



www.downers.us

**COMMUNITY RESPONSE
CENTER**

630.434.CALL (2255)

CIVIC CENTER

801 Burlington Avenue

Downers Grove

Illinois 60515-4776

630.434.5500

TDD 630.434.5511

FAX 630.434.5571

FIRE DEPARTMENT

ADMINISTRATION

5420 Main Street

Downers Grove

Illinois 60515-4834

630.434.5980

FAX 630.434.5998

POLICE DEPARTMENT

825 Burlington Avenue

Downers Grove

Illinois 60515-4783

630.434.5600

FAX 630.434.5690

PUBLIC WORKS

DEPARTMENT

5101 Walnut Avenue

Downers Grove

Illinois 60515-4074

630.434.5460

FAX 630.434.5495

DEPARTMENT OF

COUNSELING AND SOCIAL SERVICES

842 Curtiss Street

Downers Grove

Illinois 60515-4761

630.434.5595

FAX 630.434.5599

**Permit #11-STM-0002
Nelson Meadow Subdivision
April 20, 2011**

Joel Andersen
Andersen Homes, Ltd.
PO Box 845
Downers Grove, IL 60515

Staff has received and reviewed your permit submittal for a stormwater permit for the Nelson Meadow Subdivision located at the northeast corner of Brookbank Road and Jefferson Avenue. The following listed comments are omissions or deficiencies found in the submitted engineering plans for the above referenced Stormwater Permit Application. Please make all necessary changes to your next submittal to expedite the issuance of the building permit.

Planning

1. Prior to execution of the First Addendum to the Subdivision Improvement Agreement, a security in the amount of \$556,922.71 shall be provided for the cost of the public improvement and stormwater detention facilities in a manner acceptable to the Village Engineer.
2. The First Addendum to the Subdivision Improvement Agreement shall be executed and recorded prior to issuance of development permits.
3. Prior to the issuance of development permits, all school and park donations as required by original approval of the Nelson Meadow Subdivision (Resolution #2006-21). Donations are as follows:
 - a. School District 99 - \$6,897.60
 - b. School District 58 - \$11,091.08
 - c. Downers Grove Park District - \$22,708.01
4. A landscape plan for the east side of the detention basin on Lot 8 shall be provided pursuant to Section 16 of the Subdivision Improvement Agreement.
5. Prior to acceptance of the detention facility, the developer shall record a restrictive covenant on Lot 8 that identifies that the future owner of Lot 8 have the responsibility of maintaining the detention facility.

Engineering/ROW

1. A permit must be received from the Downers Grove Sanitary District for Phase I.
2. A new permits must be received by the Illinois Environmental Protection Agency (IEPA) prior to issuance of Village permits to install water mains for this project.
3. The following details shall be removed from the plan; driveway entrance, pcc sidewalk, water service, fire hydrant and valve, tree protection and straw bales. The following details shall be added: pvt-01, pvt-03, pvt-07, pvt-09, pvt-10, wtr-10, wtr-11, wtr-12, tre-01, swk-01, swk-02, swk-03 (attached).
4. The proposed drive approach locations on Carpenter shall be indicated on the plan.
5. An encroachment license will need to be filed with the Village of Downers Grove for the proposed wall in the ROW

6. Based on G/E elevations and roadway elevations it appears there are several driveways approaching 9%. The driveway slopes shall be reduced to 8% or less.
7. It appears that the sidewalk near Lot 9 is greater than the ADA requirement of 5%. Please revise the sidewalk design at this location.
8. The Final Plat of Subdivision provides a 3.5' easement for the sidewalk along Carpenter Street. Based on the design plans the sidewalk extends approximately 8.0' into Lots 9 & 10. Please revise the plans with to respect the sidewalk easement.
9. The plans should show the limits of roadway disturbance and how the roadway will be repaired for the proposed sanitary services along Carpenter Street.
10. The plans call out for an 8" water main connected to an existing 6" main. A valve vault should be provided at this location utilizing an 8"x8" tee with reducers.
11. The Village will not be able to maintain the proposed 8" water main located south of Lots 8 & 9 due to the steep side slopes. The applicant shall provide a 10' flat area centered on the main.
12. Tree protection shall be provided pursuant to Section 15 of the Subdivision Improvement Agreement. Specifically, the applicant shall meet with the Village Forester to discuss placement of silt fence and construction fence prior to installation.
13. Plans indicate that the Village will plant parkway trees. If the Village is to plant the trees, the developer shall provide contributions for the trees necessary for Phase I prior to the issuance of the development permit.
14. All notes regarding the tracking of mud and dirt from the project onto Village roadways shall include removal "at the end of the day or more frequently as may be required."
15. There did not appear to be watering provisions for Dust Control and Limited hours of operation.
16. The setback distance for the light poles along Carpenter Street is not specified. A minimum of 3 feet is recommended, however, this might also conflict with the slope of the ditch. An additional cross section may need to be provided at each light pole.
17. Comments on the General Utility Notes (Sheet 9):
 - a. General Note 7 revise to refer to Right of Way Technician
 - b. Add contact information for Village of Downers Grove Public Works and residents within 24 hours of water main shut down. Note 10
 - c. Revise Note 11 to state that the Village Public Works Department will witness a pressure test, etc.

Phasing Comments:

18. The plans indicate that the water main installation is part of Phase II not Phase I. A description of how the detention pond will remain functional during installation of the water main shall be provided.
19. The utility plan must indicate new water services for the existing homes on the south side of Jefferson Avenue.
20. The applicant should provide a handicap accessible sidewalk crossing on the north side of Jefferson at Nelson Court.

Stormwater

1. Top and bottom of wall elevations must be provided for the proposed retaining wall. A wall over three feet requires the design be prepared, signed and sealed by a structural engineer. (VODG 26.52)
2. The proposed contours at the southeast corner of the site appear to push the 3:1 slope limit. The area of concern is the slope from the retaining wall down to the path adjacent to the southern property line. Please revise the grading of this area or make sure that 3:1 limits are accomplished in the field. Other areas around the pond should be verified as well. (VODG 26.52)
3. Phase II grading should be provided east of Nelson Court. It does not appear that the sidewalk at this location can be constructed within acceptable slopes. (VODG 26.52)
4. The applicant has provided a utility conflict schedule for utilities crossing water main. Please add sanitary/storm sewer crossings to this schedule. (VODG 26.72)
5. The Phase II shading on the Geometric Plan is not consistent with the other plan sheets. Please revise to show that the detention area is part of Phase I. (VODG 26.72)
6. The applicant should provide the location of the construction entrance on the plan set. (VODG 26.55)
7. It appears that a significant amount of concentrated flows from the rear lot lines of Lots 9-11 is being directed into the detention basin. The applicant should consider some erosion control on the side slopes of the pond where the native plantings are proposed to stop. (VODG 26.55)
8. The tab 1 narrative references an old plan set (April 12, 2005). The narrative should be revised to reference the current plan set. (VODG 26.72)
9. In order to demonstrate that the site meets detention requirements an allowable release rate must be established. The allowable release rate from the site is $Q_{\text{allowable}} = 0.1 \text{ cfs/acre} \times \text{Disturbed Area} - Q_{\text{undetained}} + Q_{\text{off-site(bypass)}}$. $Q_{\text{undetained}}$ and $Q_{\text{off-site(bypass)}}$ are calculated for the 100-yr, 24-hr storm event. The control structure for the detention facility then must meet the established $Q_{\text{allowable}}$. (VODG 26.53)
10. Because the proposed improvements include new roadways, the disturbed areas must include work in the Jefferson Avenue, Brookbank Road, and Nelson Court right-of-ways. (VODG 26.53)
11. Curve number and time of concentration calculations should be provided for each area discussed in the comment above (Disturbed area, Offsite Area, Undetained Area). (VODG 26.53)
12. The applicant should provide several additional exhibits. (VODG 26.53)
 - a. An exhibit should be developed that shows the existing conditions drainage divides. It appears that there are three sub-basins.

- b. An exhibit should be provided that breaks down the site and surrounding area into disturbed areas tributary to the detention basin, offsite area tributary to the detention basin, and disturbed undetained area. This exhibit should be used as back up data for the “Determination of Storage Volume” model.
 - c. A storm sewer exhibit should be provided that shows the tributary area to each catch basin. This exhibit will be used to check requested storm sewer calculations.
13. The outlet of the detention pond SC1 is at the same invert elevation as the outlet to the ditch SC3. A sewer put in flat will have sedimentation problems. Please revise the design so the outlet has some pitch towards the existing ditch. (VODG 26.52)
14. The weir length calculations show a 10’ weir. The plans and overflow detail suggest that the top of the weir is approximately 3.0’ wide. Please revise the calculations or plan set. (VODG 26.53)
15. The measured areas of the detention contours appear to be 10% - 15% smaller than what was used in the model. Please revise the detention pond volumes based on more accurate volume measurements. (VODG 26.53)
16. The berm associated with the detention basin should specify clay core material.
17. Please provide the following site runoff calculations: (VODG 26.73):
- a. Profile drawings of the major and minor stormwater systems, including cross section data for open channels, showing the hydraulic grade line and water surface elevation under the 10-yr and 100-yr storm events; and
 - b. Provide storm sewer design calculations demonstrating that the proposed storm sewer segments will convey the 10-yr storm event under gravity conditions.
 - c. Indicate the 100-year overland flow route and provide calculations that demonstrate that it can convey the base flood condition onsite with a minimum of 1 foot of freeboard to the top of foundation/finished floor of adjacent buildings. If no overland flow path is available to convey water to the detention facility the sewer should be sized to convey the 100-year event under gravity conditions.
 - d. Hydraulic grade line calculations should be included for the 100-year event. The calculations should use the HWL of the pond as the starting HGL elevation. The rim elevations of all structures should be checked to ensure that if any rim elevations are located below the 100-year HGL surcharging water does not leave the site undetained.
 - e. It appears that many of the proposed 100-year storm sewers have a significant tributary area to the inlets. Inlet calculations should be provided that demonstrates the 100-year runoff is captured by the inlets without water flowing around them and running offsite undetained.
18. It appears that the proposed plan will change the existing drainage divides between sub-basins. In order to demonstrate that the proposed work will not adversely impact the existing discharge locations the applicant should perform a proposed conditions critical duration analysis showing no increase in peak runoff rates. Run the 1-, 2-, 5-, 10-, 25-, 50-, and 100-year storm events for the following durations: 1-, 2-, 3-, 6-, 12-, 18-, 24-, 48-hour. Please summarize the information into a tabular format.
19. The applicant should provide driveway culvert sizing calculations for Lots 9-11. (VODG 26.52)
20. Please check the invert elevations of the proposed driveway culverts. It appears that some may need to be lowered in order to achieve adequate cover.

21. Swale calculations should be provided for the rear swale of Lot 9. Calculations should demonstrate the HWL within the swale is a minimum of 1.0' below the foundation elevations of the home. (VODG 26.52)
22. The grading near SB 4 should be revised. Based on the 1"=10' scale drawing it appears that the applicant was attempting to provide a subtle berm just east of the catch basin in order to capture more flow. The top of berm to the sidewalk is approximately 1.0' with over 0.5' of fall. This violates the maximum slope of 3:1.
23. The calculations and modeling utilize a 0.21' diameter restrictor. The detail on the plans shows a 0.1' diameter restrictor. The plans should be modified to show the correct restrictor size. (VODG 26.53)
24. It appears the restrictor is approximately 2.5". This size restrictor is susceptible to clogging. The restrictor design shall be revised to prevent clogging. (VODG 26.53)
25. The restrictor detail shows a minimum of 6" from top of center wall (HWL) to the bottom edge of the manhole. If the manhole thickness is the typical 4" and the grate 8" the 6" minimum call out cannot be obtained. Please revise the restrictor detail. (VODG 26.53)
26. Restrictor structure detail should include waterproof sealer around the restrictor wall and call out steps
27. Contour 752 at the location of the restrictor location may not be wide enough to contain the structure without being exposed. The top width is approximately 2.0' before it quickly slopes down. The width of the 752 contour should be 6.0' to assure that the structure is not exposed. (VODG 26.53)
28. The applicant should consider using silt fence at flared end sections rather than straw bales. In addition, the applicant should consider using inlet inserts in storm structures rather than straw bales and filter fabric. Straw bales do not perform very well and are discouraged.
29. The applicant should provide permanent erosion control at the outlet of the detention facility within the Carpenter Street right of way.
30. The applicant should consider using a more natural design for the overflow weir erosion control. This may include an erosion control mat with vegetation grown on it.
31. The Codes and regulations need updating in some locations to reflect the most current revision specifically to:
 - a. Stand Specifications for Road and Bridge Construction, IDOT
 - b. Water and Sewer Main Construction in Illinois
 - c. ADA Code compliance
32. A scheduled maintenance program for the stormwater facilities, including (VODG 26.73):
 - a. Planned maintenance tasks; and
 - b. Identification of the person or persons responsible for performing the maintenance tasks as required by Section 26-94 of this Ordinance; and
 - c. A description of the permanent public access maintenance easements granted or dedicated to, and accepted by, a governmental entity.
33. BMPs are required per the DuPage County and Downers Grove Ordinances. Developments must treat the pollutants from the entire developed area. The submittal states that grassed swales and a hydrodynamic separator are proposed. However, these appear to only treat phase 1 of the project and must be sized according to the design criteria outlined in the BMP Manual. Such information shall include (VODG 26.52):

- a. A narrative description of the proposed expected pollutants from the development and how the proposed BMPs will treat them. Residential subdivisions generally produce nutrients and TSS; and
 - b. A description of best management practices that are incorporated into the site design and how they will treat the expected pollutants (see Section 4.1 of the BMP Manual); and
 - c. Include applicable design criteria such as soil type, vegetation, and land cover conditions draining to the best management practice along with appropriate calculations (i.e. the vegetated swales must convey the water quality storm at no greater than 1ft/second and the 10 year, 24 hour storm at no greater than 7 ft/sec); and
 - d. Incorporate a forebay and a micropool in the design of the dry bottom detention basin to aid in future sediment removal from the basin and limit scour within the low flow channel; and
 - e. Tributary area to each proposed BMP; and
 - f. A planting maintenance and monitoring plan for all vegetated BMPs (the seed mix and planting specifications must be included in the plans); and
 - g. The mechanical BMP detail, manufacturers specifications and sizing checklist (attached); and
 - h. A schedule for installation, operation and maintenance of BMPs; and
 - i. An easement over all BMPs. If the BMP is vegetated with native plantings the language must depict the actions allowed in this area to limit disturbance.
34. Please clearly mark the site location on all of the exhibits. (VODG 26.72)
 35. Based on the floodplain map, flood profile and contour information provided the floodplain elevation for the site may be 745.7. This is based on the cross-section located just upstream of Carpenter Street. It appears that floodwaters may hit Carpenter Street and extend up the western ditch line to the property. Please provide additional topographic information (surveyed or two foot topo) that shows whether or not the site is hydraulically separated from this higher elevation.
 36. The DuPage County flood profile should be included in the submittal with the site location clearly marked on it. (VODG 26.72)
 37. It appears that the detention basin outlet is located within the limits of the floodplain. As such please review and revise Tab 5 (Riparian Submittal) accordingly.
 38. It appears that the applicant provided the DFIRM map and not the Regulatory Floodplain Map. Please also provide the most updated RFM. (VODG 26.72)
 39. A site is required to tie into a minimum of one DuPage County Benchmark. The benchmark information should be provided on the cover sheet of the plan set. (VODG 26.70)
 40. Storm sewer note should be added to provide watermain quality pipe for section PB 1 and “o” ring gasket joints throughout.
 41. A Notice of Intent must be obtained from the IEPA prior to beginning construction.
 42. A stormwater permit application has not been provided. (VODG 26.72)
 43. The phase II grading plan should be revised near Lots 3 and 4. It appears that significant tributary is directed towards the homes without significant protection. The side yard swales should be better defined to ensure water is directed around the homes and to the storm sewer. (VODG 26.52)
 44. The existing conditions topography survey does not appear to be correct near the location of the former home. Just south of the home site the 766 contour ties into the 767 contour. In addition, contours do not appear to

close at this location. Please revise. (VODG 26.73)

45. Please provide a comment response letter addressing each comment individually in the next submittal to expedite the review process.

46. Please note that the DuPage County Stormwater Ordinance is currently undergoing substantial changes. It is anticipated that the Ordinance will become the authority in 2012. If the Phase II development is not final designed and permitted before the new ordinance become active, significant changes to the detention facility, bmps, etc. may be required at a later date.
47. As a reminder the Stormwater Report and the Engineering Plans need to be signed and sealed by a licensed Professional Engineer of the State of Illinois.
48. As a reminder the Public Works Department must approve all work in the dedicated ROWs. This includes the proposed retaining wall and native plantings in the Carpenter Street ROW.
49. As a reminder, upon completion of development, record drawings of the site stormwater plan shall be submitted. Such drawings shall be prepared, signed, and sealed by a land surveyor or professional engineer and shall include calculations showing the "as-built" volume of the site-runoff storage facility.

PLEASE RE-SUBMIT 5 NEW SETS OF PLANS AND 2 REVISED STORMWATER REPORTS WITH THE ABOVE ITEMS ADDRESSED.

Please note the following:

- See enclosed ordinance regarding DEMOLITION / CONSTRUCTION SITE MANAGEMENT.
- A signage fee of \$125 and a \$5,000 site management bond will be added to the permit fees.
- An initial sedimentation and erosion control inspection is required prior to starting construction. This inspection shall be scheduled at least 48 hours prior to the start of construction. VODG 26.101
- A Final As-Built Grading Survey is required at the completion of Phase I. It shall include, but is not limited to the following items (VODG 26.73):
 - Downspout location, discharge path, and the location, size, and material of any associated piping
 - Top of foundation elevations of all new structures
 - Spot grades adjacent to the foundations of all new structures
 - All new impervious areas including those made of concrete, asphalt, and brick
 - Stoops outside of doorways
 - Base flood elevation of the floodplain
 - Storm sewer location, size and slope
 - Rim and invert elevations of the storm structures
- Any changes made to the site plan or in the field during the construction process must be submitted in writing to the Village of Downers Grove. VODG 26.73

The following shall be provided before the permit is issued:

- Receipt of Rules Certificate
- Temporary Construction Fence Plan
- Construction Parking Plan
- Notification of Adjacent Property Owners
- The name, address and phone number for the General Contractor
- DuPage County Impact Fees/Approval, phone number is 630-407-6700

Please note the following additional requirements:

- A final copy of all approved drawings/ construction documents for all disciplines, **with any changes that occurred during construction**, will need to be submitted in digital form (CD or DVD), using a .TIFF format prior to obtaining the final certificate of occupancy. This includes architectural, civil engineering, fire protection, etc. as applicable to the project.

Please do not hesitate to contact me with any questions. I can be reached directly at 630.434.5520 or jobrien@downers.us.

The Village of Downers Grove

A handwritten signature in black ink, appearing to read "Jeff O'Brien". The signature is stylized with a large, sweeping initial "J" and "O".

Jeff O'Brien, AICP
Planning Manager
Community Development Department

C. Staff Review Team