

**City of Ramsey**  
**Agenda**  
**Public Works Committee**  
**Monday August 15, 2011**  
**5:30 pm**  
**Lake Itasca Room, 7550 Sunwood Drive NW**

- 1. Call to Order**
- 2. Citizen Input**
- 3. Approve Agenda**
- 4. Approve Minutes**
  1. Approve Public Works Committee meeting minutes dated July 19, 2011
- 5. Committee Business**
  1. Review Standard Contract Language Related to Construction Projects
  2. Update on Recent Storm and Flooding Complaints
  3. Discuss Grading Permit Requirements
- 6. Committee/Staff Input**
- 7. Adjournment**

**Public Works Committee**

**4. 1.**

**Meeting Date:** 08/15/2011

**By:** MaryJo Warner, Engineering/Public Works

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**Title:**

Approve Public Works Committee meeting minutes dated July 19, 2011

**Background:**

The Public Works Committee held its regular meeting on July 19, 2011

**Notification:**

**Observations:**

**Funding Source:**

n/a

**Staff Recommendation:**

**Committee Action:**

Approve attached Public Works Committee meeting minutes date July 19, 2011

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**Attachments**

Minutes of 07.19.11

**Form Review**

**Inbox**

Brian Olson  
Kurt Ulrich

**Reviewed By**

Brian Olson  
Kurt Ulrich

**Date**

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Form Started By: MaryJo Warner

Started On: 08/10/2011 03:15 PM

Final Approval Date: 08/11/2011

**PUBLIC WORKS COMMITTEE  
CITY OF RAMSEY  
ANOKA COUNTY  
STATE OF MINNESOTA**

The Public Works Committee conducted a regular meeting on Tuesday, July 19, 2011 at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present:                   Chairperson Colin McGlone  
  Councilmember David Elvig  
  Councilmember Randy Backous

Also Present:                       City Administrator Kurtis G. Ulrich  
  Mayor Bob Ramsey  
  Public Works Director Brian Olson  
  City Engineer Tim Himmer  
  Street Supervisor Grant Reimer  
  Parks Supervisor Riverblood  
  Civil Engineer Leonard Linton  
  Councilmember Jeff Wise  
  Councilmember Tossey arrived 5:50 pm

**CALL TO ORDER**

Chairperson McGlone called the regular meeting of the Public Works Committee to order at 5:30 p.m.

**CITIZEN INPUT**

none

**APPROVE AGENDA**

Motion by Councilmember Elvig, seconded by Councilmember Backous to approve the agenda, as presented.

Motion carried. Voting Yes: Chairperson McGlone, Councilmembers Backous and Elvig.  
Voting No: None.

**APPROVE MINUTES**

Motion by Councilmember Backous, seconded by Councilmember Elvig, to approve the minutes from the June 21, 2011 Public Works Meeting.

Motion carried. Voting Yes: Chairperson McGlone and Councilmembers Backous and Elvig.  
Voting No: None.

## **COMMITTEE BUSINESS**

### **Case #5.1 Consider Stormwater Solutions for Woodland Green Pond**

Public Works Director Olson reviewed in the staff report that the residents, Jason and Ruth Obermaier, 5220 156<sup>th</sup> Lane NW have contacted the City about water standing in their back yard.

Chairperson McGlone asked if the existing sanitary and sewer can handle the flow.

Councilmember Elvig asked is this problem the drain field or the drainage of the entire area.

Councilmember Elvig also stated that his opinion is to get them hooked up to the City sewer system.

Councilmember Backous thought this might be the most logical solution.

Public Works Director Olson responded that the homeowners may not want a monthly sewer bill and asked Mr. Obermaier how often this has been an issue for this neighborhood.

Mr. Obermaier responded most years throughout the summer it's fine, it has flooded for a week or two but it has never gotten this high.

Mayor Ramsey clarified the discussion that if they connect to sanitary sewer it is not going to take the water away it is only going to take their drain field out.

Mr. Obermaier has a concern with the open ditch in the park area and he would like to see something done with the drainage also.

Paul Moravetz, 15611 Barium Street was present to state that the water is getting close to the drain field too.

Chairperson McGlone doesn't think it feasible that they are never going to have water in there.

Councilmember Backous stated it is a 100 year event and asked if they have a water problem more often.

They responded that it has been more of a problem when they did the system west of 47.

Councilmember Backous stated that it seems they have a water problem more often and the sewer system is going to fix that.

Chairperson McGlone wants to be clear; he thought we were going to put a pipe in for a stormwater.

Chairperson McGlone would like to look at the whole situation and asked can we keep the water down so staff can take a look at it and come back with something.

Public Works Director Olson responded we are doing all that we can and we have a seasonal working on it.

Public Works Director Olson stated what staff is asking for is whether or not if there is consensus to move forward with any of the three options stated in the case or if the fourth option is more desirable. Staff can bring this back at a future date with costs and see if the property owner is willing to obtain this option to get sewer to his house.

Commissioner Backous would like to see the drainage problem fixed in that whole area and doesn't feel we have enough information to make a recommendation.

City Engineer Himmer wanted to point out when we develop these easements and these ponds we do it for that 100 year events. When you get those back to back events that we just got hit with, the soils are becoming more saturated so it doesn't infiltrate quite as quick and he doesn't know if it is necessarily a drainage issue city wide.

Chairperson McGlone would like to first work with the affected property, install a new system first or whatever that takes, fix that first and fix that 75 foot drainage and utility easement.

The consensus of the Committee is to move forward with relocating or hooking up to sewer and in the meantime work with the homeowner to extend the easement back as far as we can.

#### **Case #5.2: Sidewalk Snowplowing Policy**

Street Supervisor Riemer reviewed the staff report.

Staff is looking for direction if residents should be responsible for their own sidewalks.

Councilmember Backous stated it is a 50/50 issue to him and doesn't like leaving it up to residents because you are going to have sections that are not going to get done.

Councilmember McGlone stated it is an amenity for our residents to have trails and sidewalks and is an advocate for the residents to maintain their sidewalks.

Street Supervisor Riemer asked for direction on the issue of large span neighborhoods that are being developed.

Councilmember Elvig responded that he doesn't know how important those sidewalks are until the neighborhood starts to fill up.

Public Works Director Olson asked when creating a policy a development has to be 75 percent filled before we start enforcing and /or maintaining the sidewalks in the winter.

City Administrator Ulrich added for the transition policy is to stop the service first and tell people they are responsible for shoveling their sidewalk if they want to but we will not enforce it. Stopping that service will create some neighborhood pure pressure to shovel those walks, then phase in heavy handed implementation and maybe two to three years down the line see how it works.

Consensus of the Committee is for townhome developments to maintain their own sidewalks.

**Case #5.3: RFP for Parking Ramp and Parking Lot Snow Removal at the Municipal Center**

Street Supervisor Remer is asking for going out for RFP's for snow removal of the parking ramp and the three parking lots at the municipal center. City maintenance staff would still do the sidewalks around the municipal center.

Street Supervisor Riemer also wanted the Committee to know that as part of the contract the parking ramp would need to be done by 5am for the bus service.

Motion by Councilmember Elvig, second by Chairperson McGlone to recommend RFP for contracted snow removal services for municipal parking ramp and parking lot at the municipal center.

Motion carried. Voting Yes: Chairperson McGlone and Councilmembers Backous and Elvig. Voting No: None.

**Case #5.4: Review Dirt Road Elimination Policy**

Public Works Street Supervisor Riemer reviewed the staff report and stated that we are down to about 1.5 miles of dirt road. Of the two that require the most maintenance is Xenolith Street on the north end of town and Beatty Avenue on the south end of town, both have bad drainage and gets numerous request for grading and maintenance in these areas. He stated if we were to continue with the policy these would be the two areas he would like to see concentrated on if possible. He also explained it takes about 3.5 hours to do all the dirt roads in our system. Staff is asking for prioritizing the streets if we were to continue with this program

Councilmember Elvig wants clarification that the policy is if they want to petition the City would put 50% in to create incentive and asked if any of these people have come forward.

Councilmember McGlone stated asked if we were going to go ahead and initiate a road project are these already listed in our CIP. If we are talking policy perhaps as part of our policy is to add these to our CIP and may have a different funding in the future.

Councilmember Backous asked does that require a letter to those residents,

Street Supervisor Riemer stated that staff just wanted to make the Committee aware that those roads are out there and is asking if there is any priority.

City Administrator Ulrich summarized from the discussion that the letter referred to would just be a reminder to those residents that the City does have a dirt road policy and we will pay half, this is the existing policy, if there is any urgency or incentive to that then a petition would need to be brought forward.

Chairperson McGlone would like to see these projects put on the CIP.

Street Supervisor Reimer stated right now it is coming out of the street overlay and sealcoat projects.

Public Works Director Olson stated there is so much to discuss in regards to the street reconstruction issue that is whether we contribute anything, whether still require assessments or a portion of, whether we pick up the first paving. If we do that we have to think about other things. He does feel that it would be a good idea to notify people that we are coming to a close on our gravel and dirt roads and this program is currently out there.

Staff is asking to eliminate dirt roads when development opportunities present itself.

Consensus of Committee is to continue in this direction.

#### **Case #5.5: Update on Anoka County Access Spacing Guidelines that Determine Locations for Hard Channelization**

Public Works Director Olson reviewed the staff report and opened it up for discussion.

Chairperson McGlone asked if we are currently working with Anoka and other communities to address these things with the County.

Public Works Director Olson responded not over our change spacing guidelines. The last time this was discussed staff was asked to look into two specific areas. One was Bunker Lake Boulevard and Highway 47 and as a result of the joint meeting with the City of Anoka, they agreed to take the lead on this. The other area was Sunfish Lake Boulevard near Highway 10. Staff has met with the property owners and we agreed to contribute to the cost, because there was uncertainty to what the solution was, there was uncertainty that we could contribute to a certain amount. This prompted the property owners to go to Anoka County and the County Engineers have agreed to send a memo defining their stands on the project and staff is still waiting for that memo.

#### **COMMITTEE INPUT**

Public Works Director Olson gave an update on the following projects:

Updates on Street Maintenance Program is on tonight's Special City Council Meeting.  
Update on Bunker Lake Blvd and 83 signalization continues and they are running sewer on the west side of Armstrong Boulevard.

Design of the county job on Bunker Lake Boulevard from Sunfish Lake Boulevard to Germanium Street is on hold for now

Dysprosium project is ready to begin later this week. City Engineer Himmer stated he is still hearing comments.

Alpine Drive overlay and trail getting near completion.

Parking ramp expansion will be going to City Council in August

Chameleon project awarded.

Sunfish and Alpine is still under construction

Public Works Director Olson wanted to update the Committee about the Highway Safety Improvement Program. He stated the County has put in a grant application for Bunker Lake Boulevard and Sunwood Drive signalization for \$500,000 and we would need to fill the funding gap for that project

August Public Works Committee meeting rescheduled to Monday, August 15<sup>th</sup>.

### **ADJOURNMENT**

Motion by Councilmember Backous, seconded by Councilmember Elvig to adjourn the Public Works Committee Meeting.

Motion carried.

The regular meeting of the Public Works Committee adjourned at 6:55 p.m.

Respectfully submitted,

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Brian Olson  
Public Works Director

Drafted by Mary Jo Warner  
*City of Ramsey Public Works Secretary*

**Public Works Committee**

**5. 1.**

**Meeting Date:** 08/15/2011

**By:** Tim Himmer, Engineering/Public Works

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**Title:**

Review Standard Contract Language Related to Construction Projects

**Background:**

Construction contract language has been discussed numerous times over the past year, with the main item of contention by the Council being the requirement for prompt remedial action by the contractor. There is a desire to understand the timing for getting a contractor back on a project should any work be found defective. Attached is the City's standard general condition language contained within our specifications. I have highlighted specific items germane to the Council's concern, and feel that the current language is sufficient to resolve timely corrective actions of deficient work. Additional language could be added to clarify the timelines for contractor response, and staff is looking for feedback from the Council on whether they feel their concerns are satisfactorily addressed in the current language or whether revisions are necessary.

**Notification:**

**Observations:**

Staff would also like to discuss a couple of other items related to our construction contracts; including contract close out (warranty bonds), and contingency authority. We have heard from contractors on several occasions that they would like to final projects with minor items remaining, and handle those with the warranty bond that they are required to post following project close out. There are currently several existing projects in the City where the only remaining item is turf establishment; the seed has been planted but we are awaiting full growth over the entire area. The contractors are arguing that the warranty bonds should satisfy the security requirement and ensure that any necessary corrective actions (if any) will be addressed should something go wrong. They state that in some instances they cannot take on additional projects because their bonding capacity has reached its limit; they cannot get additional performance and payment bonds issued until some of their previous projects are released. They are hopeful that the Council will consider turf establishment similar to road and utility work where we currently require a 1 year warranty following project acceptance. Under this scenario a project could potentially be accepted for final payment following the installation of seed (or other ground cover) in the fall of the year without knowing whether the turf would actual take (spring growth).

Another item staff is looking for feedback on is whether the Council is comfortable including a standard construction contingency with projects, as a small percentage of the overall contract price. This would be approved by the Council at the time of award but not included in the overall contract with the contractor; it would be an allowance authority for staff to utilize if site conditions require additional work or a revised approach. Usually at the onset of construction property owners come forward with concerns that weren't previously identified during the design process that would necessitate a revised approach to the work; including such things as addition of a catch basin and/or storm pipe to address a drainage concern, realigning a sidewalk/trail around a junction box, tree, or private improvement near the construction limits of the project, septic system and/or wells near the construction limits, etc. Other unknown items could also present themselves during construction; including high water table, poor soils, deteriorated pipes, expanded removal limits, etc.

Staff understands that we must effectively manage projects to keep them on schedule and on budget, but sometimes unknown conditions present themselves. It's in these instances that it would be nice to have some flexibility at the staff level to effectively construction manage and resolve matters quickly. This contingency would only be utilized as necessary, and up to a maximum cap – similar to what frequently occurs on larger projects.

**Funding Source:**

Contract revisions can be handled at the staff level and require no funding. If the Council is open to the idea of a construction contingency, those funds would be budgeted as a project cost and identified in the funding source for that particular project.

**Staff Recommendation:**

Staff recommends that the Public Works Committee recommend to the City Council consideration of construction project close out for minor outstanding items. All outstanding items would be outlined for the Council at the time of request for final payment, and Council can determine whether it's acceptable for these items to be covered by the warranty bond for the project.

-and-

Staff recommends that the Public Works Committee recommend to the City Council the inclusion of a 3% construction contingency on all projects. This would give staff the ability to effectively manage projects to account for unforeseen conditions and necessary project revisions.

**Committee Action:**

Based upon discussion.

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**Attachments**

**Specification General Conditions**

**Form Review**

<b>Inbox</b>	<b>Reviewed By</b>	<b>Date</b>
Brian Olson	Brian Olson	08/10/2011 03:16 PM
Kurt Ulrich	Kurt Ulrich	08/11/2011 03:44 PM
Form Started By: Tim Himmer		Started On: 08/10/2011 11:01 AM

Final Approval Date: 08/11/2011

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## **ARTICLE 1. Definitions**

The following words, phrases or terms hereinafter used in the agreement of any contract documents shall be interpreted according to each designated meaning as follows:

1.1 Addenda: Written or graphic instruments issued prior to the execution of the agreement which modify or interpret the contract documents, drawings and specifications, by additions, deletions, clarifications or corrections.

1.2 Agreement: The written agreement between the Owner and the Contractor covering the work to be performed, including all contract documents.

1.3 Bid Guaranty: The term means the security designated in the contract documents to be furnished by the bidder as a guaranty of good faith to enter into a contract with the Owner if the work is awarded to him.

1.4 Bid Proposal: The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the work to be performed.

1.5 Bidder: Any individual, partnership, or corporation submitting a proposal for the work to be completed.

1.6 Calendar Day: Every day shown on the calendar.

1.7 Change Order: A written order to the Contractor signed by the Owner authorizing an addition, deletion or revision in the work, or an adjustment in the contract price or the contract time issued after execution of this agreement.

1.8 Contract Bonds: Performance, labor and material payment bonds, maintenance or guarantee-instruments of security, furnished by the Contractor and his surety in accordance with the contract documents.

1.9 Contract Documents: The contract documents shall consist of the following:

- (1) Legal and Procedural Documents
  - a. Advertisements for Bids
  - b. Information for Bidders
  - c. Executed Bid Form
  - d. Executed Bid Guaranty
  - e. Executed Agreement
  - f. Executed Bond
  - g. Notice of Award
  - h. Notice to Proceed
- (2) Special Provisions
- (3) Technical Provisions
- (4) General Conditions

- (5) Executed Payment Forms
  - (6) Drawing(s)
  - (7) All addenda issued by the Engineer prior to the time of the opening of the bids.
  - (8) Supplemental Agreements & Change Orders
- 1.10 Contract Price: The total monies payable to the Contractor under the contract documents.
- 1.11 Contract Time: The number of calendar days stated in the contract documents for the completion of the work.
- 1.12 Contractor: The individual, partnership, or corporation undertaking the execution of the work under the terms of the contract and acting directly or through a duly authorized representative.
- 1.13 Engineer: By the term "Engineer" is meant Tim Himmer, City Engineer, 7550 Sunwood Drive. NW, Ramsey Minnesota 55303, who has been appointed by the Owner to take charge of the work contemplated by these specifications and accompanying drawings and is designated and referred to in these specifications as the "Engineer". (The Engineer or Owner may appoint an authorized representative or inspector, limited in authority, assigned to make inspection of the work performed and materials furnished by the Contractor. Such a representative has no authority to order or permit deviation from plans and specifications.)
- 1.14 Field Order: A written order affecting a change in the work not involving an adjustment in the contract price or an extension of the contract time, issued by the Engineer to the Contractor during construction.
- 1.15 Notice of Award: The written notice of the acceptance of the bid issued by the Owner to the Successful bidder.
- 1.16 Notice to Proceed: The written notice issued by the Owner to the Contractor authorizing him to proceed with the work and establishing the date of commencement of the work.
- 1.17 Owner: A private, public or quasi-public body or authority, corporation, association, partnership, or individual for whom the work is to be performed.
- 1.18 Plans: The term means the official drawings, plans, profiles, elevation, cross sections and supplemental drawings, or reproductions thereof, approved by the Engineer, which show the location, character, dimensions and details of work to be performed. All such drawings, as listed elsewhere in the contract documents, are a part of the plans whether attached to the contract documents or separate therefrom.
- 1.19 Project: The undertaking to be performed as provided in the contract documents.
- 1.20 Project Representative: The term means an authorized representative of the Engineer, assigned to make any or all necessary inspections of the work performed and the materials furnished by the Contractor.

1.21 Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the work.

1.22 Special Provisions: The term means contract requirements peculiar to the project which are not otherwise thoroughly or satisfactorily detailed and set forth in the standard detail specifications or plans.

1.23 Specifications: The term means the directions, provisions, and requirements contained herein, together with all written agreements made or to be made pertaining to the method and manner of performing the work, or to the quantities and qualities of materials to be furnished under the contract.

1.24 Subcontractor: The term means those having a direct contract with the Contractor and it includes one who furnished materials worked to a special design according to the plans and specifications of this work, but does not include one who merely furnishes material so worked.

1.25 Substantial Completion: That date as certified in writing by the Engineer when the construction of the project or a specified part thereof is sufficiently complete in accordance with the contract documents for use by the Owner.

1.26 Supplemental General Conditions: Modification to the general conditions that supplement, add to, delete from or change the articles therein.

1.27 Surety: The Guarantor for the Contractor who, with the Contractor, signs an instrument or instruments known as the bond or bonds guaranteeing that the Contractor will fully comply with the plans, specifications and agreements.

1.28 Work: The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

#### Abbreviations

1.28 A.A.S.H.O.: The American Association of State Highway Officials. All references to A.S.S.H.O. specifications or methods of tests shall be understood to refer to their latest published edition of the "Standard Specifications for Highway Materials and Methods of Sampling and Testing".

1.29 A.N.S.I.: American National Standards Institute, Inc. All references to A.N.S.I. specifications shall be understood to refer to their latest published edition.

1.30 A.S.A.: The American Standards Association. All references to A.S.A. specifications shall be understood to refer to their latest published edition.

1.31 A.S.T.M.: The American Society for Testing Materials. All references to A.S.T.M. specifications or methods shall be understood to refer to their latest published edition of the A.S.T.M. Standards.

1.32 A.W.W.A.: The American Water Works Association. All references to A.W.W.A. specifications shall be understood to refer to their latest published edition.

1.33 MN/DOT: The Minnesota Department of Transportation. All references to MN/DOT specifications shall be understood to refer to their latest published edition.

1.34 M.S.S.: Minnesota State Statutes. All references to M.S.S. shall be understood to refer to the latest published edition.

## **ARTICLE 2. Progress and Submission Schedule; Pre-Construction Conference; Time of Starting Work**

2.1 Within 10 Calendar Days after execution of this Agreement, the Contractor shall prepare and submit to the Engineer for review an estimated progress schedule indicating the starting and completion dates of the various stages of the Work and a schedule of Shop Drawing submissions.

2.2 Before starting the Work, a conference will be held to review the above schedules, to establish procedures for handling Shop Drawings and other submissions and to establish a working understanding between the parties as to the Project. Present at the conference will be the Engineer, Project Representative, the Contractor, his superintendent, the Owner and any others who may have an interest in the Project.

2.3 Prior to starting the Work, the Contractor will furnish the Engineer certificates of insurance as required by the appropriate provisions of the Contract Documents.

2.4 The Work contemplated hereunder shall be commenced within ten (10) Calendar Days after receipt by the Contractor of written Notice to Proceed from the Engineer and shall be completed within the time limits set forth in the Special Provisions or as specified elsewhere in the Contract Documents.

2.5 If the Contractor is delayed in the performance of the Work by any neglect of Owner or Engineer, or by an employee, agent or representative of either, or by changes ordered in the Work, or by the combined action of workmen (either those employed on the Work or in any industry essential to the conduct of the Work) in no way caused by or resulting from the default or collusion on the part of the Contractor, or by strikes, lockouts, embargoes, fire, unavoidable casualties, unusual delays in transportation, national emergency, or by any other causes which Contractor could not reasonably control or circumvent, the scheduled completion date and interim completion dates shall be extended for a period equal to the length of such delay if within five Calendar Days after expiration of any such delay Contractor delivers to Engineer a written request for extension for such delay, and such request is approved by the Owner or Engineer, which approval shall not be unreasonably withheld by Owner or Engineer. In case of a continuing cause of delay of a particular nature, Contractor shall be required to make only one such request with respect thereto. Extension of time shall be the Contractor's sole

remedy for any such delay (except for Contractor's right to terminate this Agreement pursuant to the provisions of Article 43 hereinafter), unless the same shall be caused by acts constituting intentional interference by the Owner or Engineer with Contractor's performance of the Work and where to the extent that such acts continue after Contractor's notice to Owner or Engineer of such interference. Owner's or Engineer's exercise of any of its rights under Article 20, Changes in the Work, regardless of the extent or number of such changes, or Owner's exercise of any of its remedies of suspension of the Work, or requirement of correction or re-execution of any defective Work, shall not under any circumstances be construed as intentional interference with Contractor's performance of the Work.

2.6 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.

### **ARTICLE 3. Plans and Specifications**

3.1 It is the intent of the Specifications and Plans to describe a complete Project to be constructed in accordance with the Contract Documents.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, he will call it to the Engineer's attention in writing before proceeding with the Work affected thereby. In resolving such conflicts, errors and discrepancies, the Contract Documents shall be given precedence in the following order: Agreement, Specifications, Plans. Within the Specifications, the order of precedence shall be as follows: Special Provisions, Addenda, General Conditions, Technical Specifications Provisions. Figure dimensions on Plans shall govern over scale dimensions, and detailed Plans shall govern over general Plans. Any Work that may reasonably be inferred from the Specifications or Plans as being required to produce the intended results shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards.

### **ARTICLE 4. Detailed Drawings and Instructions**

4.1 Unless otherwise provided, the Contractor shall furnish all labor, materials, equipment, tools, transportation, supplies and incidentals which may be necessary to construct and complete the Work in accordance with the Contract Documents.

4.2 The Engineer will furnish to the Contractor with reasonable promptness additional instructions by means of drawings and/or otherwise necessary information for the proper execution of the Work when, in the opinion of the Engineer, such are required. All drawings and instructions shall be consistent with the Plans and Specifications, true developments thereof, and reasonably inferable therefrom. The Contractor shall do no Work without proper drawings and instructions. In giving such additional instructions, the Engineer shall have authority to make minor changes in the Work, not involving extra cost, and not inconsistent with the purpose of the Work.

4.3 The Contractor shall submit, with such promptness as to cause no delay in the Work or in that of any other Contractor, three (3) copies of all Shop (or setting) Drawings and schedules required for

the Work of the various trades and the Engineer shall pass upon them with reasonable promptness. The Contractor shall make any corrections required by the Engineer, file with the Engineer two (2) corrected copies and furnish such other copies as may be needed. The Engineer's approval of such drawings or schedules shall not relieve the Contractor from responsibility for deviation from Plans or Specifications, unless the Contractor has, in writing, called the Engineer's attention to such deviation at the time of submission, nor shall it relieve the Contractor from responsibility for errors of any sort in Shop Drawings or schedules.

4.4 Unless otherwise set forth in the Contract Documents or bidding documents, it shall be the Contractor's sole responsibility to determine subsoil conditions prior to the bidding of the job. If under the terms of the Contract Documents, the responsibility for subsoil conditions is with the Contractor, Contractor hereby represents that he has inspected the location or locations of the Work and has satisfied himself as to the condition thereof, including subsoil conditions, and that the Contract Price as set forth herein is just and reasonable compensation for all Work, including all foreseen or unforeseeable risks, hazards, and difficulties in connection therewith.

4.5 The Engineer will furnish and set stakes as may be necessary for the Contractor in order that the Contractor may construct the Work to the proper grade and alignment.

4.6 The Contractor shall carefully preserve benchmarks, reference points and stakes and, in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

4.7 The Engineer shall furnish such survey lines and grades as may be necessary for the proper control of the Work; but this shall not relieve the Contractor of responsibility for making careful and accurate measurements and for constructing the Work accurately to the lines furnished by the Engineer. The Contractor shall give the Engineer reasonable notice of his requirements for such survey lines and grade as the Contractor may require.

4.8 The Contractor shall furnish and place, as directed, all necessary guide boards and appurtenances and give such other incidental assistance at the Work site as may be required by the Engineer, for staking out the Work. The Contractor's working operations which interfere with the activities of the Engineer shall be temporarily suspended for such reasonable time as the Engineer may deem necessary. The Contractor shall carefully preserve the points furnished by the Engineer and shall receive no extra compensation for any materials or services furnished by the Contractor incidental to these operations of the Engineer.

## **ARTICLE 5. Ownership and Copies of Documents, Record Documents and Security Thereof**

5.1 All Specifications, Plans and copies thereof furnished by the Owner, through the Engineer, shall remain the Owner's property. They shall not be used on another project, and, with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to the Owner upon completion of the Project.

5.2 The Owner, through the Engineer, will furnish to the Contractor up to three (3) copies of the Specifications and Plans as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

5.3 The Contractor will keep one record copy of all Specifications, Plans, Addenda, modifications, and Shop Drawings at the Work site in good order and annotated to show all changes made during the construction process. These shall be made available to the Engineer as the Project is completed.

#### **ARTICLE 6. Patent Fees and Royalties**

The Contractor will pay all license fees and royalties and assume all costs incidental to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. The Contractor will indemnify and hold harmless the Owner and the Engineer and anyone directly or indirectly employed by the Owner from and against all claims, damages, losses and expenses (including attorney's fees) arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

#### **ARTICLE 7. Work by Others and Subcontractors**

7.1 The Owner may perform additional work related to the Project or may let other direct contracts therefrom which shall contain general conditions similar to these. The Contractor will afford the other contractors who are parties to such direct contracts (or the Owner, if performing the additional work), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate the Work with other contractors.

7.2 If any part of the Contractor's Work depends upon the work of any such other contractor (or the Owner) for proper execution or results, the Contractor will inspect and promptly report to the Engineer in writing any defects or deficiencies in such work that render it unsuitable for such proper execution and results. The Contractor's failure to report shall constitute an acceptance of the other work as fit and proper for the relationship of his Work except as to defects and deficiencies which may appear in the other work after the execution of this Work.

7.3 The Contractor will do all cutting, fitting and patching of the Work that may be required to make several parts come together properly and fit to receive or be received by such other work. The Contractor will not endanger any work of others by cutting, excavating or otherwise altering other's work and will only cut or alter their work with the written consent of the Engineer.

7.4 Within 10 Calendar Days of execution of this Agreement, the Contractor will submit to the Engineer for acceptance a list of the names of Subcontractors and such other persons and organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for those portions of the Work for which the identity of the Subcontractors and other persons and organizations must be submitted as specified in the Contract Documents. Prior to the execution of the Work, the Engineer will notify the Contractor in writing if either the Owner or

the Engineer, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the Owner or the Engineer to make objection to any Subcontractor, person or organization on the list prior to the execution of the Work shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the Owner or the Engineer to reject defective workmanship, material, equipment, employees of the Contractor, or Work, material or equipment not in conformance with the requirements of the Contract Documents.

7.5 If, prior to the commencing of the Work, the Owner or the Engineer has reasonable objection to and refuses to accept any Subcontractor, person or organization on such list, the Contractor may, prior to such commencement, either 1) submit an acceptable substitute without an increase in his Contract Price or 2) withdraw his bid and forfeit his bid security. If, after the commencement of the Work, the Owner or the Engineer refuses to accept any Subcontractor, person or organization on such list, the Contractor will submit an acceptable substitute and the Contract Price shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued; however, no such increase in the Contract Price shall be allowed in respect of any substitution unless the Contractor has acted promptly and reasonably in submitting a name with respect thereto prior to the execution of the Work.

7.6 The Contractor will not employ any Subcontractor (whether initially or as a substitute) against whom the Owner or the Engineer may have reasonable objection, nor will the Contractor be required to employ any Subcontractor against whom the Contractor has reasonable objection. The Contractor will not make any substitution for any Subcontractor who has been accepted by the Owner and the Engineer, unless the Engineer determines that there is good cause for doing so.

7.7 The Contractor will be fully responsible for all acts and omissions of his Subcontractors and of persons directly employed by them and of persons for whose acts any of them may be liable to the same extent that the Contractor is responsible for the acts and omissions of persons directly employed by the Contractor. Nothing in the Contract Documents shall create any contractual relationship between any Subcontractor and the Owner or the Engineer or any obligation on the part of the Owner.

7.8 The divisions and sections of the Specifications and the identifications of any Plans shall not control the Contractor in dividing the Work among Subcontractors or delineating the Work to be performed by any trade.

7.9 The Contractor agrees to specifically bind every Subcontractor to all of the applicable terms and conditions of the Contract Documents. Every Subcontractor, by undertaking to perform any of the Work, will thereby automatically be deemed to be bound by such terms and conditions.

7.10 All Work performed for the Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor which shall contain provisions that waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by insurance provided in accordance with Contract Documents. The Contractor shall upon request from the Engineer provide copies of the written subcontract agreements to the Engineer. The Contractor will pay each Subcontractor a just share of any insurance monies received by the Contractor.

## **ARTICLE 8: Materials, Equipment and Labor; Substitute Material or Equipment**

8.1 The Contractor will provide and pay for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

8.2 The Contractor covenants that all Work shall be done in a good and workmanlike manner and that all materials furnished and used in connection therewith shall be new and approved by the Engineer, except as otherwise expressly provided for in the Plans and Specifications.

8.3 If it is indicated in the Specifications that the Contractor may furnish or use a substitute that is equal to any material or equipment specified, and if the Contractor wishes to furnish or use a proposed substitute, the Contractor will, promptly after the Notice of Award, make written application to the Engineer for approval of such a substitute certifying in writing that the proposed substitute will perform adequately the duties imposed by the general design, be similar and/or equal substance to that specified and be suited to the same use and capable of performing the same function as that specified. No substitute shall be ordered or installed without the written approval of the Engineer who shall be the judge of equality.

8.4 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise specifically provided in the Contract Documents.

## **ARTICLE 9. Errors, Omissions. Etc.**

Should it appear that the Work here intended to be done or any of the materials or matters relative thereto are not sufficiently detailed or explained on the Plans or in the Specifications, or should any error, discrepancy or inconsistency appear between any of the Plans and the Specifications, the Engineer shall furnish additional drawings, details or explanations and shall have power to interpret, correct, adjust and explain all errors, omissions, discrepancies, doubts and misunderstandings between such Plans and Specifications, or between several drawings and Specifications, or between several drawings, and the decision of the Engineer therein shall be final and conclusive.

## **ARTICLE 10. Permits Laws Taxes and Regulations**

10.1 The Contractor will secure and pay for all construction permits and licenses and will pay all governmental and public utility charges and inspection fees necessary for the performance of the Work.

10.2 If the Contractor observes that the Specifications or Plans are at variance therewith, the Contractor will give the Engineer prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the Contractor performs any of the Work knowing or when with the exercise of due care he should have known, it be contrary to any such laws, ordinances, rules and regulations applicable to said Work and fails to give the Owner or Engineer notice thereof prior to the performance thereof, Contractor shall bear all costs, including reasonable

attorney's fees, arising therefrom. Further, Contractor shall observe and abide by and perform all of its obligations hereunder in accordance with all applicable laws, rules and regulations of all governmental authorities having jurisdiction, including the Federal Occupational, Safety and Health Act. Contractor agrees to take affirmative action to not discriminate against any employee or applicant for employment because of race, creed, color or national origin. To the extent applicable, Contractor will comply with all provisions of any executive orders and any rules, regulations, orders, instructions, designations and other directives promulgated by any governmental unit with jurisdiction thereof. Violation of this provision, after notice, shall be a material breach of this Agreement and may result, at the Owner's option, in a termination or suspension of this Agreement in whole or in part.

10.3 The Contractor will pay all sales, consumer, use and other similar taxes required by the law of the place where the Work is to be performed.

#### **ARTICLE 11. Availability of Lands; Physical and Subsurface Conditions; Reference Points**

11.1 The Owner will provide, as indicated in the Contract Documents and not later than the date when needed by the Contractor, the lands upon which the Work is to be done, rights-of-way for access thereto, and such other lands which are designated for the use of the Contractor, the Contractor will provide all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

11.2 The Contractor will properly notify the Owner and Engineer in writing of any subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents. The Engineer will promptly investigate those conditions and advise the Owner in writing if further surveys or subsurface tests are necessary. Promptly thereafter, the Owner will obtain the necessary additional surveys and tests and furnish copies to the Engineer and the Contractor. If the Engineer finds that the results of such surveys or tests indicate subsurface or latent physical conditions differing significantly from those indicated in the Contract Documents, a Change Order shall be issued incorporating the necessary revisions.

11.3 The Engineer will establish such general reference points as in his judgment will enable the Contractor to proceed with the Work. The Contractor will be responsible for the layout of the Work and will protect and preserve the established reference points and will make no changes or relocations without the prior written approval of the Owner and Engineer. He will report to the Engineer whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations. The Contractor will replace and accurately relocate all reference points so lost, destroyed or moved.

#### **ARTICLE 12. Use of Premises**

12.1 The Contractor will confine his equipment, the storage of materials and equipment and the operations of his workmen to areas permitted by law, ordinances, permits or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with materials or equipment.

12.2 The Contractor will not load nor permit any part of the structure to be loaded with weights that will endanger the structure, nor will he subject any part of the Work to stresses or pressures that will endanger it.

### **ARTICLE 13. Engineer's Status During Construction**

13.1 The Engineer shall be the Owner's representative during the construction period. All instructions of the Owner to the Contractor shall be issued through the Engineer. The duties and responsibilities and the limitations of authority of the Engineer as the Owner's representative during construction are set forth in all Articles of these General Conditions and shall not be extended without written consent of the Owner and the Engineer.

13.2 The Engineer will make regular visits to the Work site to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. The Engineer's efforts will be directed toward providing assurance for the Owner that the completed Project will conform to the requirements of the Contract Documents. On the basis of the Engineer's on-site observations as an experienced and qualified design professional, he will advise the Owner as to the progress of the Work and the performance of the Contractor.

13.3 The Engineer will have authority to disapprove of or reject Work which is defective; i.e., is unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents or does not meet the requirements of any inspection, test or approval. The Engineer will also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed or completed.

13.4 The Engineer will provide one or more full-time resident Project Representatives to assist the Engineer in carrying out his responsibilities at the Work site during construction activity. The duties, responsibilities and limitations of authority of any such resident project representative shall be as set forth in the pre-construction meeting held by the Engineer.

13.5 Neither the Engineer's authority to act under this article nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

### **ARTICLE 14. Engineer's Interpretations and Decisions**

14.1 The Engineer will issue with reasonable promptness such written clarifications or interpretations to be consistent with or reasonably inferable from the overall intent of the Contract Documents.

14.2 The Engineer will be the initial interpreter of the terms and conditions of the Contract Documents and the judge of the performance thereunder. In his capacity as interpreter and judge, the Engineer will exercise his best efforts to insure faithful performance by the Contractor. The Engineer will not show partiality and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work

or the interpretation of or performance under the Contract Documents shall be referred initially to the Engineer for decision, which the Engineer shall render in writing within a reasonable time.

## **ARTICLE 15. Shop Drawings and Samples**

15.1 After checking and verifying all field measurements, the Contractor will submit to the Engineer for approval, in accordance with the accepted schedule of Shop Drawing submissions, five copies (or at the Engineer's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Engineer may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the Engineer to review the information as required.

15.2 The Contractor will also submit to the Engineer for approval, with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

15.3 At the time of each submission, the Contractor will, in writing, call the Engineer's attention to any deviations that the Shop Drawing or sample may have from the requirements of the Contract Documents.

15.4 The Engineer will check and approve with reasonable promptness Shop Drawings and samples; however, checking and approval shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The approval of a separate item as such will not indicate approval of the assembly in which the item functions. The Contractor will make any corrections required by the Engineer and will return the required number of corrected copies of Shop Drawings and resubmit new samples until approved. The Contractor shall direct specific attention in writing or on resubmitted Shop Drawings to revisions other than the corrections called for by the Engineer on previous submissions.

15.5 No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been approved by the Engineer.

15.6 The Engineer's approval of Shop Drawings or samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless the Contractor has in writing called the Engineer's attention to such deviations at the time of submission and the Engineer has given written approval to the specific deviation, nor shall any approval by the Engineer relieve the Contractor from responsibility for errors or omissions in the Shop Drawings.

## **ARTICLE 16. Tests and Inspections**

16.1 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested, or approved by someone other than the Contractor, the Contractor will give the Engineer timely notice of readiness thereof. The Contractor will give the Engineer the required certificates of inspection, testing or

approval. All such tests will be in accordance with the methods prescribed by the American Society for Testing and Materials or such other applicable organization as may be required by law or the Contract Documents. If any such Work required so to be inspected, tested, or approved is covered up without written approval or consent of the Engineer, it must, if directed by the Engineer, be uncovered at the Contractor's expense for observation. The cost of all such inspections, test and approvals shall be borne by the Owner unless otherwise provided.

16.2 Any Work which fails to meet the requirements of any such test, inspection or approval and any Work which meets the requirements of any such test or approval but does not meet the requirements of the Contract Documents shall be considered defective. Such defective Work may be rejected, corrected or accepted as provided elsewhere in the Contract Documents. The costs of all retests and follow up inspections shall be borne by the Contractor.

16.3 Neither observations by the Engineer nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

## **ARTICLE 17 Contractor's Supervision and Superintendence**

17.1 The Contractor will supervise and direct the Work efficiently and with skill and attention. The Contractor will be solely responsible for the means, methods, techniques, sequences and procedures of construction. Before undertaking the Work the Contractor will carefully study and compare the Contract Documents and check and verify all figures shown thereon and all field measurements. The Contractor will at once report in writing to the Engineer any conflict, error or discrepancy which he may discover. The Contractor will be responsible to see that the finished Work complies accurately with the Contract Documents.

17.2 The Contractor will keep on the Work site at all times during its progress a resident superintendent satisfactory to the Engineer. The superintendent shall not be replaced without the consent of the Engineer except under extraordinary circumstances. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

17.3 The Contractor will provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order among his employees and the employees of his Subcontractors at the Work site.

17.4 The Engineer and/or Owner will not be responsible for the acts or omissions of the Contractor, or any Subcontractors, or any agents or employees or any other persons performing any of the Work.

## **ARTICLE 18. Safety and Protection: Emergencies**

18.1 The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor will take all necessary

precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

18.1.1 All employees on the Work and other persons who may be affected thereby;

18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the Work site; and

18.1.3 Other property at the Work site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

18.2 The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. The Contractor will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection, including posting danger signs and other warnings against hazards and promulgating safety regulations. The Contractor will notify owners of adjacent utilities when execution of Work may affect them. When the use or storage of explosives or other hazardous materials is necessary for the performance of the Work, the Contractor will exercise the utmost care and will carry on such activities under the supervision of properly qualified personnel. All damage, injury or loss to any property referred to in this paragraph caused, directly or indirectly, in whole or in part, by the Contractor, or Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, will be remedied by the Contractor, except damage or loss attributable to the fault of Plans or Specifications or to the acts or omissions of the Owner or the Engineer or anyone employed by either of them or for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor.

18.3 The Contractor will designate a responsible employee at the Work site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Owner and the Engineer.

18.4 In emergencies affecting the safety of persons or the Work or property at the Work site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. The Contractor will give the Engineer prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved if said emergency is not a direct cause of the neglect of the Contractor or Subcontractor or a deviation by the Contractor from any of the provisions of the Contract Documents.

## **ARTICLE 19. Access to the Work: Uncovering Finished Work**

19.1 The Engineer will at all times have access to the Work. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection, or testing thereof by others.

19.2 If any Work is covered contrary to the request of the Engineer, it must, if requested by the Engineer, be uncovered for observation and replaced at the Contractor's expense.

19.3 If any Work has been covered which the Engineer has not specifically requested to observe prior to its being covered, or if the Engineer considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Engineer's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective or does not meet the requirements of the Contract Documents, the Contractor will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate Change Order shall be issued depicting all such costs from the Contract Price. If, however, such Work is found to be non-defective and meets the requirements of the Contract Documents, the Contractor will be allowed an increase in the Contract Price or extension of the Contract Time directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction, provided the Engineer first obtained uncovering approval from the Owner.

#### **ARTICLE 20. Changes in the Work**

20.1 Without invalidating the Agreement, the Owner may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, the Contractor will proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in the Contract Documents.

20.2 The Engineer may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order.

20.3 Additional Work performed by the Contractor without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in elsewhere herein.

20.4 The Owner will execute any appropriate Change Order prepared by the Engineer covering changes in the Work to be performed and work performed in an emergency and any other claim of the Contractor for a change in the Contract Time or the Contract Price which is approved by the Owner and Engineer.

20.5 It is the Contractor's responsibility to notify his Surety of any changes affecting the general scope of the Work or changes in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The Contractor will furnish proof of such adjustment to the Engineer upon its occurrence.

## **ARTICLE 21. Change of the Contract Price**

21.1 The Contract Price constitutes the total compensation payable to the Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at the Contractor's expense without change in the Contract Price.

21.2 The Contract Price may only be changed by a Change Order. If the Contractor is entitled by the Contract Documents to a change in the Contract Price, the claim shall be in writing delivered to the Engineer within five (5) calendar days of the occurrence of the event giving rise to the claim. All valid claims for adjustments in the Contract Price shall be determined by the Engineer. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order.

21.3 The value of any Work covered by a Change Order or of any claims for a change in the Contract Price shall be determined in one of the following ways:

21.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved;

21.3.2 By mutual acceptance of a lump sum;

21.3.3 By cost and a mutually acceptable fixed amount for overhead and profit;

21.3.4 If none of the above methods is agreed upon, the value shall be determined by the Engineer on the basis of costs and a percentage for overhead and profit. Costs shall only include labor (payroll, payroll taxes, fringe benefits, workmen's compensation, etc.), materials, equipment, directly related to the Work involved. The maximum percentage which shall be allowed for Contractors combined overhead and profit shall be as follows:

21.3.4.1 For all such Work done by his own organization, the Contractor may add up to fifteen percent (15%) of actual net costs for combined overhead and profit; provided that no overhead or profit shall be allowed on costs incurred in connection with premiums for public liability insurance or other special insurance directly related to such Work. In such case and also under this paragraph, the Contractor will submit in the form prescribed by the Engineer, an itemized cost breakdown together with supporting data.

21.4 The amount of credit to be allowed by the Contractor to the Owner for any such changes in cost, will be the amount of the actual net cost plus fifteen percent (15%).

## **ARTICLE 22. Change of Contract Time**

22.1 The Contract Time may only be changed by a Change Order. If the Contractor is entitled by the Contract Documents to make a claim for an extension in the Contract Time, the claim shall be in writing delivered to the Engineer within five (5) calendar days after expiration of any such delay of the occurrence of the event giving rise to the claim. All valid claims for adjustment in the Contract Time shall be determined by the Engineer. Any change in the Contract Time resulting from any such claim shall be incorporated into a Change Order.

22.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor, if he makes a claim therefrom as provided in this Agreement. Such delays shall include, but not be restricted to, acts or neglect by any separate Contractor employed by the Owner, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

22.3 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.

### **ARTICLE 23. Neglected Work**

If the Contractor should neglect to prosecute the Work in accordance with the Contract Documents, including any requirements of the progress schedule, the Owner, after five (5) Calendar Day's written notice to the Contractor may, without prejudice to any other remedy, make good such deficiencies and the cost thereof (including compensation for additional professional services) shall be charged against the Contractor, in which case a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract Price. If the payments then or thereafter due to the Contractor are not sufficient to cover such amount, the Contractor will pay the difference to the Owner.

### **ARTICLE 24. Warranty and Guarantee: Correction, Removal or Acceptance of Defective Work**

24.1 The Contractor warrants and guarantees to the Owner that all materials and equipment will be new unless otherwise specified and that all Work will be of good quality and free from faults or defects and in accordance with the requirements of the Contract Documents and of any inspections, tests or approvals referred to elsewhere in the Contract Documents. All unsatisfactory Work, all faulty or defective Work and all Work not conforming to the requirements of the Contract Documents or of such inspections, tests or approvals shall be considered defective. Prompt notice of all defects shall be given to the Contractor. All defective Work, whether or not in place, may be rejected.

24.2 If required by the Engineer, prior to approval of final payment, the Contractor will ***promptly***, without cost to the Owner and as required by the Engineer, either correct any defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Engineer, remove it from the Work site and replace it with non-defective Work. If the Contractor does not correct such defective Work or remove and replace such rejected Work ***within a reasonable time, all as required by written notice from the Engineer***, the Owner may have the deficiency corrected or the rejected Work removed and replaced. All direct or indirect costs of such correction or removal and replacement, including compensation for additional professional services shall be paid by the Contractor, and an appropriate Change Order shall be issued deducting all such costs from the Contract Price. The Contractor will also bear the expenses of making good all Work of others destroyed or damaged by his correction, removal or replacement of his defective Work.

24.3 If, after the approval of final payment and prior to the expiration of one (1) year after the date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any Work is found to be

defective, the Contractor will, promptly, without cost to the Owner and in accordance with the Owner's written instructions, either correct such defective Work, or, if it has been rejected by the Owner, remove it from the Work site and replace it with non-defective Work. If the Contractor does not promptly comply with the terms of such instructions, the Owner may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, will be paid by the Contractor.

24.4 If, instead of requiring correction or removal and replacement of defective Work, the Owner (prior to approval of final payment) and also the Engineer prefer to accept it, he may do so. In such case, if acceptance occurs prior to approval of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price; or, if the acceptance occurs after approval of final payment, an appropriate amount shall be paid by the Contractor.

## **ARTICLE 25. Application for Partial Payment**

25.1 After the 20th day of the current calendar month, the Contractor shall submit to the Engineer a detailed estimate of the amount earned for the separate portions of the Work, and request payment. As used in this Article, the words "amount earned" means the value, on the date of the estimate for partial payment, of the Work completed in accordance with the Contract Documents, and the value of approved materials delivered to the Project site suitably stored and protected prior to incorporation into the Work. If the Contractor's estimate of amount earned conforms with the Engineer's evaluation, the Engineer will calculate the amount due the Contractor and make recommendation to the Owner for payment.

25.2 After deducting the retain amounts and the amount of all previous partial payments made to the Contractor, the amount earned as of the current month will be made payable to the Contractor thirty (30) Calendar Days after the 20th day of the said calendar month.

25.3 The Contractor warrants and guarantees that title to all Work, materials and equipment covered by an application for payment, will have passed to the Owner prior to the making of the application for payment free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "liens"); and that no Work, materials or equipment covered by an application for payment will have been acquired by the Contractor or by any other person performing the Work at the Work site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

25.4 The Engineer will, within fifteen (15) Calendar Days after receipt of application for payment, either indicate in writing his approval of payment and present the application to the Owner, or return the application to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the application. The Owner will pay the Contractor the amount approved by the Engineer and Owner.

## **ARTICLE 26. Prompt Payment to Subcontractors**

The Contractor shall pay any subcontractor within ten days of the prime contractor's receipt of payment from the municipality for undisputed services provided by the subcontractor. The contract must require the prime contractor to pay interest of 1 ½ percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the prime contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

## **ARTICLE 27. Approval of Payment**

27.1 The Engineer's approval of any payment requested in an application for payment shall constitute a representation by him to the Owner, based on the Engineer's on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the application for payment and the supporting data, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval); and that the Contractor is entitled to payment of the amount approved.

27.2 The Engineer's approval of final payment shall constitute an additional representation by him to the Owner that the conditions precedent to the Contractor's being entitled to final payment as set forth in the Agreement have been fulfilled.

27.3 The Engineer may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the Owner. He may also refuse to approve any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the Owner from loss because:

27.3.1 The Work is defective;

27.3.2 Claims have been filed or there is reasonable evidence to suggest such filing thereof;

27.3.3 The Contract Price has been reduced because of modifications or changes;

27.3.4 The Owner has been required to correct defective Work or complete the Work;

27.3.5 Unsatisfactory performance of the Work, including failure to clean up.

## **ARTICLE 28. Project Completion**

28.1 Prior to final payment, the Contractor may, in writing to the Owner and the Engineer, certify that the entire Project is complete and request that the Engineer issue a certificate of completion. Within a reasonable time thereafter, the Owner, Contractor and Engineer will make an inspection of the Project to determine the status of completion. If the Engineer and Owner do not consider the

Project complete, they will notify the Contractor in writing giving reasons thereof. If the Engineer and Owner consider the Project complete, they will prepare and deliver to the Owner an application for final payment.

28.2 The Owner shall have the right to exclude the Contractor from the Project after the date of completion, but the Owner will allow the Contractor reasonable access to complete or correct items of repair and maintenance.

## **ARTICLE 29. Final Payment**

29.1 After the Contractor has completed any corrections to the satisfaction of the Engineer and delivered all maintenance and operating instruction, schedules, guarantees, bonds, certificates of inspection and other documents, all as required by the Contract Documents, he may make application for final payment. The final application for payment shall be accomplished by such supporting data as the Engineer may require, together with complete and legally effective releases or waivers (satisfactory to the Owner) of all liens arising out of the Contract Documents and the labor and services performed and the material and equipment furnished thereunder. In lieu thereof and as approved by the Owner, the Contractor may furnish receipts of releases in full; an affidavit of the Contractor that the releases and receipts include all labor, services, material and equipment for which a lien could be filed, and that all payrolls, State and Federal withholding taxes, material and equipment bills, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment. If any Subcontractor or supplier fails to furnish a release or receipt in full, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any lien.

29.2 If, on the basis of his observation and review of the Work during construction, his final inspection and his review of the final application for payment all as required by the Contract Documents, the Engineer is satisfied that the Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, he will, within fifteen (15) Calendar Days after receipt of the final application for payment, indicate in writing his approval of payment and present the application to the Owner for payment. Otherwise, he will return the application to the Contractor, indicating in writing his reasons for refusing to approve final payment, in which case the Contractor will make the necessary corrections and resubmit the application. The Owner, will, within twenty (20) Calendar Days of presentation of an approved application for payment, and receipt of final payment documents pay the Contractor the amount approved by the Engineer.

## **ARTICLE 30. Retention of a Portion of the Contract Sum**

The Owner may retain up to a maximum of ten percent (10%) of value of Work completed and requested for payment. After fifty percent (50%) of the Work has been completed, the Contractor may request consideration for a reduction in the retained amount. Where the Owner is subject to the provisions of Minnesota State Statutes 429.041 Section 6 the maximum retained amount shall be five percent (5%) released with approval of the governing body. Those amounts released shall be considered not required to be retained to protect the Owner's interest in satisfactory completion of the Agreement.

**ARTICLE 31. Liquidated Damages**

The parties hereto recognize that failure on the part of the Contractor to complete the Work within the time period set forth herein above, shall cause damage to the Owner; and should the contractor not complete the Work within that period of time, or otherwise be guilty of substantial violation of this Agreement, the Owner may deduct amounts per the following schedule per calendar day after the completion date and all legal and Engineering costs related thereto, for each day exceeding said completion date, from the total Contract Price to be paid to the Contractor, and among its other remedies, terminate this Agreement and complete the Work by whatever method the Owner may deem expedient, at the expense of the Contractor; and such action by Owner shall not relieve Contractor of its liability to Owner for any damages caused by the Contractor's default, including, but not limited to, the excess expense of finishing the Work over the unpaid balance of the Contract Price. In the event a dispute arises between the Contractor and Owner regarding an alleged default by the Contractor or the assessment of liquidated damages, and if said dispute is submitted for litigation, and in the further event that the Owner prevails thereon, liquidated damages shall include court costs and reasonable attorney's fees as allowed by law. In the event the Owner elects to complete the Work following Contractor's default as above set forth, the Contractor agrees to extend its full cooperation of the Work contemplated under this Agreement. The amount deducted under this paragraph shall not be construed as a penalty, but rather as liquidated damages resulting from the noncompletion of the Work within the specified time. The schedule of damages shall be as specified below based upon the original contract amount:

<i>From More Than</i>	<i>Up To and Including</i>	<i>Charge per Calender Day</i>
\$0	\$500,000	\$200
\$500,000	\$1,000,000	\$300
\$1,000,000	Unlimited	\$500

**ARTICLE 32. Waivers of Claims and Continuing Obligations**

32.1 The Contractor's obligation to perform the Work and complete the Project in accordance with the Contract Documents shall be absolute. Neither approval of any payment by the Engineer, nor the issuance of a certificate of completion, nor any payment by the Owner to the Contractor under the Contract Documents, nor any use or occupancy of the Project or any part thereof by the Owner, nor any act of acceptance by the Owner nor any failure to do so, nor any correction of faulty or defective Work by the Owner shall constitute an acceptance of Work not in accordance with the Contract Documents.

32.2 The making and acceptance of payments shall constitute:

32.2.1 A waiver of all claims by the Owner against the Contractor other than those arising from unsettled liens, from faulty or defective Work appearing after final payment or from failure to comply with the requirements of the Contract Documents or the terms of any special guarantees specified therein; and

32.2.2 A waiver of all claims by the Contractor against the Owner other than those previously made in writing and still unsettled.

### **ARTICLE 33. Indemnification**

33.1 To the fullest extent permitted by law, the Contractor shall indemnify and save harmless, the Owner and Engineer of and from loss or damage caused to any person or property by reasons of any carelessness or neglect in the doing or making of this improvement or furnishing of material and by reason or failure to pay all laborers, materials, mechanics, and subcontractors, and all persons who shall supply said Contractor with materials, provisions and supplies for the performance and completion of said Agreement to promptly pay all just debts, dues and demands incurred in the performance of said Agreement, and of and from all expenses of inspection and/or of whatever kind of nature, which shall be caused by delay or failure in the performance and completion of this Agreement, and further to indemnify and save harmless of and from all suits and action of the Owner and Engineer on account of any injuries or damages sustained by any person or persons by reason of any act, omission, or negligence or by the use of improper or defective materials on the part of said Contractor in the performance of any part of this Agreement, and further to indemnify and protect and save the Owner and Engineer harmless against any or all demands, fees, or royalties for any patented invention, materials, methods, arrangements, or process of manufacturer of any infringement thereon, that may be used or be in any manner connected with the construction, erection, or maintenance of the Work, material, or any part thereon encompassed by this Project.

33.2 The Contractor shall indemnify and hold harmless the Owner and the Engineer and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

33.3 In any and all claims against the Owner or the Engineer of any of their agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, the indemnification obligation under this Article shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or from the Contractor or any Subcontractor under Worker's Compensation acts, disability benefit acts or other employee benefit acts.

33.4 The obligations of the Contractor under this Article shall not extend to the liability of the Engineer, his agents or employees arising out of (a) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or Plans and Specifications or (b) the giving of or the failure to give directions or instructions by the Engineer, his agents or employees, provided such giving or failure to give is the primary cause of injury or damage.

### **ARTICLE 34. Contract Bonds**

The Contractor will furnish performance, payment and maintenance bonds as security for the faithful performance, payment and maintenance of all his obligations under the Contract Documents. These

bonds shall be in amounts of at least 100% of the Contract Price and in such form and with such Sureties as approved by the Securities Exchange and by the Insurance Commissioner of the State in which the Project is located. Prior to execution of the Contract Documents, the Owner may require the Contractor to furnish such other bonds, in such form and with such Sureties as he may require.

#### **ARTICLE 35. Insurance**

35.1 The Contractor shall provide (from insurance companies acceptable to the Owner) the insurance coverage designated hereinafter and pay all costs.

35.2 Before commencing Work under this Agreement, the Contractor shall furnish the Owner with certificates of insurance specified herein showing the type, amount, class of operations covered, effective dates, and date of expiration of policies, and containing substantially the following statement:

"The insurance covered by this certificate will not be cancelled or materially altered, except after 10 days written notice has been received by the Owner."

35.3 In case of the breach of any provision of this Article, the Owner, at his option, may take out and maintain, at the expense of the Contractor, such insurance as the Owner may deem proper and may deduct the cost of such insurance from any monies which may be due or become due the Contractor under this Agreement.

#### **ARTICLE 36. Contractor and Subcontractor Insurance**

The Contractor shall not commence Work on this Agreement until he has obtained all the insurance has been reviewed by the Owner, nor shall the Contractor allow any Subcontractor to commence Work on his subcontract until all similar insurance required for that portion of the Work has been so obtained and reviewed. Review of the insurance by the Owner shall not relieve or decrease the liability of the Contractor hereunder.

#### **ARTICLE 37. Compensation and Employer's Liability Insurance**

The Contractor shall maintain during the life of this Agreement the statutory Worker's Compensation, in addition to, Employer's Liability Insurance in an amount not less than \$100,000 for each occurrence and a combined single limit of liability of \$1,000,000 for each occurrence for all of his employees to be engaged in Work on the Project under this Agreement and, in case any such Work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Compensation and Employer's Liability Insurance for all of the latter's employees to be engaged in such Work. Where Work under this Agreement includes any water or navigational exposure, coverage shall be included to cover the Federal Longshoremen's and Harborworker's Act and the Federal Jones Act.

#### **ARTICLE 38. Public Liability (including Automotive) and Property Damage Insurance**

38.1 The Contractor shall maintain during the life of this Agreement such public liability and property damage insurance and automobile public liability and property damage insurance and shall

protect him, the Owner, the Engineer, and any Subcontractor performing Work covered by this Agreement from claims for damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from negligent operations under this Agreement, whether such operations are by himself or by any Subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall be not less than:

(1) Public liability insurance in an amount not less than \$500,000 for injuries, including wrongful death to any one person, and subject to the same limit for each person in an amount not less than \$1,000,000 for each occurrence.

(2) "Broad Form" property damage liability insurance in an amount not less than \$500,000 for each occurrence.

38.2 The Contractor's public liability insurance and property damage insurance shall provide the primary coverage on all claims arising out of the performance of the Agreement, and shall name the Owner, its officers, agents and employees, and the Engineer as additional insureds therein.

#### **ARTICLE 39. Builders Risk All Risk Insurance**

Unless otherwise modified in the Special Provisions, the Contractor shall secure and maintain during the life of this Agreement, Builders Risk All Risk Insurance coverage for 100 percent of the Contract Price. Such insurance shall not exclude coverage for earthquake, landslide, flood, collapse, or loss due to the results of faulty workmanship, and shall provide for losses to be paid to the Contractor and the Owner as their interest may appear.

#### **ARTICLE 40. Insurance Coverage for Special Conditions**

When the construction is to be accomplished within a public or private right-of-way requiring insurance coverage, the Contractor shall conform to the particular requirements and provide the required insurance. The Contractor shall include in his liability policy all endorsements that the said authority may require for the protection of the authority, its officers, agents and employees. Insurance coverage for special conditions, when required, shall be provided as set forth in the Special Provisions.

#### **ARTICLE 41. Cleaning Up**

The Contractor will keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work, and at the completion of the Work he will remove all waste materials, rubbish and debris from and about the premises and will remove all items of personal property such as all tools, construction equipment and machinery, and surplus materials, and further will leave the site broom-clean and ready for occupancy by the Owner. The Contractor will restore to the original condition those portions of the Work site not designated for alteration by the Contract Documents.

## **ARTICLE 42. Owner's Right to Stop or Suspend Work**

42.1 If the Work is defective, or the Contractor fails to supply sufficiently skilled workmen or suitable materials or equipment, or if the Contractor fails to make prompt payments to Subcontractors, or for labor, materials or equipment, the Owner may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.

42.2 The Owner may, at any time and without cause, suspend the Work or any portion thereof, for a period of not more than one hundred eighty (180) days by notice in writing to the Contractor and the Engineer which shall fix the date on which Work shall be resumed. The Contractor will resume the Work on the date so fixed.

## **ARTICLE 43. Owner's Right to Terminate**

43.1 If the Contractor is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the Contractor or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficiently skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors, or for labor, materials or equipment, or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he disregards the authority of the Engineer, or if he otherwise violates any provision of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and after giving the Contractor and his Surety seven (7) Calendar Days written notice, terminate the services of the Contractor and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, and finish the Work by whatever method he may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor will pay the difference to the Owner. Such costs incurred by the Owner will be determined by the Engineer and incorporated into a Change Order.

43.2 Where the Contractor's services have been so terminated by the Owner, said termination shall not affect any rights of the Owner against the Contractor or his Surety then existing or which may thereafter accrue. Any retention or payment of monies by the Owner due the Contractor will not release the Contractor or his Surety from liability.

43.3 Upon seven (7) Calendar Days written notice to the Contractor and the Engineer, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the Contractor and Engineer shall be paid for all Work executed and any expense sustained plus a reasonable profit.

## **ARTICLE 44. Contractor's Right to Terminate**

If, through no act or fault of the Contractor, the Work is suspended for a period of more than one hundred eighty (180) Calendar Days by the Owner or under an order of court or other public authority, or the Engineer fails to act on any application for payment within thirty (30) Calendar Days after it is submitted, or the Owner fails to pay the Contractor any sum approved by the Engineer within sixty (60) Calendar Days of its approval and presentation, then the Contractor may, upon seven (7) Calendar Days written notice to the Owner and the Engineer, terminate the Agreement and recover from the Owner payment for all Work executed.

#### **ARTICLE 45. Miscellaneous**

45.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

45.2 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder, and in particular but without limitation, the warranties, guarantees, and obligations imposed upon the Contractor and the rights and remedies available to the Owner and Engineer thereon, shall be in addition to and not a limitation of any otherwise imposed or available by law, by special guarantee or other provisions of the Contract Documents.

45.3 The Contract Documents shall be governed by the law of the place where the Project is located.

45.4 Except as otherwise provided, or approved in writing, Contractor shall not assign this Agreement or sublet it as a whole without the written consent of the Owner; nor shall the Contractor assign any monies due or to become due to it hereunder, without the previous written consent of the Owner. Owner may, however, assign this Agreement to any other party or entity, provided Owner continues to be responsible for the performance by such assignee of all undertakings of the Owner hereunder. Subject to the foregoing, this Agreement shall inure to the benefit of and be binding on the parties hereto and their respective successors and assigns.

45.5 Contractor shall treat all information relating to the Project and all information supplied to the Contractor by the Owner and/or Engineer as confidential and propriety information of the Owner and/or Engineer and shall not permit its release to any other parties or make any public announcement or any publicity releases without the Owner's written authorization. Contractor shall also require Subcontractors and vendors to comply with this Agreement.

45.6 In performing its obligations hereunder, Contractor shall be deemed an independent Contractor and not an agent or employee of Owner and/or Engineer. Contractor shall have the exclusive authority to manage, direct and control the Work subject to the terms and conditions of this Agreement and approval of Owner and/or Engineer as provided herein. Owner is interested in only the results obtained and not in the methods used in achieving the results.

**Public Works Committee**

**5. 2.**

**Meeting Date:** 08/15/2011

**By:** Tim Himmer, Engineering/Public Works

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**Title:**

Update on Recent Storm and Flooding Complaints

**Background:**

Over the past couple of months, with all the significant rainfall events, staff has received several calls related to flooding concerns throughout the City. We have worked hard at responding to all calls, and addressing the items identified. Attached is a summary of the calls received, and associated actions that have taken place to date. We have attempted to classify the issues into 3 categories:

1. Those that require no further action. They have been evaluated and corrected, or do not need correcting because the water is contained within a dedicated drainage & utility easement (functioning as designed).
2. Those that require additional investigation and evaluation before approaching the Council with a recommendation for corrective actions.
3. Those that have an identified recommendation for immediate action.

Attached is a summary of the items identified and a corresponding location map.

**Notification:**

**Observations:**

Staff wanted to provide the Council with an update of the items that have been identified, and summarize how these issues have been handled to date. We are seeking feedback (if any) on the items resolved, input on potential items to investigate or consider when evaluating the remaining outstanding items, and direction on the immediate fixes that have been identified for corrective actions.

Also, for informational purposes, I have attached a precipitation summary of the entire state that shows the amount of rain received in the 4 month period from April 1st to August 1st of this year. This exhibit shows that the City of Ramsey has received almost twice as much rainfall over this 4 month period as compared to the statewide average since these records began being collected. It also shows that we are one of the top three areas for amount of rainfall received during this 4 month period.

**Funding Source:**

The Capital Improvement Program (CIP) lists a \$75,000 annual expenditure for the next 5 years to address city wide drainage enhancements. Other projects have previously been identified for corrective action, and those will be evaluated with some of the items on the attached summary list for prioritization and potential improvements; these will be brought back at a future date for Council consideration.

**Staff Recommendation:**

Staff recommends that the Public Works Committee recommend to the City Council the authorization for staff to prepare the necessary plans and specifications, and receive quotes, to address the immediate corrective actions identified on the attached summary. Staff is also seeking direction on the other items identified for potential corrective action.

**Committee Action:**

Motion to authorize staff to prepare the necessary plans and specifications, and solicit quotes, for the recommended drainage corrections.

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### Attachments

Summary of Concerns and Actions

Location Map

Statewide Precipitation Information

### Form Review

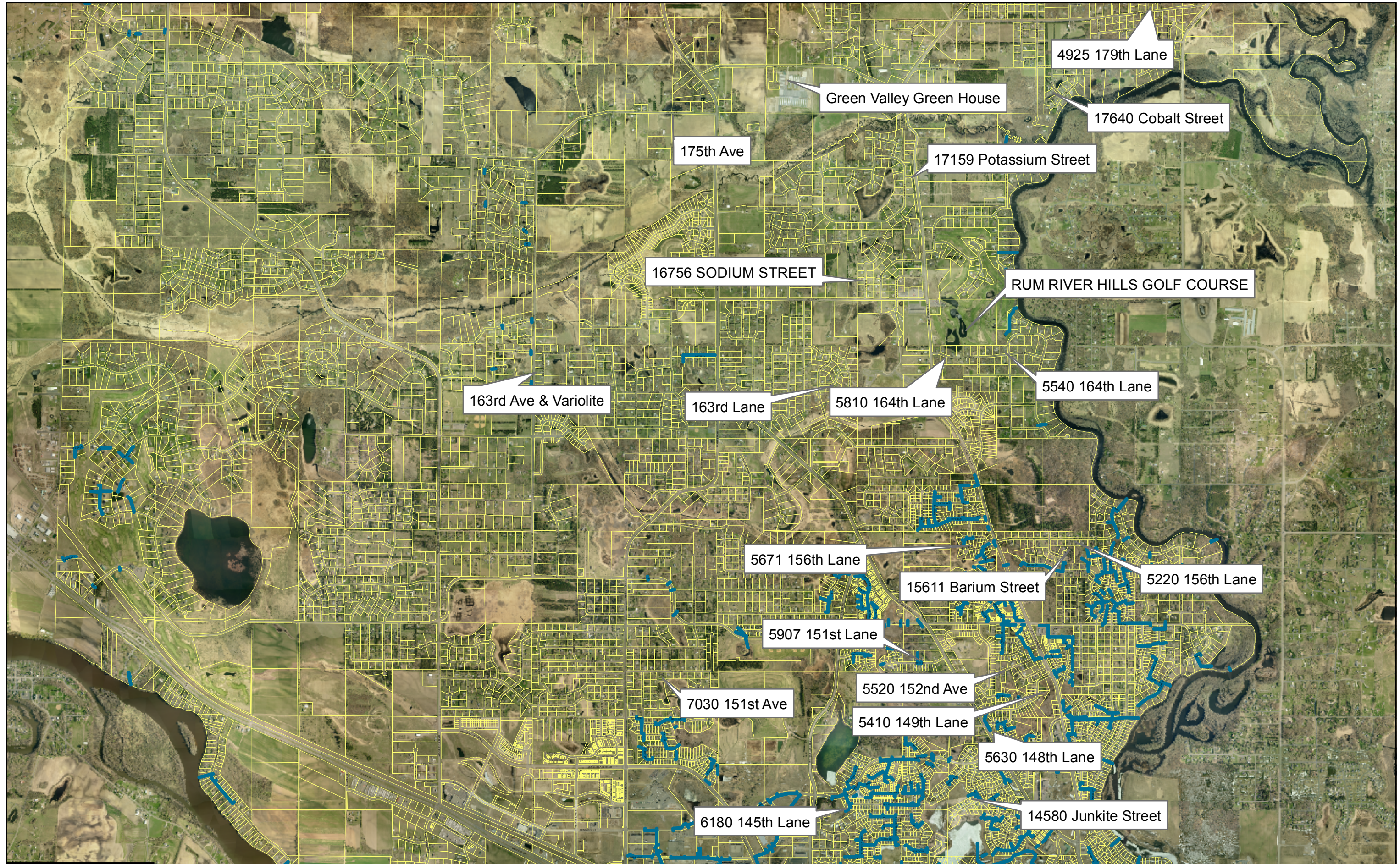
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Kurt Ulrich	Kurt Ulrich	08/11/2011 04:49 PM
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	Final Approval Date: 08/11/2011	

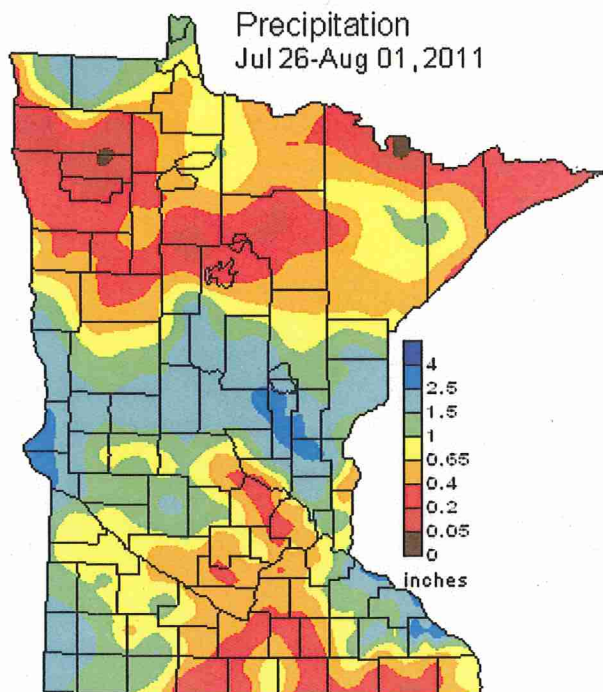
### July 2011 Stormwater Visits

Address	Owner	Observations	Update	Potential Solutions
17159 Potassium Street	Stromenger, Tom & Trish	Water standing in back yard, lower than drainfield. Some water inside under front step. Water visible under floor in back through open plumbing trench. Observation of yard indicated grades slope towards house in several locations corresponding to water observed inside. Backyard drains to Fox Park. Fox Park Boardwalk approaches are under 3" of water, water pushed up through boards while walking on it. No outlet for this wetland.	Advised property owner of potential improvements to improve drainage away from their foundation (fill and/or draitile installation).	Water appears to be contained within the existing drainage & utility easement. Private improvements to improve lot drainage. No further action.
15611 Barium St	Moravetz, Paul & Carolyn	Water standing in back yard, lower than drainfield. Pondered water is in Woodland Green Park	Water contained within existing drainage & utility easement on property. Several trees show signs of stress and may be lost, both on private property (easement) and within the park.	Water appears to be contained within the existing drainage & utility easement. No further action.
5520 152nd Avenue	Gary Solmonson	Street runoff from recently completed paving project flowing down neighbors driveway and settling in low point adjacent to the house.	Corrected neighbors driveway with minimal paving to keep street runoff in the right-of-way and directed to the storm sewer. Property owner installed some natural barriers to slow down and prevent overland flow from neighbors property.	No further action.
5540 164th Lane		Water standing in rear and side lot drainage & utility easement.	Property owner pumped water over roadway into ditch along the north side. City staff cleaned the culvert under 164th, and the ditch to the north to direct water into the adjacent ponding area.	No further action.
4925 179th Lane	Sarah Chamberlain	Experiencing flooding in the basement of the home. No standing surface water; presumably an elevated water table. Property owner wanted to know if we could improve ditch flow and/or install storm sewer into the recently completed work on Ute St.	Instructed home owner that we couldn't assist with an elevated water table, and they should contact Anoka County to discuss ditch drainage in area (County Road 27).	No further action.
5630 148th Lane	Bruce Saba	Standing water in rear yard pond and drainage & utility easement. Concerned water would continue to rise into home.	Water contained within existing drainage & utility easement on property. Verified downstream culverts were open & flowing	No further action.
5671 156th Lane	Candie Hansen	Standing water in rear yard pond and drainage & utility easement. Concerned water would continue to rise into home.	Water contained within existing drainage & utility easements. Staff verified outlet structure and downstream system was free of obstructions.	No further action.
6180 145th Lane		Resident concerned with high water in rear and side yard, encroaching near deck.	It appears as if the deck was built into or near the existing drainage & utility easement. Water is contained within the easement, but may be backing up through the system from Sunfish Lake due to high water conditions.	No further action.
6530 Green Valley Road	Green Valley Greenhouse	Property owner expressed concern with ditch drainage (and wetland discharge from the north) running through the property and causing erosion to their pond outlet prior to discharge to County ditch #27.	County ditch issue (County Road 63)	No further action.
16756 Sodium Street	Kamrowski, Joel & Helen	Split Entry Walkout. Water standing on basement floor during visit. They removed all carpeting and sheet rock on block walls. Water came in at front wall at joint between block and slab. Observation of yard and discussion indicated water from roadside ditch rose and flowed towards house. Minimal grade change between bottom of ditch and grades at house. Potential solution, regrade ditch to drain to south property line, around mound system and into back yard. Backyard has standing water, this is north end of wetland/ storage area. Outlet is culvert under 167th Avenue. Observed Culvert, standing water visible at both ends, wetland south of 167th is Jon Peterson's proposed wetland banking area. It does not have an overland outlet.  **** Homeowner is pursuing a claim against City for water damage in basement.	Surface water subsided, but still experiencing water in basement due to high groundwater. Property owner cleaned culvert in front under driveway (severely deteriorated). City verified that the culvert was free of obstructions under 167th, and removed debris from the downstream channel along the west side of Elmcrest Park. The property owner south of 167th is currently evaluating the opportunity to develop wetland banking credits, which would increase downstream capacity, and he is willing to share the results of his hydrologic study for the area.	No rear yard drainage & utility easements present - wetland at low point on adjacent lot to the south (also not encumbered by drainage & utility easement). Re-ditch boulevard areas and/or reshape property to allow pass through drainage to the wetland. Potential for downstream relief if wetland creation/banking project by private property owner is advanced. Additional information and evaluation is necessary to formulate a recommendation.

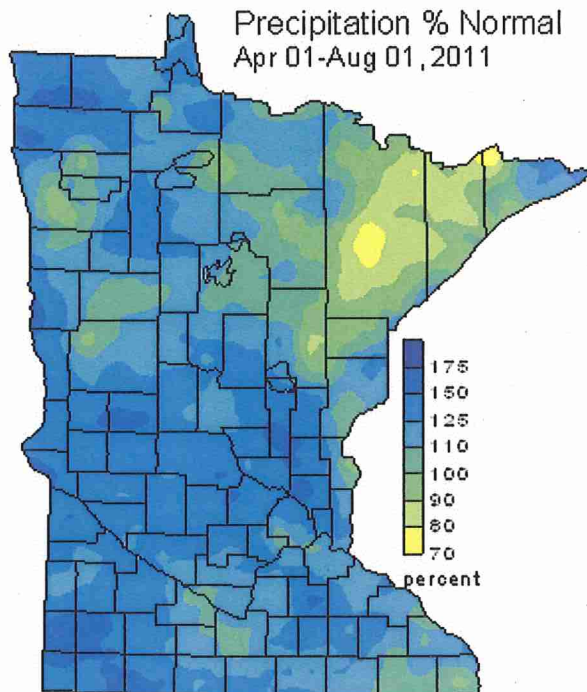
Rum River Hills Golf Course		Water standing on fairways and cart paths. Pipe Flowing 25% full at outfall. Course rented large pump to move water in preparation for event on 7/21. They were making phone calls to contacts seeking prices for installing a second pipe. The route would cross fairways to the ditch on the east side of the course.  **** They asked about possible City Participation in the cost of the pipe. I said it would have to be presented to the City Council.	Removed turtles from line, improved flow. The City contracted the televising of the storm sewer lines within the golf course and found several sags in the pipe system that hold water. There is a location in one of the pipes that had extreme root growth intrusion, and the camera could not advance any further downstream.	Additional information and evaluation is necessary to formulate a recommendation.
5220 156th Lane	Jason & Ruth Obermaier	Water standing in back yard over existing drain field of septic system. Discussed on a couple of occasions with Council related to options for short term septic fix, and long term downstream drainage options.	Currently working with property owner on offer to connect them to municipal sanitary sewer - based upon Council direction.	Going through a separate process to resolve the immediate concern related to the septic system. Will continue evaluating the downstream system for potential improvements, and bring back at a future date for discussion.
5410 149th Lane	Rocky Belmonte	Water standing in back yard; appears to be slightly outside existing drainage & utility easement due to private property modifications (regrading and installation of a retaining wall).	Staff lowered the outlet from the adjacent wetland area under TH 47. Received a petition from area property owners requesting review of drainage problem - this will be brought to the City Council on August 23rd.	For the most part water appears to be contained within the existing drainage & utility easement. Awaiting Council direction on how to respond to attached resident request.
5907 151st Lane	Chris & Karla Weiss	Standing water in rear yard pond and drainage & utility easement. Concerned water would continue to rise into home.	Staff will need to perform field surveying to verify house and overflow elevations, as it appears the structure was built lower than proposed.	Clean overland overflow area to provide 1' of freeboard from lowest opening.
7030 151st Avenue	Penny Laganieri	Concerned that ditch across the street was filled and now water flows over the road through their property causing erosion. Also has water in rear yard adjacent to ponding area.	Appears water was slightly outside of drainage & utility easement. Verified downstream culverts were open & flowing.	This area is adjacent to the park and was constructed over wetland fill. Water table too high in area.
17640 Cobalt Street		Contacted regarding standing water in the front yard and encroaching onto the roadway.	Staff cleaned the culvert in the area, which was old and slightly deteriorated	Consider replacing culvert with future street maintenance activities in the area.
163rd Avenue & Variolite Street		Water standing in ditch		Evaluate & review existing culvert crossing for possible corrective action.
5810 164th Lane		Water standing in front yard, and encroaching on the roadway.	Low point in ditch along roadway. Staff pumped water over road to existing drainage & utility easement on north side of road.	Install culvert under roadway.
175th Avenue (W. of Nowthen Blvd.)		High water in pond to the south overflows the road to a pond on north side; no culvert crossing under road.	Staff pumped water over road in short term to keep travel lanes open.	Investigate County design of improvements, prior to turn back, to determine whether a culvert was supposed to be installed. If not, install a culvert under the road.
14580 Junkite Street	Molly Bauch	Standing water in rear yard pond and drainage & utility easement. Concerned water would continue to rise into home.	Overland overflow from original grading plan not executed; the trail installation was too high & does not allow for overland flow to the adjacent wetland in the park. Staff initially pumped water over the trail and advised resident we would consider a storm sewer improvement to place a culvert under the trail and/or lower the trail to provide the overland relief as designed.	Install culvert under trail and/or lower trail to provide 1' of freeboard from lowest opening.
6310 163rd Lane		Contacted regarding standing water in the front yard and encroaching onto the roadway.	Staff cleaned the culvert in the area, which was old and extremely deteriorated	Replace existing culvert under roadway

# DRAINAGE CONCERNS PW 8-15-11

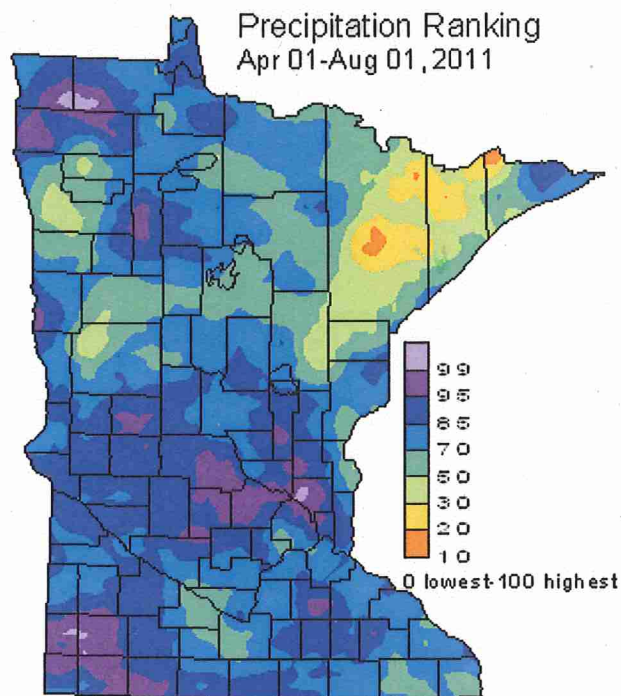




DNR EcoWat - State Climatology Office, 08-01-2011



DNR EcoWat - State Climatology Office, 08-01-2011



DNR EcoWat - State Climatology Office, 08-01-2011

Ranking maps explained



[Return to Minnesota Climatology Working Group Main Page](#)

Comments/Questions

URL: [http://climate.umn.edu/doc/weekmap/weekmap\\_110725.htm](http://climate.umn.edu/doc/weekmap/weekmap_110725.htm)

Last modified: August 1, 2011

**Public Works Committee**

**5. 3.**

**Meeting Date:** 08/15/2011

**By:** Tim Himmer, Engineering/Public Works

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**Title:**

Discuss Grading Permit Requirements

**Background:**

Section 117-359 of City code deals with grading, mining and filling permits (see attached). Currently the City requires an interim use permit (IUP) for all grading activities within the City that:

1. are not part of a larger development scenario/permit
2. are incidental to a public construction project
3. cut more than 3', or fill more than 2' on an individual residential lot
4. excavate more than 400 CY of soil

From time to time staff receive requests from property owners that would like to fill a low spot, excavate a pond, or reshape their property. While these scenarios may trigger the need for an interim use permit, are they severe enough to cause them to go through the public process and provide the information required in code? Permit submittals include items such as securities/escrows, topographic surveys, grading and erosion control plans, dust and noise control plans, restoration plan, analysis of earth materials to be used, insurance, etc. These requirements could be onerous on the property owner and result in the work taking place without City knowledge, or deter the work from being performed at all. There are also situations where a developer could request a grading permit in advance of the overall site improvements to get a jump start on the project or defer some costs to subsequent years.

We currently do not have a process in place to address these types of situations, so staff is looking for input from the Council on whether there should be a separate process to address these types of scenarios.

**Notification:**

**Observations:**

Appendix E of the State Building Code (attached) addresses grading, and provides the information required for such permitting. To date the City has not adopted this appendix, so we are currently not operating under these standards.

Also attached is information obtained from the City of Maple Grove, which outlines their process for administering grading permits. As you can see the fees appear to be minimal, but there are requirements for topographical submittals.

The City could also chose to process a grading permit administratively under a site/building permit but we would then have to develop the process and standards to abide by; which would include required submittals, fees, securities, etc. This could be accomplished with a nominal application fee and then establishment of an escrow (similar to an IUP). The review and inspection charges would be for actual time spent administering the permit only, and all remaining funds would be returned to the applicant.

**Funding Source:**

Funding for development of a grading permit process would be handled with staff time.

**Staff Recommendation:**

Staff recommends the institution of an administrative permit process. We are looking for input from the Council on fee structure and submittal requirements.

Committee Action:

Motion to institute an administrative grading permit process.

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Attachments

Section 117-359 of City Code

State Building Code Appendix E

Maple Grove Requirements

Form Review

<b>Inbox</b>	<b>Reviewed By</b>	<b>Date</b>
Brian Olson	Brian Olson	08/11/2011 11:36 AM
Kurt Ulrich	Kurt Ulrich	08/11/2011 03:44 PM
Form Started By: Tim Himmer		Started On: 08/10/2011 11:04 AM

Final Approval Date: 08/11/2011

### Sec. 117-359. - Grading, mining and filling permits.

- (a) *Purpose.* The purpose of this section is to safeguard life, limb, property and the public welfare by controlling grading, mining, and filling operations so as to minimize conflicts with adjacent land uses, to preserve good soils and to regulate the type of materials used in filling operations, and to ensure that disturbed areas are restored upon completion of the operation.
- (b) *Scope.* This section sets forth rules and regulations to control grading, mining, excavation, and earthwork construction including fills and embankments, establish the administrative procedure for issuance of permits, and provides for approval of plans and inspection of grading construction.
- (c) *Exceptions.* This section shall not apply to:
- (1) The excavation, removal, or storage of rock, sand, dirt, gravel, clay, black dirt, peat, or other like material for the purpose of compliance with a grading plan approved as part of a subdivision plat, site plan, or planned unit development, if said plat, site plan or planned unit development does not require the exporting of earth material, or for the purpose of the yard, foundation, or basement of a building in the process of being erected, built, or placed thereon contemporaneously with, or immediately following, such excavation, removal or storage.
  - (2) The excavation, removal, or storage of rock, sand, dirt, gravel, clay, black dirt, peat, or other like material by a public agency incidental to the construction or maintenance of streets or utilities.
  - (3) Grading of individual residential lots by less than three feet in depth, filling of less than two feet at any point and which does not interfere with surface drainage in the area.
  - (4) Excavations that require removal of less than 400 cubic yards of earth material.
- (d) *Administration.*
- (1) An interim use permit shall be required for all grading, mining and filling operations as required herein. Said permit shall be applied for pursuant to section 117-52 and issued for a maximum period of three years, after which a permit renewal is required. Permit renewal requests shall be processed as an original request for an interim use permit.
  - (2) The following operations shall be covered by this section: the removal, crushing, borrowing, filling and excavation of earth material.
  - (3) The costs to the city of the continuous administration of any interim use permit issued herein shall be paid by the permit holder. In order to insure payment, the operator shall deposit with the city an escrow sum in an amount specified by the city engineer. Said escrow deposit will then be used to defray the city's expenses in the continuing administration of the interim use permit. In the event the escrow fund is not properly funded, as described in this subsection (d)(3), the operator shall cease and further operations and the interim use permit will be deemed suspended until the proper sums have been deposited into the escrow fund. These costs are in addition to any security requirements of the interim use permit.
  - (4) Application for the interim use permit shall be made in writing to the council on such form as the council may from time to time designate, and shall include the following information:
    - a. Names and address of the applicant, operator and owner of the land.
    - b. The purpose of the permit.
    - c. The exact legal description and acreage of the property to be graded, mined or filled.
    - d. The following maps of the entire work site and including all areas within 350 feet of the work site. All maps shall be drawn at a scale of one inch to 100 feet unless otherwise stated below:
      1. Map 1: existing work site conditions to include:
        - (i) Contour map (two-foot intervals);
        - (ii) Existing vegetation;
        - (iii) Existing drainage and permanent water areas;
        - (iv) Existing structures;
        - (v) Existing wells; and
        - (vi) Water table elevations.
      2. Map 2: proposed operations to include:
        - (i) Location of work sites to be graded, mined or filled showing elevations of each stage of proposed operations;
        - (ii) Location of storage of mined materials, showing maximum height of storage deposits;
        - (iii) Location of vehicle parking, and access roads;
        - (iv) Location and description of erosion and sediment control structures;
        - (v) Location of any proposed dewatering operations.
      3. Map 3: end use plan to include:
        - (i) Final grade of proposed work site showing elevations and contour lines at two-foot intervals;
        - (ii) Location and species of vegetation to be planted;
        - (iii) Phasing plan; and
        - (iv) Stormwater drainage plan.
      4. Map 4: location of designated hauling roads from work site to a state or federal highway.
    - e. A soil erosion and sediment control plan.
    - f. A plan for dust and noise control.
    - g. A full and adequate description of all phases of the proposed operation to include an estimate of duration of the grading, mining or filling operation, location and approximate acreage of each stage and schedule for restoration.

- h. A rehabilitation or restoration plan providing for the orderly and continuing rehabilitation of all excavated land. Such plan shall illustrate, using appropriate photographs, maps, and surveys drawn to a scale of one inch equals 100 feet and with a two-foot contour interval satisfactory to the engineer, the following:
    - 1. The final or planned contours of the land when the mineral removal operations are completed.
    - 2. Those areas of the work site that will be used for storage of top soil and overburden.
    - 3. The elevation and location of all water bodies.
  - i. Location of any and all existing wells and the size and depth thereof located on the work site.
  - j. Location and description of any proposed dewatering operations.
  - k. An analysis of the earth material to be used in the filling, which analysis shall include the following:
    - 1. pH content.
    - 2. Organic material content.
    - 3. Determination of the presence or lack of hazardous substances as defined by the Minnesota Pollution Control Agency.
  - l. The analysis as required herein shall be certified by a qualified testing laboratory.
  - m. Any other information requested by the city staff, planning commission or council.
- (e) *Performance standards.*
- (1) *General provisions.*
    - a. Weeds and other unsightly or noxious vegetation shall be cut or trimmed as may be necessary to preserve a reasonably neat appearance of the work site and to minimize seeding on adjacent property.
    - b. All equipment used for grading mining or filling operations shall be maintained and operated in such a manner as to minimize, as far is practicable, noises, dust and vibrations adversely affecting surrounding properties. In addition, all machinery shall be kept in good repair and painted regularly. Abandoned machinery and rubbish shall be removed from the work site regularly.
    - c. All hauling operations shall be completed so as to minimize noise, safety and dust concerns to adjacent residential properties.
    - d. All grading, mining and filling work sites shall be properly safeguarded to prevent the general public from depositing garbage or other refuse in the work site.
    - e. All structures that are not being used shall be removed from the work site.
    - f. Existing tree and ground cover shall be preserved to the extent feasible, maintained and supplemented by selective cutting, transplanting and replanting of trees, shrubs and other ground cover along all setback areas.
  - (2) *Water resources.*
    - a. The grading, mining or filling operation shall be conducted in such a manner as to minimize interference with the surface water drainage outside of the boundaries of the operation.
    - b. Excavation occurring below groundwater elevation may require an analysis performed by a hydrologist or other qualified professional. Such analysis shall address whether the proposed excavation shall have a significant impact on the adjacent groundwater quantity and quality. In general, excavations less than 15 acres shall be exempt from this requirement unless there is evidence of clay lenses or perched water table adjacent to the excavation, in which case some analysis may be required.
  - (3) *Safety fencing.* Safety fencing may be required around all or portions of the grading, mining or filling operation at the discretion of the council. Fencing may be ordered by the council or city engineer any time the permit is in force and shall be installed within 24 hours' written notice.
  - (4) *Access roads.*
    - a. The location of the intersection of mining, grading or filling access roads with any public roads shall be selected such that traffic on the access roads will have sufficient distance of public roads in view so that any turns onto the public road can be completed with a margin of safety as determined by the city engineer.
    - b. All access roads from grading, mining or filling operations to public highways, roads or streets shall be maintained in order to minimize dust considerations.
  - (5) *Fill materials.* An analysis of all fill materials must be provided to and approved by the city engineer prior to commencing any filling activities. No filling materials shall be permitted which in the opinion of the city engineer would be undevelopable or create substandard soils.
  - (6) *Screening barrier.* To minimize problems of dust and noise and to shield operations from public view, a screening barrier may be required between the work site and adjacent properties. A screening barrier may also be required between the work site and any public roads located within 500 feet of any grading, mining or filling operations. The screening barrier shall be planted with a species of fast growing trees, and where practical, stockpiles of overburden materials shall be used to screen the operation work site.
  - (7) *Slopes.* The maximum permitted slope for any grading, mining or filling operation other than the working face shall be sloped on all sides at a maximum ratio of two feet horizontal to one foot vertical, unless a steeper slope shall be approved by the engineer. In no case shall the slope of the working face of the operation be left unattended with a slope greater than two feet horizontal to one foot vertical. Where excavations are adjacent to a public roadway or other right-of-way, the excavation shall have a maximum four to one slope. Slopes adjacent to or contiguous to bodies of water shall be sloped at a maximum of five to one.
  - (8) *Setback.* Grading, mining or filling operation shall not be conducted closer than 30 feet to the right-of-way line of any existing or platted street, road or highway, except that excavating may be conducted within such limits in order to reduce or raise the elevation thereof in conformity to the existing or platted street, road or highway.
  - (9) *Security agreement.* Prior to commencing any grading, mining or filling operations, a performance bond, cash escrow or irrevocable letter of credit, in such form and amounts as the city may require, shall be deposited with the city. The amount of

this deposit shall vary according to the scope and duration of the project and shall be established by the council. This deposit may be used by the city to: pay for the cost and expense of repairing any public rights-of-way due to the grading, mining or filling operation; pay for any costs associated in administering the requirements of this chapter; and to pay for any restoration of the work site not properly restored upon completion. This security shall be used by the city only in the event that the permit holder fails to pay bills submitted for costs incurred by the city.

- (10) *Earth material.* No earth material shall be imported to or exported from the work site until the haul road has been officially designated as a haul road by the city and all materials hauled from the source shall be hauled over that road. The haul road designation process shall be pursuant to section 2051.3 of the state department of transportation's Standard Specifications for Construction, 1983 Edition.
- (f) *Insurance.* The applicant shall file with the administrator a liability insurance policy or certificate of such insurance acceptable to the city and issued by an insurance company authorized to do business in the state.
- (1) The policy shall be an all-perils or general liability insurance policy in the minimum amount of \$1,000,000.00. The policy shall name the city as an additional insured. The policy shall require that the city be notified 30 days in advance of cancellation of the policy.
  - (2) Said policy shall be for the full period of the permit and shall provide for the giving of ten days prior notice to the administrator by registered mail of termination, cancellation, or amendment of the policy.
  - (3) In the event said policy is terminated for any reason, the permit shall be automatically suspended upon the day the policy terminates, unless a new policy complying with this section is obtained and filed with the administrator prior to the termination of the policy in force.
- (g) *Regulations and requirements and operating standards.*
- (1) The council as a pre-requisite to the granting of said permit or after such permit has been granted, may impose such further restrictions and requirements as may be reasonable and necessary under the particular circumstances of each application. Such restrictions and requirements may be in contract form with the applicant or any other person interested directly or indirectly in the issuance of such permit.
  - (2) No excavation or digging shall be made beyond the limits for which the particular permit is granted and in no case shall any excavation or digging be made within 30 feet of any adjoining road right-of-way or structure as may be in the area without obtaining specific approval by the council.
  - (3) Where excavations are made within 30 feet of a public roadway or other right-of-way, the permittee shall erect either a suitable guard rail along said right-of-way or roadway or construct a dirt berm not less than 30 inches in height and six feet in width at the base.
  - (4) All reasonable means shall be employed by applicant to reduce dust, noise and nuisances.
  - (5) *Noise.* The maximum noise level at the perimeter of the work site shall be within the limits set by the Minnesota Pollution Control Agency and the Environmental Protection Agency of the United States.
  - (6) *Hours.* All mining operations shall be conducted between 7:00 a.m. and 8:00 p.m. on weekdays only unless otherwise specifically approved by the city engineer or their agent.
  - (7) *Explosives.* The use and handling of explosives shall be coordinated with the city police department. Blasting shall occur only at hours specified by the police department and at no other time.
  - (8) *Dust.* Operators shall utilize all practical means to reduce the amount of dust caused by the operation. In no case shall the amount of dust or other particulate matter exceed the standards established by the MPCA. No operations shall be allowed when wind gusts exceed 30 miles per hour.
  - (9) *Water pollution.* Operators shall comply with all applicable Minnesota Pollution Control Agency regulations and federal and Environmental Protection Agency regulations for the protection of water quality. No waste products or process residue, including untreated washwater, shall be deposited in any lake, or natural drainage system, except that lakes or ponds wholly contained within the extraction site may be so utilized.
  - (10) *Top soil preservation.* All top soil shall be retained at the work site until complete rehabilitation of the work site has taken place according to the rehabilitation plan.
  - (11) *Designated haul routes* shall be maintained by the operator in accordance with state department of transportation's Specification 2051.4 as found in the state department of transportation Standard Specifications for Construction, 1983 Edition.
- (h) *Dangerous operations.* The operators shall change, alter or modify immediately any excavation or operation therein deemed by the council to be unsanitary or dangerous or polluted or contrary to the general health and welfare of the community.
- (i) *Designation of haul roads and traffic law compliance.* Material of the kinds and for the purposes described herein shall not be hauled from any source until the haul road from that source has been officially designated as a haul road and all materials hauled from the source shall be hauled over that road.
- (1) The operator shall select a haul road over which it is proposed to haul the materials, as previously described, and notify the city engineer as to the road so selected. Within 15 calendar days after being notified of the haul road selection, the city engineer will, if the road so selected is a practicable route, approve that road as a designated haul road.
  - (2) After a haul road has been officially designated, the operator may select a different road for official designation under the same conditions as previously stated. However, any changes made in haul road designation shall not relieve the operator of their obligation of restoring the previously designated haul road if any of the above-described materials were hauled over that road.
  - (3) While hauling operations are in progress, the operator shall maintain the haul road in a condition satisfactory to the city engineer. This work shall include application of water, bituminous material, or calcium chloride to the road surface as may be necessary to alleviate dust nuisance and eliminate traffic hazards. This work shall also include the removal of spillage of any material on the haul road.
  - (4) When hauling operations over any haul road are completed, the operator shall (at their option):
    - a. Restore that haul road to a condition at least equal to that which existed at the time the hauling operations were started; or

- b. Compensate the local road authority in an amount satisfactory to that road authority and concurred in by the city engineer for the restoration of that haul road by the city.
- (5) The fact that other traffic has used the haul road concurrently with the hauling of the above-described materials shall not relieve the operator of their obligation to maintain and restore the haul road as above provided.
- (6) The city engineer's determination as to the kind and amount of maintenance and restoration work required to restore the haul road to a condition equal to that which existed at the time the hauling operations were started shall be final, binding and conclusive.
- (7) When hauling over any designated haul road has been completed and the operator has restored that road or has compensated for that restoration as required, the city engineer will accept such restoration or concur in such financial settlement for the restoration of the haul road (as the case may be) in writing, and such acceptance will relieve the operator of any additional obligation in connection with the restoration of that road.
- (8) If the operator fails or refuses to perform haul road restoration or to make satisfactory financial settlement for such restoration as required within the period specified in a written notice by the city engineer, the city will cause the restoration work to be done and require reimbursement therefor from the operator's surety.
- (9) Operators shall obey all state, county and municipal road limits and other applicable traffic regulations in hauling to and from the work site. Operators shall also restrict trucks hauling to and from the work site to the use of those public highways designated by the permit.
- (j) *Site restoration.* All grading, mining and filling sites shall be restored immediately after operations cease. Restoration shall be complete within 60 days of the cessation of operations. The following standards shall apply to restoration:
- (1) The peaks and depressions of the work site shall be graded and backfilled to a surface which will result in a gently rolling topography in substantial conformity to the land area immediately surrounding the work site and which will minimize erosion due to rainfall. No finished slope shall exceed 12 percent in grade.
- (2) Restoration shall begin after the grading, mining and/or filling of 25 percent of the total area to be mined or five acres, whichever is less. Once these areas have been graded, mined or filled, they shall be sloped and seeded as per the restoration plan.
- (3) Restored areas shall be surfaced with a soil of a quality at least equal to the topsoil of land areas immediately surrounding the work site, and to a depth of at least six inches. The topsoil shall be seeded, sodded, or planted with grasses. Trees and shrubs may also be planted but not as a substitute for grasses. Such planting shall adequately retard soil erosion.
- (4) The finished grade shall be such that it will not adversely affect the surrounding land or future development of the work site and shall be consistent with the end use plan.
- (5) Within 30 days after the deposit of approved fill materials, the filled area shall be covered with a minimum of six inches clean fill, and the depth of the fill shall be controlled to blend with the surrounding ground conditions.
- (k) *Existing operations.* Existing grading, mining and filling operations shall comply with these provisions within 180 days following the effective date of the ordinance from which this subsection is derived.
- (Code 1978, § 9.11.12; Ord. No. 87-9, 1-11-1988; Ord. No. 97-15, 12-1-1997; Ord. No. 01-15, 7-30-2001; Ord. No. 03-30, 9-15-2003)

## APPENDIX E

# GRADING

*The provisions contained in this appendix are from Appendix J of the 2006 IBC and not mandatory unless specifically referenced in the adopting ordinance.*

### SECTION J101 GENERAL

**J101.1 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.

**J101.2 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 or in flood hazard areas where design flood elevations are specified but floodways have not been designated, unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed work will not result in any increase in the level of the base flood.

### SECTION J102 DEFINITIONS

**J102.1 Definitions.** For the purposes 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.** The 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 J103 PERMITS REQUIRED

**J103.1 Permits required.** Except as exempted in Section J103.2, no grading shall be performed without first having obtained a permit therefor from the building official. A grading permit does not include the construction of retaining walls or other structures.

**J103.2 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.

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 J104  
PERMIT APPLICATION AND SUBMITTALS**

**J104.1 Submittal requirements.** In addition to the provisions of Section 105.3, the applicant shall state the estimated quantities of excavation and fill.

**J104.2 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.

**J104.3 Soils report.** A soils report prepared by registered design professionals shall be provided which 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.

**J104.4 Liquefaction study.** For sites with mapped maximum considered earthquake spectral response accelerations at short periods ( $S_s$ ) greater than 0.5g as determined by Section 1613, 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 J105  
INSPECTIONS**

**J105.1 General.** Inspections shall be governed by Section 109 of this code.

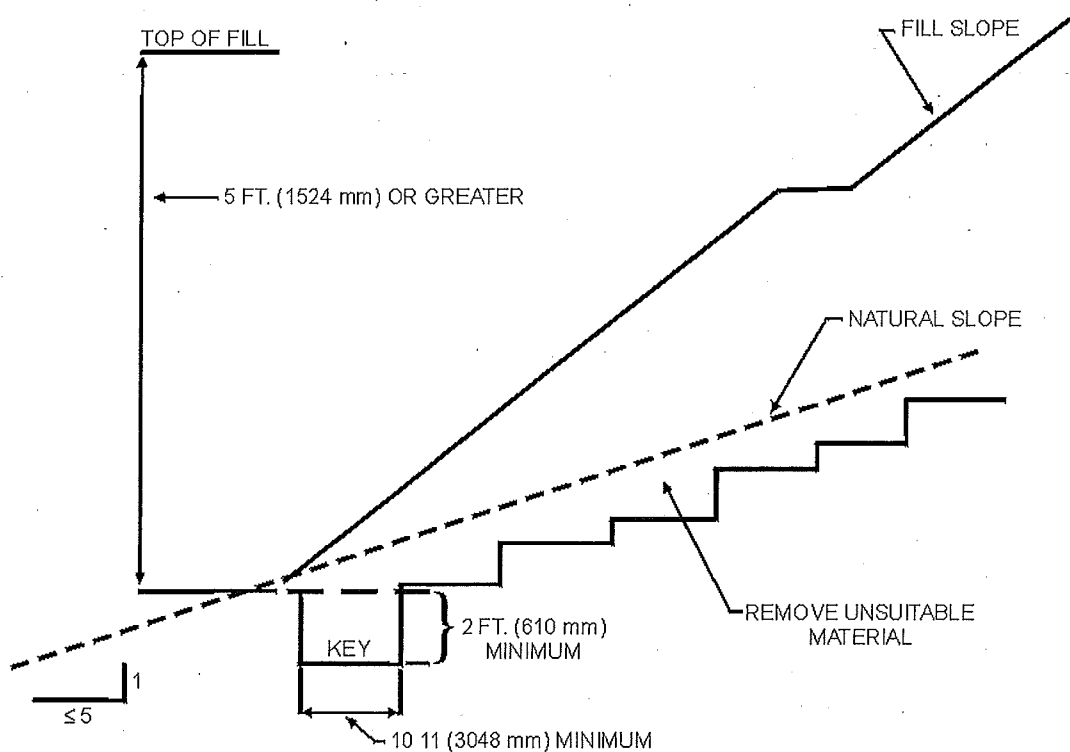
**J105.2 Special inspections.** The special inspection requirements of Section 1704.7 shall apply to work performed under a grading permit where required by the building official.

**SECTION J106  
EXCAVATIONS**

**J106.1 Maximum slope.** The slope of cut surfaces shall be no steeper than is safe for the intended use, and shall be no steeper than 2 horizontal to 1 vertical (50 percent) unless the applicant furnishes a soils report justifying a steeper slope.

**Exceptions:**

1. A cut surface may be at a slope of 1.5 horizontal to 1 vertical (67 percent) 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.



For SI: 1 foot = 304.8 mm.

**FIGURE J107.3  
BENCHING DETAILS**

- 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 1 horizontal to 1 vertical (100 percent).

### SECTION J107 FILLS

**J107.1 General.** Unless otherwise recommended in the soils report, fills shall conform to provisions of this section.

**J107.2 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.

**J107.3 Benching.** Where existing grade is at a slope steeper than 5 horizontal to 1 vertical (20 percent) and the depth of the fill exceeds 5 feet (1524 mm) benching shall be provided in accordance with Figure J107.3. A key shall be provided which is at least 10 feet (3048 mm) in width and 2 feet (610 mm) in depth.

**J107.4 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.

**J107.5 Compaction.** All fill material shall be compacted to 90 percent of maximum density as determined by ASTM D 1557, Modified Proctor, in lifts not exceeding 12 inches (305 mm) in depth.

**J107.6 Maximum slope.** The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes steeper than 2 horizontal to 1 vertical (50 percent) shall be justified by soils reports or engineering data.

### SECTION J108 SETBACKS

**J108.1 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 J108.1, unless substantiating data is submitted justifying reduced setbacks.

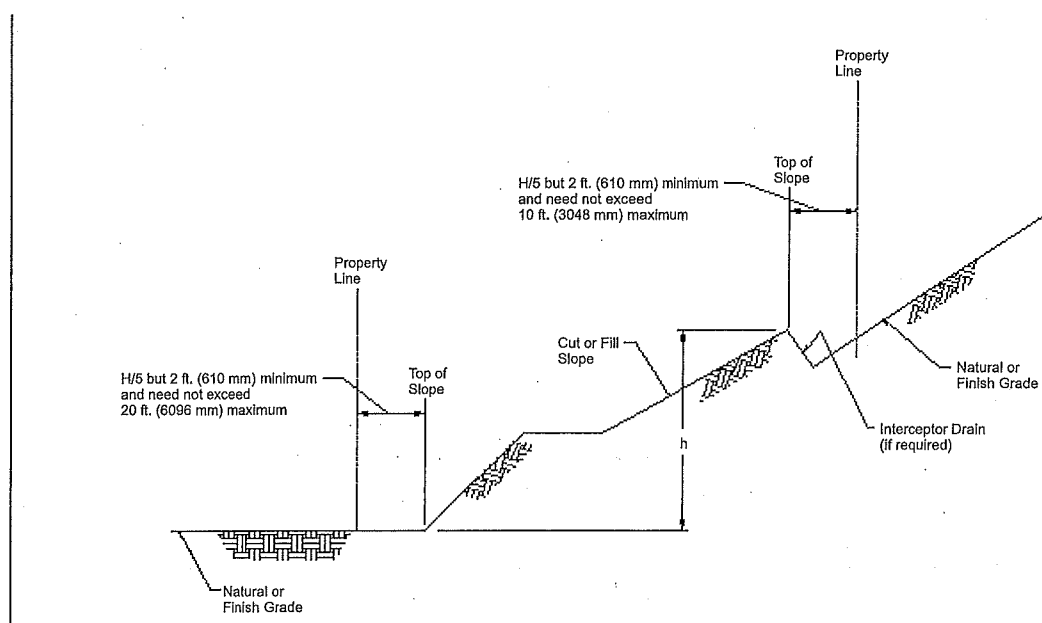
**J108.2 Top of slope.** The setback at the top of a cut slope shall not be less than that shown in Figure J108.1, or than is required to accommodate any required interceptor drains, whichever is greater.

**J108.3 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 but shall not be limited to:

1. Setbacks greater than those required by Figure J108.1.
2. Provisions for retaining walls or similar construction.
3. Erosion protection of the fill slopes.
4. Provision for the control of surface waters.

### SECTION J109 DRAINAGE AND TERRACING

**J109.1 General.** Unless otherwise recommended by a registered design professional, drainage facilities and terracing shall be provided in accordance with the requirements of this section.



For SI: 1 foot = 304.8 mm.

FIGURE J108.1  
DRAINAGE DIMENSIONS

**Exception:** Drainage facilities and terracing need not be provided where the ground slope is not steeper than 3 horizontal to 1 vertical (33 percent).

**J109.2 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 20 horizontal to 1 vertical (5 percent) 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.

**J109.3 Interceptor drains.** Interceptor drains shall be installed along the top of cut slopes receiving drainage from a tributary width greater than 40 feet (12 192 mm), measured 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 50 horizontal to 1 vertical (2 percent). The drain shall be paved with concrete not less than 3 inches (76 mm) in thickness, or by other 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.

**J109.4 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 J110 EROSION CONTROL

**J110.1 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 due 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.

**J110.2 Other devices.** Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

## SECTION J111 REFERENCED STANDARDS

ASTM D 1557-e01	Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort [56,000 ft-lb/ft <sup>3</sup> (2,700kN-m/m <sup>3</sup> )].	J107.6
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**Grading Fees (City Code Sec. 16-179)**

Grading fees will be based on area disturbed and volume disturbed. Volume disturbed includes fill hauled into the site or excavated material within permit area or combination of both. The grading fees are shown in the following subdivisions:

**(1) Grading plan review fees.**

50 cubic yards to 100 cubic yards	\$50.00
101 to 1,000 cubic yards	\$50.00 for first 100 cubic yards plus \$50.00 for each additional 100 cubic yards or fraction thereof
1,001 to 10,000 cubic yards	\$500.00 for first 1,000 cubic yards plus \$40.00 for each additional 1,000 cubic yards or fraction thereof
10,001 to 100,000 cubic yards	\$860.00 for first 10,000 cubic yards plus \$50.00 for each additional 10,000 cubic yards or fraction thereof
100,001 to 200,000 cubic yards	\$1,310.00 for first 100,000 cubic yards plus \$30.00 for each additional 10,000 cubic yards or fraction thereof
200,001 cubic yards or more	\$1,580.00 for first 200,000 cubic yards plus \$10.00 for each additional 10,000 cubic yards or fraction thereof

**(2) Grading permit fees.**

a. Fees for grading permit application based on disturbed areas.

Less than one acre	\$60.00
One acre to 10 acres	\$60.00 for first acre plus \$60.00 for each additional acre or fraction thereof
10.1 to 100 acres	\$600.00 for first 10 acres plus \$30.00 for each additional 10 acres or fraction thereof
Greater than 100 acres	\$870.00 for first 100 acres plus \$10.00 for each additional 100 acres or fraction thereof

b. Fees for grading permits based on volume.

50 cubic yards to 100 cubic yards	\$0.00
101 to 1,000 cubic yards	\$75.00 for first 100 cubic yards plus \$65.00 per each additional 100 cubic yards or fraction thereof
1,001 to 10,000 cubic yards	\$660.00 for first 100 cubic yards plus \$60.00 per each additional 1,000 cubic yards or fraction thereof
10,001 to 100,000 cubic yards	\$1,200.00 for first 10,000 cubic yards plus \$50.00 per each additional 10,000 cubic yards or fraction thereof
100,001 cubic yards or more	\$1,650 for first 100,000 cubic yards plus \$25.00 per each additional 10,000 cubic yards or fraction thereof

**Total Grading Permit Fee = Plan Review Fee (1) + Permit Fee (2a. area) + Permit Fee (2b. volume)**

- c. No permits or fees are required for grading volumes less than 50 cubic yards.
- d. Changes to a grading plan after a permit is issued will require the applicant to submit the revised plan for review and an additional fee may be required if additional excavation is proposed. The fee collected will be the difference between the revised total permit costs and the original fee amount.

**APPLICATION FOR GRADING PERMIT**

STATE OF MINNESOTA

COUNTY OF HENNEPIN

To the City Council of the City of Maple Grove in Said County and State:

The undersigned hereby applies for a Permit to grade for the purpose of \_\_\_\_\_  
(grading/excavating/stockpiling) in the City of Maple Grove in said County and State for the term  
of \_\_\_\_\_ months from the date hereof, subject to the laws of Minnesota and the Ordinances of  
said City; and herewith tenders \$ \_\_\_\_\_ as the Permit Fee therefore.

See attached fee schedule.

APPLICANT and/or COMPANY \_\_\_\_\_

Address \_\_\_\_\_

Contact Name \_\_\_\_\_ Phone No. \_\_\_\_\_

Location of the Grading \_\_\_\_\_

Purpose of the Grading \_\_\_\_\_

Cubic Yards of Material to be Graded (sum of cut and fill) \_\_\_\_\_

Acres of Area to be Graded \_\_\_\_\_

**INFORMATION FOR APPLICANT:**

Applicant shall submit plans indicating the existing and proposed elevations of the site as well as  
the source and disposal areas of borrow or fill.

Sureties in the amount of \$ \_\_\_\_\_ required.\*

\* Amount and type of sureties to be determined by the City of Maple Grove upon the completion  
of the review of the application. Sureties shall be submitted prior to issuance of a grading permit.

DATED \_\_\_\_\_ 20\_\_\_\_ Signature of Applicant: \_\_\_\_\_

For fee information,  
see: <http://www.ci.maple-grove.mn.us/content/229/479/2644.aspx>

## Site Map and Grading Plan Requirements

The site map and grading plan shall contain all the following information. Specifications shall contain information covering construction and material requirements.

- 1) Existing and proposed topography of the site taken at a contour interval sufficiently detailed to define the topography over the entire site. Ninety percent of the contours shall be accurate within one-half contour interval of the true location.
- 2) Contour lines that extend a minimum of 100 feet off the site, or sufficient to show on- and off-site drainage.
- 3) The site's property lines shown in true location with respect to the plan's topographic information.
- 4) Spot elevations for proposed:
  - a) Lot corners;
  - b) Side yard critical break points where water flows to either front or back of property;
  - c) Arrows indicating direction of flow where slopes are flatter than 2.5%;
  - d) Emergency Overflows (EOFs) for:
    - i) Pond overflow;
    - ii) Street and cul-de-sac overflow;
    - iii) Landscaped basins (typically rear yard basins with a catch basin);
    - iv) Impounded swales that depend upon a storm conveyance system (i.e. pipe or sewer) for drainage;
  - e) Inverts for all points where surface water enters a storm conveyance system;
  - f) Grade elevations at the front and back of each residential structure;
- 5) Elevations of adjacent structures that may be affected by site EOFs and drainage;
- 6) Normal water level and 100-year water level for all ponds and wetlands;
- 7) Location and elevation of floodplains on or within 100 feet of the subject property boundaries;
- 8) Location of wetland delineations;
- 9) Location of wetland and mitigation area buffer signs;
- 10) Label percent slopes of all driveways with a grade of 8 percent or more;
- 11) Location and graphic representation of all existing and proposed natural and manmade drainage facilities.
- 12) Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with or as a part of the proposed work, together with a map showing the drainage area and the estimated runoff of the area served by any drain.
- 13) Location and graphic representation of proposed excavations and fills, of on-site storage of soil and other earth material, and of on-site disposal.
- 14) Location of proposed final surface runoff and erosion and sediment control measures.
- 15) Quantity of soil or earth material in cubic yards to be excavated, filled, stored or otherwise utilized on-site.
- 16) Outline of the methods to be used in clearing vegetation, and in storing and disposing of the cleared vegetative matter.
- 17) Proposed sequence and schedule of excavation, filling and other land disturbing and filling activities, and soil or earth material storage and disposal.
- 18) Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within 50 feet of the property or those buildings or structures which may be affected by the proposed grading operations.

19) Locating of all best management practices (BMPs) including:

- a) Silt fence;
- b) Additional swale and slope breaks for controlling the energy of extended areas surface water flow;
- c) Temporary sedimentation ponds;
- d) Rock construction entrances with a note that acknowledges these features will be inspected daily and frequently maintained.
- e) Catch basin inserts (both street and yard)

**Minimum Specifications:**

- 1) Maximum grade is 4:1 (H:V).
- 2) Minimum grade is a continuous 2% (not averaged over any length of 10 feet or more).
- 3) Drainage paths should be aligned to property lines whenever possible, and must be located within drainage and utility easements.
- 4) Wetland and wetland buffers must be located within drainage and utility easements.