

**TOWNSHIP COOPERATIVE PLANNING ASSOCIATION -- GRADING PERMIT/EROSION CONTROL APPLICATION**

4111 11<sup>th</sup> Avenue SW Room 10  
Rochester, MN 55902

-- **TCPA** --

(507) 529-0774  
Fax: (507) 281-6821

TOWNSHIP: Kalmar

DATE: 8/11/21

Legal Property Description/Address: S/W 1/4 of Section 3, Twp. 107N, Range 15W

Property Owner/Address: Justin McNeilus

P.O. Box 3829 Telephone #: (507) 254-4473

Rochester, MN 55903

Engineer/Soils Scientist: G-Cubed Inc. Telephone#: (507) 867-1666

Excavator: TBD Telephone#: \_\_\_\_\_

Type of Request:  Grading Permit  Erosion Control Review

Request Description: This project is for the construction of a private residential driveway and water retention structure (pond) serving a new building site within the Moon River Valley.

Existing Use of Property: The property is currently used for row crop production.

Present Zoning Classification: A-2

Signature of Applicant Justin McNeilus Date 8/16/21

Filing Fee \$ 235.00, made payable to TCPA.

Surety in Place:   Surety Amount \_\_\_\_\_ Engineer's Estimate \$ \_\_\_\_\_

Reviewed by the Zoning Administrator on \_\_\_\_\_, to consider the above request.

Approved  Approved with Attached Conditions:

Signature \_\_\_\_\_

# TCPA Grading Plan Policy

If your grading project is disturbing more than 10,000 square feet, TCPA requires that you obtain a grading permit. Grading of less than 10,000 square feet requires a zoning certificate.

Additionally, if any of the below conditions exist, TCPA requires that a registered civil engineer prepare the grading plan and complete the grading plan checklist. **Any of the below also require you to reimburse the township for engineering fees associated with the review, approval and construction inspection of the grading project:**

- Any grading within public property (except driveway culverts)
- Any grading activity which disturbs more than 1 acre of land
- Any grading activity involving more than 10,000 cubic yards
- Any grading activity which alters the contours by more than 10 feet vertically

A grading plan must be deemed complete by TCPA staff before a preliminary plat application will be received.

Preliminary Plat submittal deadlines are 3 weeks prior to the next scheduled planning and zoning meeting.

A performance bond in the amount of 125% of the engineer's estimate is required for any work performed within public property and any storm water pond work performed within a storm water easement.

TCPA 2015 Schedule of engineering review fees:

Professional Engineer \$167.00/hour

Engineering Aid \$87.00/hour

Survey Crew \$201/hour

# TCPA GRADING PLAN CHECKLIST

-2015-

**KEY**

= Yes

= No

**Blank** = Not Applicable

**Project Name:** \_\_\_\_\_

**Township:** \_\_\_\_\_

**Prepared By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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

| GENERAL   |
|---|
| <input type="checkbox"/> NPDES permit and SWPPP referred to on plan   |
| <input type="checkbox"/> Completed TCPA grading permit application  |
| <input type="checkbox"/> 5 copies of signed grading submitted ( one copy directly to reviewing engineer)  |
| <input type="checkbox"/> Owner name and address shown on plan   |
| <input type="checkbox"/> Plan is 1"=50' or larger scale   |
| <input type="checkbox"/> North arrow shown on plan  |
| <input type="checkbox"/> Plan drawn in two-foot contours (solid lines)  |
| <input type="checkbox"/> Existing contours are labeled (dashed lines)   |
| <input type="checkbox"/> Directional arrows shown for proposed drainage   |
| <input type="checkbox"/> Details of terrain and drainage are provided for areas adjacent to proposed grading  |
| <input type="checkbox"/> Existing public and private utilities are shown  |
| <input type="checkbox"/> Boundaries of drainage areas shown (drainage report)   |
| <input type="checkbox"/> Soil types shown (drainage report)   |
| <input type="checkbox"/> Grading limits clearly shown on plan   |
| <input type="checkbox"/> All receiving waters, including wetlands, within 1/2 mile shown or identified on plan                                      |
| <input type="checkbox"/> Property limits are shown  |
| <input type="checkbox"/> Streets (existing and proposed) are labeled  |
| <input type="checkbox"/> Lot & Block or Section quadrant labeled on plan  |
| <input type="checkbox"/> Schedule of BMP installation shown   |
| <input type="checkbox"/> BMP details included on plan   |
| <input type="checkbox"/> County or MnDOT permit obtained for work in ROW  |
| <input type="checkbox"/> Any Township Board approval conditions are met   |
| SITE GRADING, SEDIMENT & EROSION CONTROL  |
| <input type="checkbox"/> Down-slope sediment control scheduled before grading   |
| <input type="checkbox"/> Adjacent property protected from drainage and sediment   |
| <input type="checkbox"/> Stabilized vehicle exits are provided  |
| <input type="checkbox"/> Silt fences are provided. "High flow, heavy duty" designated in concentrated areas   |
| <input type="checkbox"/> All storm inlets (existing & proposed) include temporary sediment control and remain in place until upstream stabilization |
| <input type="checkbox"/> Maximum unbroken slope 3:1 or steeper of 75 feet horizontal. Min. break of 8 feet horizontal.                              |

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| <input type="checkbox"/> Temporary stockpiles include additional silt fence or other sediment control   |
| <input type="checkbox"/> Percent of slope shown for streets & drainage swales   |
| <input type="checkbox"/> Proposed elevation of garage and lowest floor, ground at front and rear of buildings, along with structure type indicated on the plan.   |
| <input type="checkbox"/> Top of foundation min. 6" from ground  |
| <input type="checkbox"/> Grade 1' below top of foundation 10' from building   |
| <input type="checkbox"/> Lowest opening of buildings at least 1' above any overflow elevation, 2' above low road crossing, 2' above pond 100-yr water level and 1' above 100-yr flood elevation (FEMA or other approved)  |
| <input type="checkbox"/> Seeding schedule for areas within 200' of surface water within maximum time allowed shown on plan:<br><input type="checkbox"/> Steeper than 3:1 - 7 days<br><input type="checkbox"/> 10:1 to 3:1 - 14 days<br><input type="checkbox"/> Flatter than 10:1 - 21 days     |
| <input type="checkbox"/> Temporary or permanent cover is indicated for all disturbed areas. Temp. seeding specifies seed mix, including disk anchored mulch on all slopes >200' or >5%. Permanent cover specifies 4" min. topsoil, seed mix and disk anchored mulch, or 4" min. topsoil and sod |
| <input type="checkbox"/> Slopes steeper than 4:1 and 4:1 slopes longer than 30' are seeded and protected with erosion control blankets or sodded and staked. Blanket category specified per MnDOT 3885.1. Plan shows required blanket locations.  |
| <input type="checkbox"/> Statement that slopes steeper than 4:1 are stable from land-sliding and surface erosion. Geotechnical report for slopes > 3:1  |
| <input type="checkbox"/> For sites where temporary or permanent cover will not be complete by November 15, plan indicates adequate measures to control spring erosion & sedimentation   |
| <input type="checkbox"/> Minimum slope of drainage swales shall not be flatter than adjacent street profile, or 1% in all other locations without prior approval  |
| <input type="checkbox"/> Typical sections for roadways and drainage ditches shown on the plan   |

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| <input type="checkbox"/> Drainage easements are shown and labeled on the plan   |
| <input type="checkbox"/> Drainage easements are provided where concentrated flow is received from more than 1 adjacent lot. 100-yr max flow contained within easement.  |
| <input type="checkbox"/> Minimum drainage easements for flows from 1 acre or less or 4 lots or less are a min. of 15' wide. 4:1 side slopes on ditches.   |
| <input type="checkbox"/> Minimum drainage easements for flows from more than 1 acre or more than 4 lots are a min. of 20' wide. 4:1 side slopes on ditches.   |
| <input type="checkbox"/> Control elevations for drainage ways are provided  |
| <input type="checkbox"/> Velocity computations are provided for drainage easements where concentrated flow from more than 2 acres or 8 lots is directed. Where 10-yr velocities exceed 5 ft/sec, permanent turf reinforcement mats are installed. Blanket per MnDOT 3888.2A2 is specified. Plan depicts blanket locations and cross sections. |
| <input type="checkbox"/> Easement documents are signed and submitted to TCPA with recording fees, or included on plat   |
| <input type="checkbox"/> Ditches stabilized within 24 hours of connection to surface water outlet   |

**OUTLETS & ENERGY DISSIPATION**

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| <input type="checkbox"/> Discharge direction of flow generally 45 degrees or less to the flow direction of receiving ditch or stream                      |
| <input type="checkbox"/> Where discharge velocities are 10 fps or less, riprap and filter volumes are indicated in accordance with MnDOT Standard Plates. |
| <input type="checkbox"/> Where discharge velocities are greater than 10 fps, energy dissipater is provided along with riprap and filter.                  |
| <input type="checkbox"/> Pipe outlet energy dissipation complete within 24 hours of connection to surface water or outlet                                 |

**TEMPORARY SEDIMENT BASINS**

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| <input type="checkbox"/> Temporary sediment basins provided   |
| <input type="checkbox"/> Sized to store 2-yr, 24-hr storm from the drainage area below the outlet pipe (no smaller than 1800 cf/acre of drainage area), or  |
| <input type="checkbox"/> Sized at 3,600 cf/ acre or drainage area   |
| <input type="checkbox"/> Designed to minimize short-circuiting  |
| <input type="checkbox"/> Discharge of Floating debris prevented   |
| <input type="checkbox"/> Designed for full dewatering   |
| <input type="checkbox"/> Principal and emergency spillway designed per BMP storm frequency standards  |
| <input type="checkbox"/> Plan requires any temp. or permanent sediment ponds to be constructed at the beginning of construction   |
| <input type="checkbox"/> For areas draining less than 10 acres, alternative sediment control provided: <ul style="list-style-type: none"> <li><input type="checkbox"/> Multiple lines of silt fence</li> <li><input type="checkbox"/> Smaller basins</li> <li><input type="checkbox"/> Vegetative strips</li> </ul> |

**INLETS & OVERFLOWS**

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| <input type="checkbox"/> All apron elevations (inlets and outlets) are labeled. Area inlet elevations are labeled. Pipe sizes and materials are labeled. |
| <input type="checkbox"/> 400' max. manhole spacing for lines 15" dia or less   |
| <input type="checkbox"/> 500' max. manhole spacing for lines 18" to 30" dia.   |
| <input type="checkbox"/> Flow direction change no greater than 90 degrees  |
| <input type="checkbox"/> Apron inlets include trash racks  |
| <input type="checkbox"/> Trash racks on inlet structures in wooded areas designed assuming a minimum 50% plugging condition.                             |
| <input type="checkbox"/> Drainage does not cross intersections   |
| <input type="checkbox"/> Overflow swales are provided which limit the depth of ponding in the roadways to 2' or less                                     |
| <input type="checkbox"/> Minimum depth of road ditch = 3', with 4' bottom and 3:1 side slopes  |

**PERMANENT PONDS**

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| <input type="checkbox"/> Entire drainage area shown (drainage report)  |
| <input type="checkbox"/> Pond cross section included on plan   |
| <input type="checkbox"/> Where possible, locate inlet and outlets at opposite ends of ponds and provide forebay at inlet   |
| <input type="checkbox"/> 10:1 bench provided for first 1 foot below normal water elevation   |
| <input type="checkbox"/> 4:1 max slope from normal water elevation to 100-yr water elevation   |
| <input type="checkbox"/> 3:1 max slope below normal water elevation  |
| <input type="checkbox"/> Pond depth is 3 to 10 feet based on normal water level  |
| <input type="checkbox"/> Normal water elevation is labeled on the plan   |
| <input type="checkbox"/> 100-y high water level is labeled on the plan   |
| <input type="checkbox"/> Permanent pool volume of 1800 cf/acre drained   |
| <input type="checkbox"/> Water quality volume equal to 1/2 inch runoff over total impervious surface area at ultimate development                                |
| <input type="checkbox"/> Outlet sized to discharge no more than 5.66 cfs/acre of pond surface  |
| <input type="checkbox"/> Outlet designed to prevent short-circuiting and discharge of floating debris  |
| <input type="checkbox"/> Emergency overflow spillway is provided to accommodate 100-yr event. High point elevation and direction of flow are shown on the plans. |
| <input type="checkbox"/> Emergency overflow spillway is located to protect adjacent property and large fill sections   |
| <input type="checkbox"/> 100-yr runoff which is designed to flow to the pond does not bypass the pond; unmodeled 100-yr flow does not enter the pond             |
| <input type="checkbox"/> Minimum 10' width at top of dam ( if dam is <15' )  |
| <input type="checkbox"/> 12' wide access and turn-around area for maintenance vehicles is shown on a slope <15%  |
| <input type="checkbox"/> DNR Dam Safety Permit obtained if dam height is >6' and storage to top of dam is > 15 acre-ft.  |

**INFILTRATION/FILTRATION BASINS**

- Type(s) used:
  - Infiltration basins
  - Infiltration trenches
  - Rain gardens
  - Sand filters
  - Organic filters
  - Bioretention
  - Natural depressions (wetland not included)
  - Other \_\_\_\_\_
- Floating debris removed before infiltration system
- Site sensitivity analysis included
- Evaluation of hydrologic impact included
- Infiltration scheduled after full site development and stabilization
- Runoff routed away from infiltration system during construction
- Site controlled to minimize soil compaction
- Pretreatment sediment removal included
- Designed for 1 inch of runoff from total impervious surface areas for ultimate development within 48 hours
- System bypass for flows that cannot be filtered
- Minimum vertical separation of 3 feet between seasonal high ground water and bottom of infiltration system
- Minimum vertical separation of 3 feet between impermeable layer and bottom of infiltration system
- Soil test results, system capacity calculations, and computer modeling results provided (drainage report)
- Min. 10' width maintenance access provided
- Emergency overflow spillway provided and located to protect adjacent property and large fill sections

**DRAINAGE REPORT**

- Map of existing watersheds
- Map of proposed watersheds
- Soil type map
- Discussion of existing and proposed conditions
- Comparison of existing and proposed runoff. Proposed runoff shall not exceed existing runoff for the 2-yr, 10-yr and 100-yr storm events (Atlas 14 rainfall depth)
- Modeling calculations and results included
- Discharge and storage calculations for all stormwater ponds and infiltration basins
- Velocity computations for all pipe outlets
- Velocity computations for all drainage swales
- Culvert sizing calculations
- Storm sewer design calculations
- Calculations for compliance with NPDES requirements

**ON-SITE SEWAGE TREATMENT SYSTEMS**

- ISTS investigation submitted to TCPA
- ISTS areas shown on plan
- Grading does not extend into ISTS areas
- ISTS areas are protected from soil compaction
- Storm drainage is not directed over ISTS areas

**COMMENTS:**

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# TCPA GRADING PLAN APPROVAL

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**Project Name:** \_\_\_\_\_

**Township:** \_\_\_\_\_

**Prepared By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Firm:** \_\_\_\_\_

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

**Firm:** \_\_\_\_\_

**Approved By:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Firm:** \_\_\_\_\_

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**COMMENTS:**

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