away from structures.
- Minimum lot slopes for vegetated areas are 2% preferred, 1% absolute minimum.
- Drainage patterns are consistent with existing conditions. Does not create drainage problems for adjacent and downstream property.
- Proposed parking lots, etc. are shown. Drainage from off street parking is collected on-site and not sheet drained onto sidewalks or adjacent property.
- Storm water management (if required) is addressed.
- Proposed walk is shown for commercial/industrial sites.
- Stabilized vehicle exit and silt fence indicated where applicable, and at all sites disturbing more than one acre.

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

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DO NOT WRITE BELOW THIS LINE – Office Use Only

(11/94)

**ZONING REVIEW COMMENTS**

Site Plan                      Zoning District \_\_\_\_\_                      Flood Protection Required \_\_\_\_\_  
 Surveyor's Certificate      Flood District \_\_\_\_\_                      Flood Protection Elev. \_\_\_\_\_

Comments: \_\_\_\_\_

Zoning Approved by: \_\_\_\_\_                      Date: \_\_\_\_\_

**SUBMITTAL INFORMATION**

Drawings  
 Soils Investigation  
 Certification Required?  
 \_\_\_\_\_

**FEE PARAMETERS**

Calculated Valuation \$ \_\_\_\_\_  
 Plan Check Fee  
 Permit Fee  
 Investigative Fee  
 Zoning Fee  
 \_\_\_\_\_

**APPLICATION TRACKING**

**APPROVALS REQUIRED**

Planning & Zoning  
 Building Division  
 Public Works  
 \_\_\_\_\_  
 \_\_\_\_\_

**REQUIRED INSPECTIONS**

Special Inspections  
 Final (Public Works)  
 \_\_\_\_\_  
 \_\_\_\_\_

Comments: \_\_\_\_\_

Permit Approved by: \_\_\_\_\_                      Date: \_\_\_\_\_