Permit Application Review

Permit No. 2020-24 Received complete: April 14, 2020

Applicant:	Joe Feldmann; Feldmann Imports Mercedes-Benz
Consultant:	Nick Adam; Rehder and Associates, Inc.
Project:	Mercedes-Benz Autohaus Renovation
Location:	4901 American Boulevard West: Bloomington
Rule(s):	4, 5
Reviewer:	BCO/LLH

## **General Background & Comments**

The project proposes the redevelopment of an 8.1-acre site comprising two adjoining parcels under common ownership. Proposed redevelopment includes demolition and reconstruction of the existing car showroom on the northern parcel, 4901 American Boulevard West (4901 parcel) in Bloomington. In addition to the construction of a new showroom and exterior display area, site improvements including removal and reconstruction of concrete pavement, utilities, landscaping and an underground stormwater management system are proposed.

The proposed work will extend onto the City of Bloomington right-of-way to "tie-in" with the existing topography and site elements as shown on the plans along the northern and northwestern limits of disturbance.

Two previous projects have been permitted on the site since Redevelopment Rule 4.2.3 became applicable - NMCWD Permits 2009-39 and 2015-09. The 2009 project was completed on both the northern and southern parcels. Work on the 4901 parcel included minor changes to the existing new car showroom and parking lot improvements. Work on the southern parcel, 4851 American Boulevard (4851 parcel) included demolition of Bally's Fitness Club and redevelopment of the site including parking lot reconfiguration for the new car dealership. A project that involved the construction of a building addition on the east side of the building on the 4901 parcel including associated site work was completed in 2015.

The project site information includes the following:

- Total 4901 Parcel Area: 2.69 acres
- Existing 4901 Parcel Impervious Area: 2.36 acres (Pre-2009 project)
- Proposed 2020 4901 Parcel Impervious Area: 2.38 acres

- Existing 4901 Parcel Impervious Area Disturbed and Reconstructed in 2009 and 2015: 0.88<sup>1</sup> acres
- Proposed 4901 Parcel Impervious Area Disturbed (2020 project): 0.27 acres
- 2020 Project Proposed 4901 Parcel Impervious Area Previously Disturbed: 0.07 acres
- 45.8% of the total 4901 Parcel existing impervious area will be disturbed from 2009 including the proposed 2020 project (excludes 0.07 acres previously disturbed)
- 0.8% increase in impervious area, pre-2009 project conditions including the 2020 project.

The Nine Mile Creek Watershed District's Rule for Redevelopment, Rule 4.2.3, states, if a proposed activity will disturb more than 50% of the existing impervious surface on the site or will increase the imperviousness of the entire site by more than 50%, stormwater management will apply to the entire project parcel. Otherwise, the storm water requirements will apply only to the disturbed, replaced and net additional impervious surface on the project site. Under Section 4.2.5 of the Stormwater Management Rule, the extent of redevelopment for purposes of applicability of stormwater management requirements is measured accounting for redevelopment in aggregate since the rule was adopted in 2008.

The three projects in aggregate have involved disturbance to the existing impervious surface on the northern parcel (pre-2009 project existing surface) totaling 1.08 acres, a 45.8% disturbance of the impervious surfaces. The overall imperviousness has increased by 0.8% as a result of the 2020 project. The 2009 and 2015 projects did not increase the imperviousness of the site. Therefore, the stormwater criteria in Section 4.3.1 will apply only to the disturbed and replaced impervious surface under the present project. This area excludes 0.07 acres of area previously disturbed as a result of the 2009 project, as it was accounted for in the stormwater management facilities.

The District's requirements for both stormwater management and erosion and sediment control apply to the project because more than 5,000 square feet or more surface area will be disturbed, Rules 4.2.1a and b and 5.2.1a and b.

Stormwater management is to be provided by an underground stormwater management facility (USWMF) located on the north side of the existing building footprint. The subsurface infiltration system will provide rate control, volume retention and water quality management for the proposed 0.20 acres of new and additional impervious area disturbed as a result of the 2020 project. The USWMF will receive runoff from the new car showroom and exterior display area roof system and a portion of the existing building main roof system. A portion of the site runoff within the disturbed area will drain to an existing catch basin and not enter the UGSWMF. The stormwater management facility, however, has been sized to handle the design runoff generated from the new and disturbed and reconstructed impervious, 0.20 acres.

<sup>&</sup>lt;sup>1</sup> Previously identified in Permits 2009-39 and 2015-09 as 1.01 acres (0.82 acres in 2009 and 0.19 acres in 2015). In review of previous permits' existing impervious area disturbances, the applicant identified an error in the disturbances submitted as part of the 2009-39 permit. Approximately 0.13 acres of impervious area included within the northern parcel impervious disturbance falls within the southern parcel boundary. Applicant submitted documentation to support revised disturbance area on the northern parcel to support the decrease to 0.88 acres as a result of the 2009 project.

A sump manhole will provide pretreatment for runoff entering the underground infiltration system. The site runoff conveyed to the UGSWMF will discharge to the City of Bloomington storm sewer system via an existing catch basin at the property entrance along American Boulevard West.

The American Engineering Testing, Inc. geotechnical report dated June 12, 2009 indicates four standard penetration test (SPT) borings were performed on May 20, 2009 to depths of 11 feet each. Soil classification from the borings indicate approximately 2 to 6.5 feet of fill underlain by alluvial soils and/or glacial till. The alluvial soils consist of silty sands (SM) and lean clays (CL), and the glacial till consists of silty sands, clayey sands (SC) and sandy lean clays (CH). Soils north of the proposed building near the proposed stormwater management facility are classified as Hydrologic Soil Group (HSG) Type CL and SM. As identified by the geotechnical report, at the time of observation, groundwater was not encountered in the soil borings and is anticipated to be below the depths explored. The applicant is advised that seasonal fluctuations of the groundwater elevation can occur.

For erosion control measures, silt fence will be utilized along the northern, eastern and a portion of the western limits of disturbance. Storm drain inlet protection will be provided onsite for erosion control in the parking areas downgradient from land-disturbing activities.

### Exhibits

- 1. Permit Application dated and signed March 13, 2020.
- 2. Revised plans dated April 14, 2020 with previous submittal plans dated March 12, 2020 prepared by Rehder & Associates, Inc.
- 3. Stormwater Management Report dated March 12, 2020, revised April 14, 2020 (including a HydroCAD report dated April 13, 2020 and MIDS calculator results dated April 14, 2020) prepared by Rehder & Associates, Inc.
- 4. Geotechnical Report dated June 12, 2009 completed by American Engineering Testing, Inc.
- 5. E-mail correspondence dated April 9, 2020 indicating revisions required for compliance with NMCWD Rule 4.3.

The applicant with the revised submittal has addressed the items identified in our April 9, 2020 email. The submittal is complete.

## 4.0 Stormwater Management

Stormwater management will be provided by an underground infiltration system located within the parking area north of the existing building. The USWMF will provide rate control, volume retention and water quality management for the disturbed, replaced and net additional impervious surface as a result of the 2020 project. As previously stated, this area excludes 0.07 acres previously disturbed and replaced, as stormwater management was previously provided as part of Permit 2009-39.

The proposed underground infiltration system consists of 12-inch diameter perforated HDPE pipe surrounded by washed river rock beneath the pavement. The plans indicate the stormwater management facility sides and top will be wrapped with geotextile filter.

In existing conditions, stormwater runoff from the disturbance area drains to existing catch basins within the parking lot. In proposed conditions, the UGSWMF will receive runoff from the new car showroom and exterior display area roof system and a portion of the existing building main roof system, and discharge to an existing catch basin which conveys runoff to the City of Bloomington storm sewer system. Stormwater runoff from the concrete pavement located north of the existing building will drain to the existing catch basin near the site entrance along American Boulevard West. The stormwater management facility, however, has been sized to handle the design runoff generated from the new and reconstructed impervious, 0.20 acres.

The existing and proposed 2, 10 and 100 year frequency discharges from the site are as follows:

Frequency	Existing Discharge c.f.s.	Proposed Discharge c.f.s.
2 year	1.7	1.4
10 year	2.7	2.5
100 year	4.7	4.4

Rule 4.3.1b is met.

Rule 4.3.1a requires the retention onsite of 1.1 inches of runoff from the regulated impervious surface. As previously stated, proposed redevelopment will disturb less than fifty percent (50%) of the existing impervious surface. The criteria of Rule 4.3 will only apply to the disturbed, replaced and net additional impervious surface, including 0.20 acres of post-construction impervious surface.

The soil borings performed by American Engineering Testing, Inc. on May 20, 2009 near the proposed stormwater management system indicate lean clay (CL), silty sand (SM) and clayey sands (ML) at varying depths below the surface. Where Type CL and ML soils are encountered, the plans identify excavation of soils to depths where SM soils are present (approximately 832.8 M.S.L.). These areas will be filled with clean construction sand to elevation 837.0 M.S.L., the identified bottom of the underground infiltration system. The over excavation is anticipated to be required in the area of soil boring B-11. As identified by the stormwater management modeling, a design infiltration rate of 0.45 inches/hour was used based on Minnesota Stormwater Manual soil classification infiltration rates for HSG Type B soils.

The proposed bottom of the underground infiltration system is 837.0 M.S.L. The UGSWMF system outlet invert elevation is 838.8 M.S.L., resulting in an infiltration system depth of 1.8 feet. An infiltration volume of 799 cubic feet is required for 1.1-inches of runoff from the 0.20 acres of regulated impervious area. A volume of 836 cubic feet is proposed to be provided (799 cubic feet required) with an area of 1,100 square feet (444 square feet required) at an inundation depth of 1.8 feet. Rule 4.3.1a is met.

The maximum inundation depth allowable for the volume retention of 799 cubic feet to be drawn down within 48 hours using an infiltration rate of 0.45 inches per hour is 1.8 feet (1.8 feet provided). Rule 4.3.1a (ii) is met.

In accordance with Rule 4.3.1a (i), where infiltration facilities, practices or systems are proposed, pretreatment of runoff must be provided. A sump manhole will provide pretreatment for runoff entering the underground infiltration system. Rule 4.3.1a (i) is met.

The District's water quality criterion requires a 60% annual removal efficiency for phosphorus and 90% annual removal efficiency for total suspended solids. The results of the MIDS calculator report indicate the proposed stormwater management system will provide an annual removal efficiency of 91% (91.4 lbs) for Total Suspended Solids (TSS) and 91% (0.50 lbs) for Total Phosphorus (TP). Rule 4.3.1c is met.

Rule 4.3.3 states that a stormwater management facility must be constructed at an elevation that ensures that no adjacent habitable building will be brought into noncompliance with a standard in subsection 4.3.3. The finished floor elevation and low opening of the proposed redeveloped new car showroom and exterior display area is 843.6 M.S.L. The 100-year high water elevation of the proposed underground infiltration system located north of the existing building is 839.7 M.S.L., providing 3.9 feet of separation. Rule 4.3.3 is met.

The American Engineering Testing, Inc. geotechnical report dated June 12, 2009 indicates four standard penetration test (SPT) borings were performed on May 20, 2009 to depths of 11 feet each. Rule 4.5.4d (i), requires a minimum separation of 3 feet between the bottom of an infiltration facility, practice or system and groundwater. In addition, Rule 4.5.4d (ii) requires soil conditions suitable for infiltration to be provided within 5 feet of the bottom of any stormwater treatment facility, practice or system. Two soil borings (B-11 and B-12) were taken at the location of the proposed subsurface infiltration system to elevations of approximately 832 M.S.L. identifying sandy material at this elevation. The bottom of the proposed infiltration basin is elevation 837.0 M.S.L., and with the import of suitable material for infiltration from the native sandy soil to within 5 feet of the bottom of the UGSWMF, Rule 4.5.4d (ii) is met. As identified by the geotechnical report, at the time of observation, groundwater was not encountered in the soil borings and is anticipated to be below the depths explored. Rule 4.5.4d (i) is met. The applicant is advised that seasonal fluctuations of the groundwater elevation can occur.

In accordance with Rule 4.3.4, a post-project chloride management plan must be provided that will, 1) designate an individual authorized to implement the chloride-use plan and 2) designate a MPCA certified salt applicator engaged in the implementation of the chloride-use plan for the site.

## 5.0 Erosion and Sediment Control

For erosion control measures, silt fence will be utilized along the northern, eastern and a portion of the western limits of disturbance. Storm drain inlet protection will be provided onsite for erosion control in the parking areas downgradient from land-disturbing activities.

Nick Adams, Rehder & Associates Inc., is the project contact.

## 11.0 Fees

Fees for the project are:

Rules 4.0 and 5.0

\$1,500

## **12.0 Financial Assurances**

Financial Assurances for the project are:

Rule 4: Volume Retention: 444 sq. ft. x \$12/sq. ft. = \$5,328	\$5,328
Chloride Management:	\$5,000
Rule 5: Perimeter control: 275 L.F. x \$2.50/L.F.= \$688	
Inlet Control: 2 x \$100/each = \$200	
Site restoration: 0.27 acres x \$2500/acre = \$675	\$1,563
Contingency and Administration	\$3,009

### Findings

The proposed project includes the information necessary, plan sheets and erosion control plan for review. Rules 4 and 5 are met.

## **Recommendation**

Approval, contingent upon:

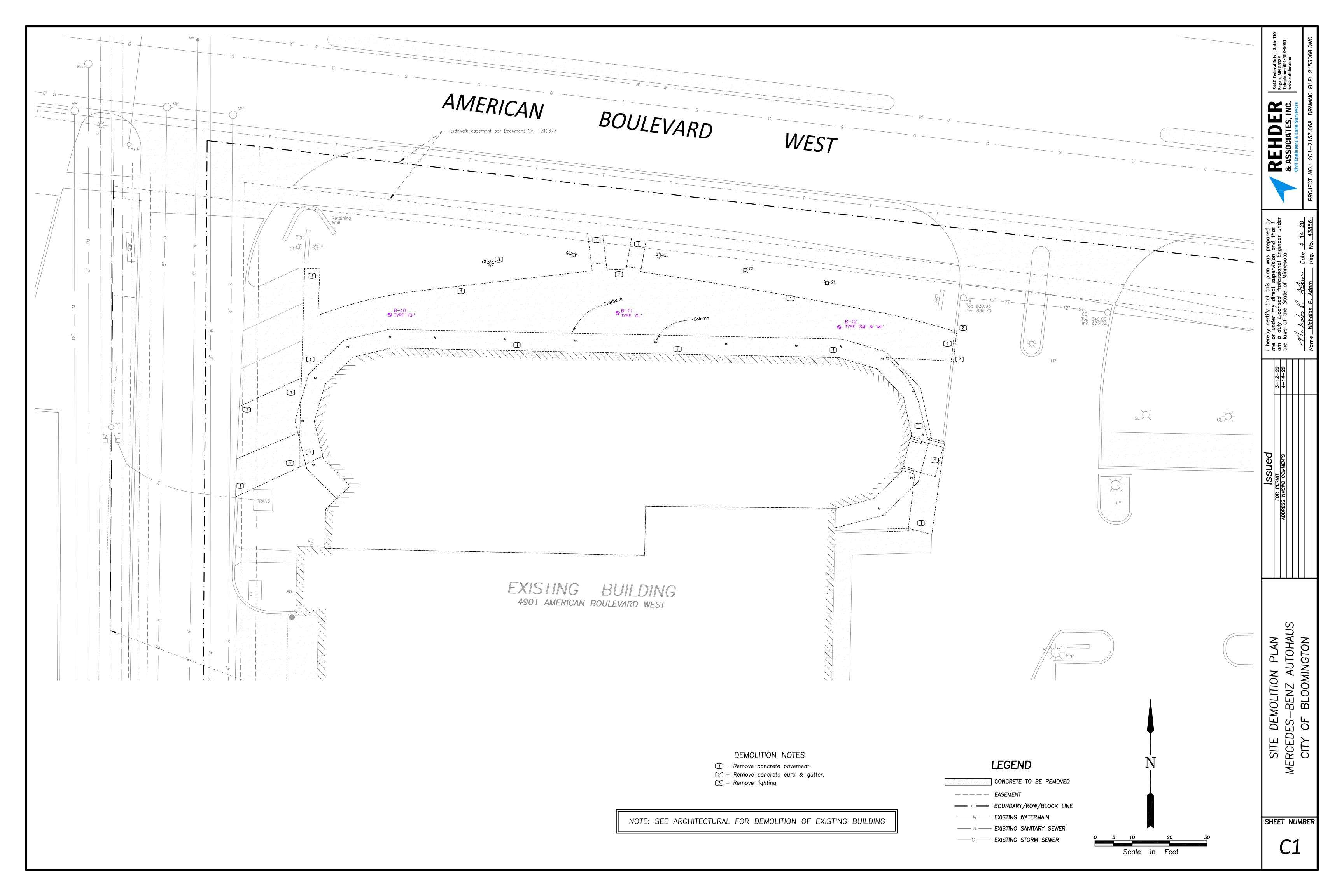
- 1. General Conditions
- 2. Financial Assurance in the amount of \$14,900, \$9,900 for stormwater management, erosion control, and site restoration, and \$5,000 for compliance with the chloride management requirements.
- 3. Submittal of written documentation demonstrating that the necessary approval and permissions have been obtained from the City of Bloomington to perform land disturbing activities that will occur within City of Bloomington property.
- 4. Submittal of documentation that a drainage easement over hydrologic features has been submitted to the City of Bloomington (Rule 4.5.4i), if such easement is required by the City.
- 5. A receipt showing recordation of a maintenance declaration for the on-site stormwater management facility. A draft of the declaration must be approved by the District prior to recordation.
- 6. Per Rule 4.5.4e, submittal of a plan with the design detail for the underground infiltration system outlet control structure on the plans. A detail of the outlet control structure is required prior to issuance of the permit.

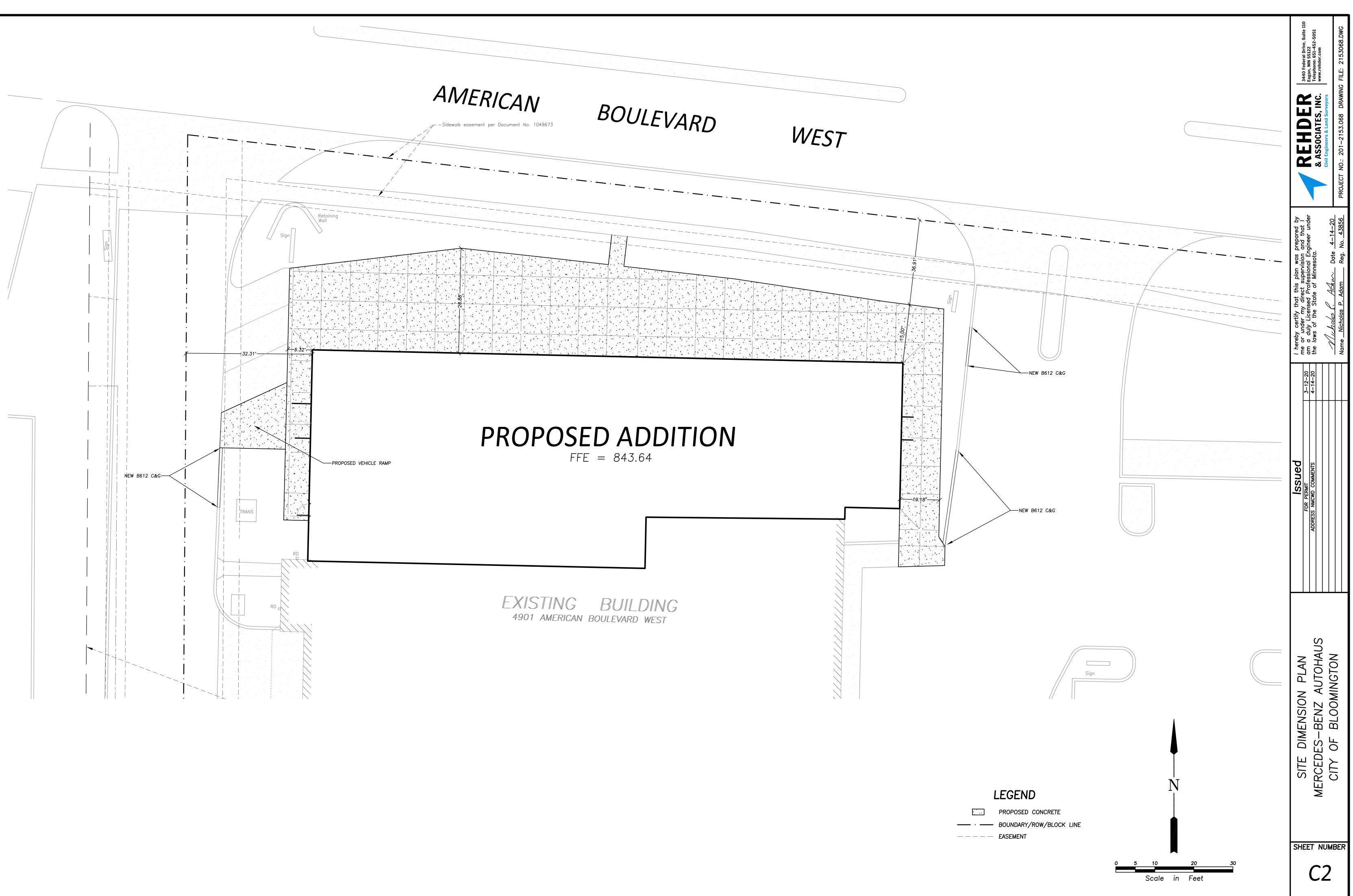
By accepting the permit, when issued, the applicant agrees to the following stipulations:

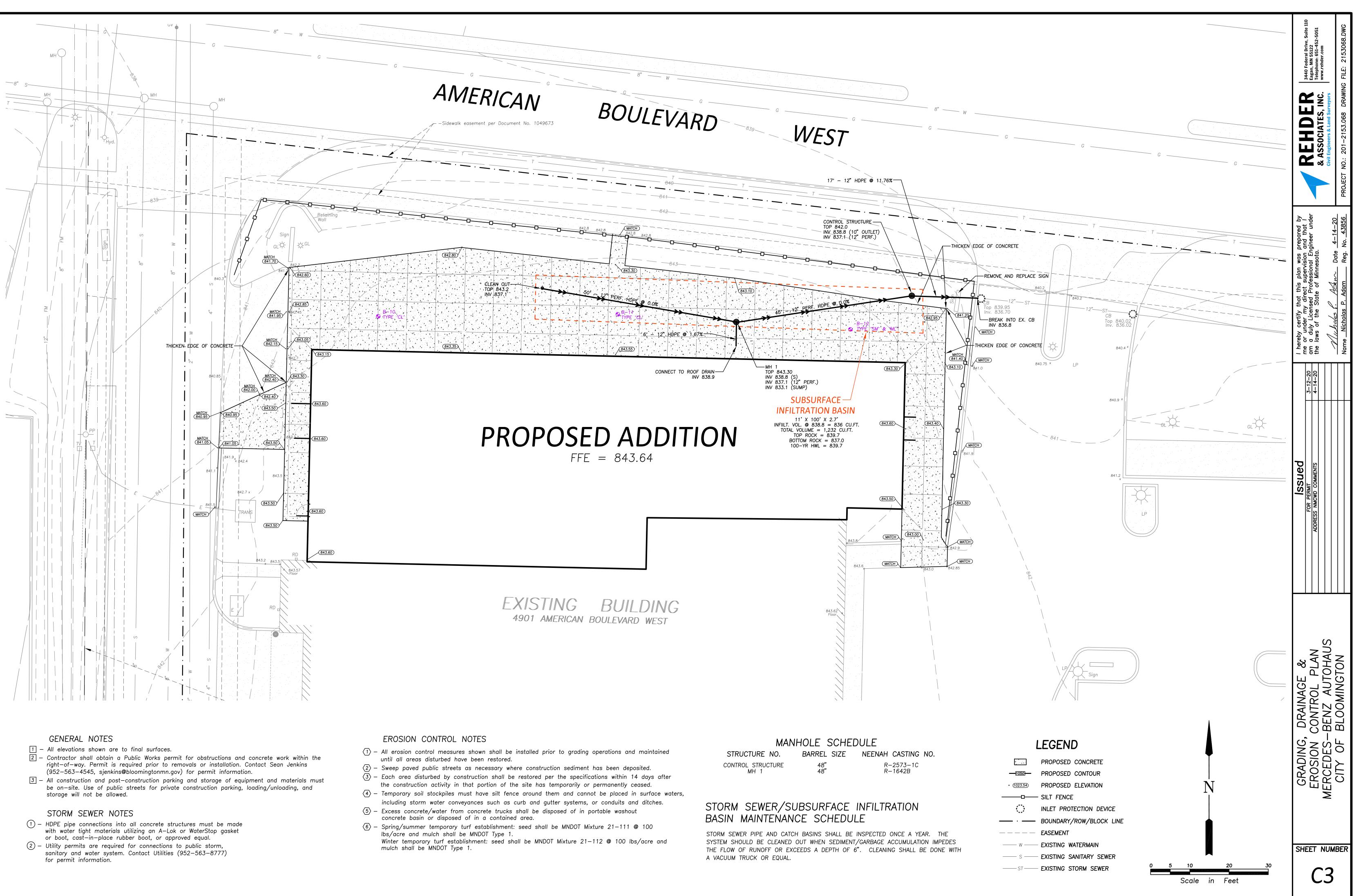
- 1. Per Rule 4.5.8, an as-built drawing of the stormwater facility conforming to the design specifications, including a stage volume relationship in tabular form for the infiltration system.
- 2. Submission of a plan for post-project management of Chloride use on the site. The plan must include 1) the designation of an individual authorized to implement the chloride use plan and 2) the designation of a Minnesota Pollution Control Agency certified salt applicator engaged in the implementation of the chloride-use plan for the site. The release of the \$5,000 of the financial assurance required for the chloride-management plan

requires that chloride-management plan has been provided and approved by the District's Administrator.

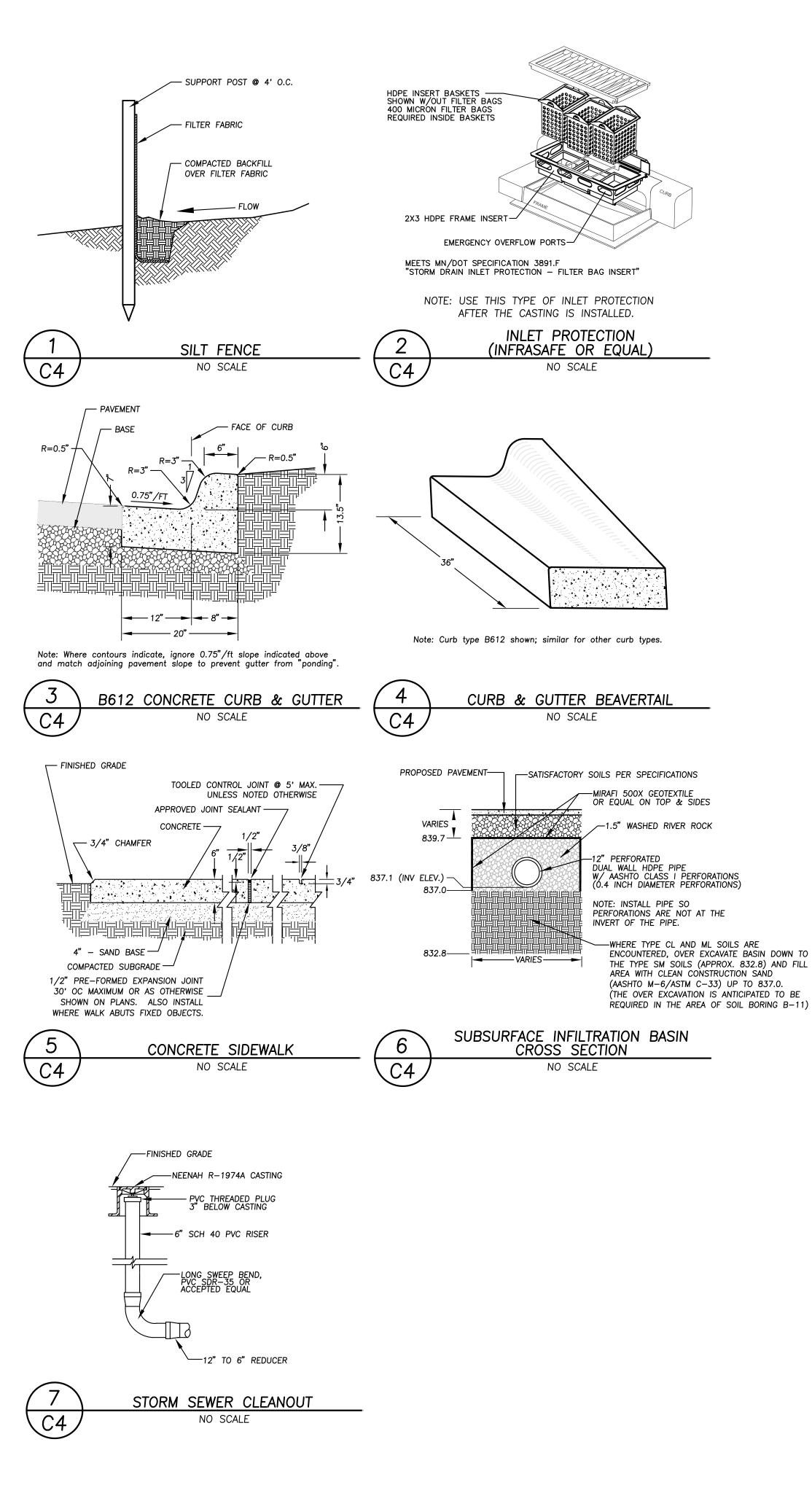
- 3. For the release of the \$9,900 financial assurance required, Rule 12.4.1b requires demonstration and confirmation that the stormwater management facility has been constructed or installed and is functioning as designed and permitted. Verification, through daily observation logs and photographs, must be provided showing the stormwater facilities used for volume retention have drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.
- 4. Per Rule 4.2.1, the requirements of the Rule 4 Stormwater Management apply to landdisturbing activities that will disturb 5,000 square feet or more of surface area. For future development at the site, the applicant is required to evaluate compliance with stormwater management criteria based on land-disturbing activities in aggregate, with respect to all development and redevelopment that has occurred on the site or on adjacent sites under common or related ownership (Rule 4.2.5). Future redevelopment activities will be considered in aggregate and apply to disturbed, replaced and net additional impervious surface for the project site (Rule 4.2.3).







MANI	HOLE SCHED	ULE	
STRUCTURE NO.	BARREL SIZE	NEENAH CASTING N	NO.
CONTROL STRUCTURE MH 1	48" 48"	R-2573-1C R-1642B	



# SPECIFICATIONS

- GENERAL
- I. GENERAL
- utilities within the construction limits.
- work that is to be performed.

## SITE CLEARING

- I. GENERAL
- the Plans. II. EXECUTION

# I. GENERAL

- otherwise specified.

- densitv.
- maximum dry density.
- II. PRODUCTS

- weeds.

# III.EXECUTION

manner.

- I. GENERAL
- unless otherwise specified. II. PRODUCTS
- and 3—inch slump.
- B. Provide Grade-60 reinforcing bars and tie bars where indicated.
- III. EXECUTION
- aggregate base for soft spots prior to pavement placement.
- supporting reinforcement.
- approximately every 200-feet.

# STORM SEWER

- I. GENERAL
- II. PRODUCTS

- III.EXECUTION

A. Before construction begins, the Contractor will contact all utility companies, both public and private and have them locate all

B. The Contractor shall be responsible for arranging all required inspections with the governing authority that has jurisdiction over the

C. The Contractor shall stay within the construction limits unless approved otherwise by the Owner and or Engineer. Construction limits are defined by the property boundary unless shown different on the plan. D. The Contractor shall be responsible for protecting all existing structures, utilities, trees, etc. from damage during construction.

E. The Contractor shall be responsible for correcting any damage (at Contractor's expense). F. Any discrepancies found on the site that affect the proposed work shall be reported to the Owner and/or Engineer before the completion of any additional work.

G. Soils report and pavement recommendation provided by American Engineering Testing, Inc. project number 20-08859. H. Existing Topography and Boundary Survey provided by Rehder & Associates, Inc.

A. Remove trees, shrubs, grass, and other vegetation or obstructions, as required, to permit installation of improvements shown on

A. Trees and stumps shall be hauled from the site. Burial on-site or burning of trees and stumps will not be allowed. B. Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to root system. C. Topsoil shall be stripped from disturbed areas and stockpiled in piles not exceeding 8-feet in depth. D. Remove all black dirt and unsuitable material from under drives and roadways within 3-feet of final pavement subgrade. E. Remove all waste materials and unsuitable or excess topsoil from Owner's property.

## GRADING, EROSION CONTROL, AND TURF ESTABLISHMENT

A. All grading, erosion control and turf establishment shall be according to the materials, workmanship, and other applicable requirements of the Minnesota Department of Transportation "Standard Specifications for Construction", latest edition, unless

B. All erosion control measures shown on the plans must be installed prior to commencement of grading operations and maintained until all areas altered on the site have been restored.

C. All areas disturbed by construction shall be restored with seed and disked mulch, sod, wood fiber blanket, or be hard surfaced within two weeks of substantial completion of construction.

D. Provide approved borrow soil materials from off-site when sufficient approved soil materials are not available from excavations. Remove all excess and unsatisfactory material from the site. E. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement,

undermining, washout, and other hazards created by earthwork operations. F. Compaction shall not be less than the following percentages of maximum dry density according to ASTM D 698:

i. Under structures, building slabs, steps, and pavements, compact the top 12 inches below subgrade and each layer of backfill or fill material at 100 percent maximum dry density. ii. Under walkways, compact the top 6 inches below subgrade and each layer of backfill or fill material at 100 percent maximum dry

iii. Under lawn or unpaved areas, compact the top 6 inches below subgrade and each layer of backfill or fill material at 95 percent

G. Grades as shown on the plan are to finished grade. H. Backfill trenches involving utilities under building slabs to be designed by Others (per their requirements).

A. Satisfactory soils include ASTM D 2487 soil classification groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 2-inches in any dimension, debris waste, frozen materials, vegetation and other deleterious matter. B. Unsatisfactory soils include ASTM D 2487 soil classification groups GC, SC, ML, MH, CL, CH, OL, OH, and PT.

C. All backfill and fill materials must be satisfactory soil materials. D. Topsoil shall be per ASTM D 5268, free of stones 1" or larger.

E. Subbase and base material must be a naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and

natural or crushed sand meeting MNDOT Specifications for Class 5 gravel. F. Spring/Summer temporary turf establishment: seed shall be MNDOT Mixture 110 © 100 lbs/acre and mulch shall be MNDOT Type 1. G. Winter temporary turf establishment: seed shall be MNDOT Mixture 100 @ 100 lbs/acre and mulch shall be MNDOT Type 1. H. Provide fresh, clean, strongly rooted sod not less than 2 years old with a uniform thickness of not less than 2 inches and free of

A. Fill under buildings shall be compacted to meet Soil Engineer's recommendations.

B. Place 4-inches of topsoil over all areas to be re-established with turf. C. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

D. Place inlet protection devices in catch basins and maintain until all areas disturbed have been restored. E. Wherever construction vehicle access routes intersect paved public roads, provisions must be made to minimize the transport of sediment (mud) by runoff or vehicles tracking onto the paved road surface. Where sediment is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day. Sediment shall be removed by shoveling or sweeping and be transported to a sediment controlled disposal area. Street washing shall be allowed only after sediment is removed in this

## PORTLAND CEMENT CONCRETE PAVEMENT

A. Provide Portland cement concrete pavement for roads, curbs, walks and exterior slabs according to the materials, workmanship, and other applicable requirements of the Minnesota Department of Transportation "Standard Specifications for Construction", latest edition,

A. Portland cement concrete for curb and gutter and sidewalk shall be 4000 psi, 28-day compressive strength, 5.0% air entrainment,

C. Curing compound shall be solvent-borne, liquid membrane-forming ASTM C309, Type I or approved equal.

A. The Contractor shall furnish a tandem truck loaded with a minimum of 14-tons to check the completed subgrade and/or

B. Comply with requirements and with ACI 304R for measuring, mixing, transporting, and placing concrete. C. Comply with the Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars" for placing and

D. Preformed expansion joints using 0.5-inch thickness shall be placed at each end of curb radius, at intersections, and

E. Contraction joints shall be placed at minimum 10-foot intervals in the curb and gutter and at 5-foot for walks. F. Provide a medium to fine broom finish perpendicular to traffic flow.

G. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures using moisture curing, moisture-retaining-cover curing, curing compound or a combination of these.

A. Storm sewer shall comply with all local regulations pertaining to storm sewer systems including materials, installation, and testing. If no regulations exist, comply with "Standard Utilities Specifications" by the City Engineers Association of Minnesota, latest edition.

A. Storm sewer indicated on the plan as HDPE shall be dual wall corrugated polyethylene pipe with soil tight fittings per the Corrugated Polyethylene Pipe Association (CPPA) standard specification 100-97. B. Storm sewer catch basins and manholes shall be precast structures with at least two and at the most five adjusting rings. C. Storm sewer castings indicated on the plan shall be from the Neenah Foundry or approved equal.

A. The plans indicate the general location and arrangement of underground storm sewer systems. Location and arrangement of piping take into account many design considerations. Install piping as indicated on the plans, to the extent practical. B. Contractor should verify locations of utility connections at the building the architectural and mechanical plans. C. HDPE sewer pipe shall be bedded in accordance with ASTM F 2306, "Standard Specification for 12 to 60 in. Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications". D. Storm sewer services shall be extended to within 5-feet of the building. Plug ends and mark by installing a 2" x 2" wood board from the plugged end to 4-feet out of the ground.

ADDITION OF A DEFENSION OF A DEFENSI				DPOTECT NO . 201-2153 DE8 DPAWING FILE. 2153068 DWC	1 NOVEO NO.: 201 - 2100.000 DIVANING LIFE: 210000.000		
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota. Mubolus f. Mum Date 4–14–20 Name Nicholas P. Adam Reg. No. 43856							
	3-12-20	4-14-20					
lssued	FOR PERMIT	ADDRESS NMCWD COMMENTS					
DETAILS & SPECIFICATIONS MERCEDES-BENZ AUTOHAUS CITY OF BLOOMINGTON							
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