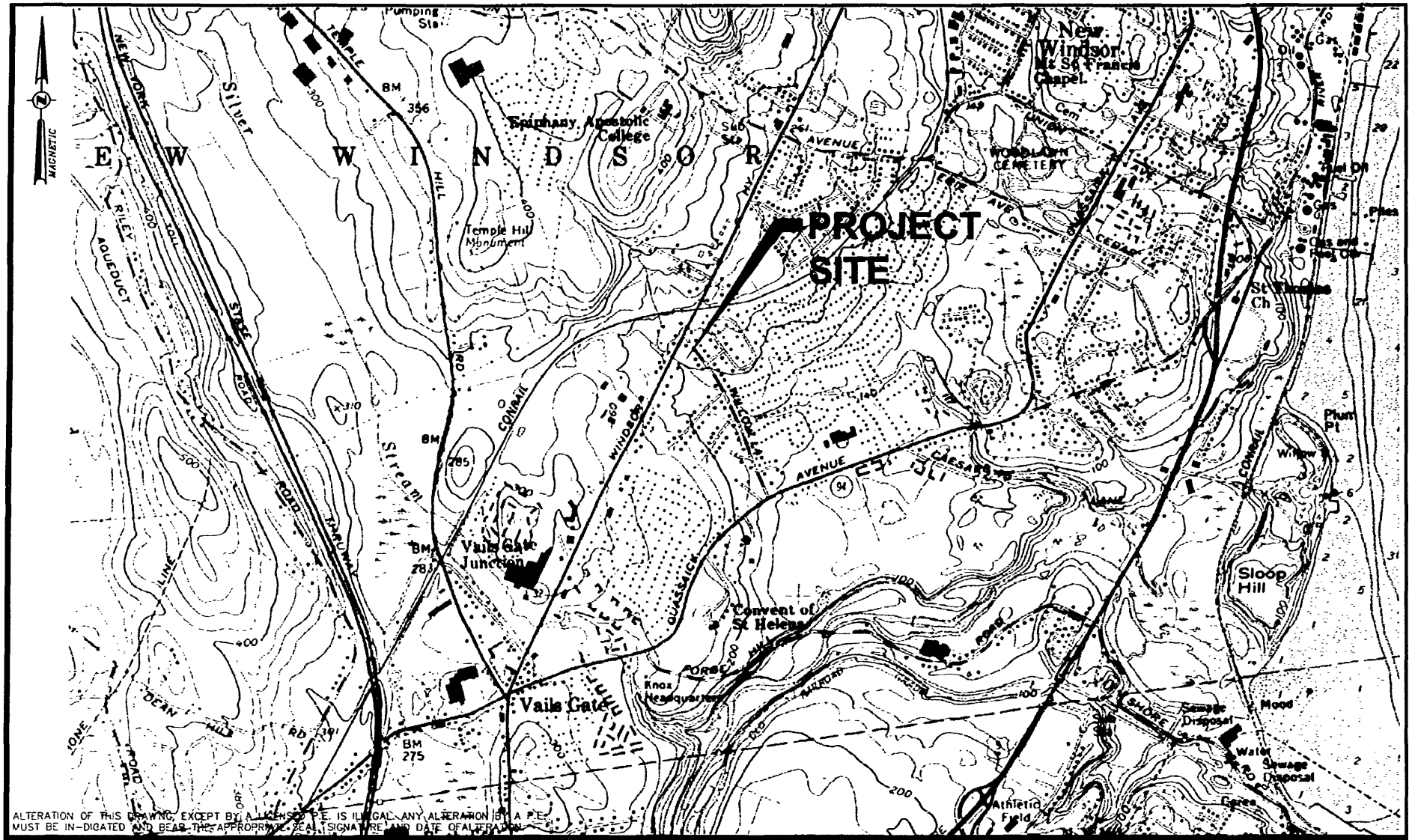
PB# 06-19

Hudson Valley FCU
(Rt.32 & Willow Ln.)

42-1-1.1

TOWN OF NEW WINDSOR
PLANNING BOARD
APPROVED COPY
DATE: November 7, 2007

06-19 Hudson Valley Federal Cr. Un.
Rt. 32 + Willow Lane + Wheating
(Chazen) (42-1-1.1)



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CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980

Capital District Office: 547 River Street, Troy, New York 12180, Phone: (518) 273-0055

Orange County Office: 356 Meadow Avenue, Newburgh, New York 12550, Phone: (845) 567-1133

North Country Office: 100 Glen Street, Glens Falls, New York 12801, Phone: (518) 812-0513

HUDSON VALLEY FEDERAL CREDIT UNION

SITE LOCATION MAP
WILLOW LANE SITE

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
JCR	KP
date 3/27/06	scale 1"=2000'
project no. 10512.02	
sheet no. FIG.1C	

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Drawing Name: S:\1\10500-10599\10512.02\ENG\DWG\FIG-1_10512-02.dwg Date Printed: May 30, 2006, 10:08am

PRELIMINARY FRONT ELEVATION

1/8" = 1'-0"

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PRELIMINARY
Dec 16, 2005
NOT FOR CONSTRUCTION USE

revisions

no.	date	revised

R. W. LARSON
ASSOCIATES, P.C.

• 3 Farm Colony Drive Warren, PA 16365
phone: 814.728.8890 fax: 814.728.6012
e-mail warren@rwlarsonarchitects.com

• 103 Gamma Dr Suite 140 Pittsburgh, PA 15238
phone: 412.486.5070 fax: 412.486.5067
e-mail pittsburgh@rwlarsonarchitects.com

• 2124 Race Street Philadelphia, PA 19103
phone: 215.569.8892 fax: 215.569.8891
e-mail philadelphia@rwlarsonarchitects.com

RICHARD W. LARSON, R.A.
JAY M. DELUCA, R.A.
HEATHER C. GRAY, C.P.A.
GERALD R. EARLE, R.A.
EDWIN M. LONG, R.A.
ALAN D. PARADIS, R.A.
DAVID SORBSA, R.L.A.
EMMETT L. TENPAS, R.A.

project

Hudson Valley
Federal Credit Union

NEW WINDSOR, NY

title

PRELIMINARY FRONT
ELEVATION

scale

AS SHOWN

date

12.16.05

project number

05183

drawn by

RPL

sheet number

EL-1Lb

ARCHITECTURE, INTERIORS • PLANNING
LANDSCAPE ARCHITECTURE

Stormwater Pollution Prevention Plan

Hudson Valley Federal Credit Union-New Windsor-Vails Gate Site

State Route 32 & Willow Lane
Town of New Windsor
Orange County, New York

August 17, 2006

THE Chazen COMPANIES

Prepared by:

Capital District Office
The Chazen Companies
547 River Street
Troy, New York 12180

Dutchess County *(845) 454-3980*
Orange County *(845) 567-1133*
Capital District *(518) 273-0055*
North Country *(518) 812-0513*

PREPARER OF THE SWPPP

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 29.45 if the Penal Law."

Name:[1] Joseph M. Lanaro, P.E.

Title: Director of Engineering, Northern Operations

License No.: 070126

Date: _____

[1] This is a signature of an officer of the corporation authorized in policy or decision making functions of the corporation.

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1.0 EXECUTIVE SUMMARY

The Hudson Valley Federal Credit Union is proposing construction of a credit union branch with a associated drive-thru teller and ATM lanes; a paved parking lot and site access from both NYS Route 32 and from Willow Lane. A surface sand filter will be used to treat the water quality volume produced from the proposed development.

This Stormwater Pollution Prevention Plan (SWPPP) has been developed in accordance with the "New York State Department of Environmental Conservation (NYSDEC) State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity" General Permit Number GP-02-01, effective January 8, 2003. The SWPPP and accompanying plans identify and detail stormwater management, pollution prevention, and erosion and sediment control measures necessary during and following completion of construction.

This SWPPP and the accompanying plans entitled "Hudson Valley Federal Credit Union Proposed Branch NYS Route 32 and Willow Lane" have been submitted as a set. These engineering drawings are considered an integral part of this SWPPP, therefore this SWPPP is not considered complete without them. References made herein to "the plans" or to a specific "sheet" refer to these drawings.

The measures described herein have been designed in accordance with the technical standards outlined in the NYSDEC *New York State Stormwater Management Design Manual dated August 2003* and the *New York State Standards and Specifications for Erosion and Sediment Control* dated August 2005.

Pre- and post-development surface runoff rates have been evaluated for the 1, 5, 10, 25 and 100 year 24 hour storm events. Comparison of pre- and post-development watershed conditions demonstrates that the peak rate of runoff from the proposed site will not be increased, therefore will not pose a significant adverse impact to the adjacent or downstream properties or receiving water courses. The proposed measures outlined herein have been designed to provide both quality and quantity controls by detaining, treating, and releasing runoff at a rate equal to or less than that which existed prior to development of the project site.

2.0 NYSDEC SPDES GENERAL PERMIT GP-02-01

A summary of responsibilities and obligations of all parties involved with compliance with the NYSDEC SPDES General Permit, GP-02-01 conditions are outlined in the subsequent sections. For a complete listing of the responsibilities and obligations refer to the SPDES General Permit GP-02-01 presented in Appendix A.

2.1 Definitions

1. "General Permit" shall mean the general stormwater permit for construction activities issued by the United States Environmental Protection Agency, New York State Department of Environmental Conservation or a comparable general permit issued by local or other appropriate governmental agency.

2. "Operator" shall be any party (or parties) that has (or have) either (a) operational control over construction plans and specifications, including the ability to make modification to those plans and specifications or (b) day-to-day operational control of those activities at a project which are necessary to ensure compliance with the SWPPP for the site or other permit conditions. There may be occasions during the course of a project in which there are multiple Operators, all of which will need to file and maintain the appropriate SWPPP documents and plans, including without limitation, the Notice of Intent (NOI) and Notice of Termination (NOT).

3. "Operator's Engineer" shall be that person or entity retained by an Operator to design and oversee the implementation of the SWPPP.

4. "Contractor" shall be that person or entity identified as such in the construction contract with the Operator. The term "Contractor" shall also include the Contractor's authorized representative, as well as any and all subcontractors retained by the Contractor.

5. "Qualified Professional" shall be a person knowledgeable in the practices of erosion and sediment controls, such as a NYS professional engineer or Certified Professional in Erosion and Sediment Control (CPESC).

2.2 Operator's Responsibilities

1. Have an authorized corporate officer sign the NOI and SWPPP Operator's Certification forms.

2. Submit the signed form along with any required fees and attachments to the following:

   NYS DEC "Notice of Intent"
   Bureau of Permit
   625 Broadway
   Albany, New York 12233-3505

3. Retain the services of a "Qualified Professional" as defined under Section 2.1 "Definitions" to provide the services outlined in Section 2.3 "Operator's Engineer's Responsibilities".

4. Schedule a pre-construction meeting which shall include the Town's representative, Operator's Engineer, Contractor, and their sub-contractors to discuss responsibilities as they relate to the implementation of this SWPPP.

5. Require the Contractor to fully implement the SWPPP prepared for the site by the Operator's Engineer.

6. Forward a copy of the original permit certificate received from the regulatory agency to the Operator's Engineer for project records, and to the Contractor for display at the job site.

7. Keep a copy of the SWPPP, all NOI's, permit certificates, permit language, Spill Prevention, Countermeasures, and Cleanup ("SPCC") Plan, inspection records, and other required records on the job site so that they may be made available to the regulatory agencies.

8. Post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis.

9. Prepare a written summary of projects status with respect to compliance with the general permit at a minimum frequency of every three months during which coverage under the permit exists. The summary should address the status of achieving the overall goal of the SWPPP. The summary shall be handled in the same manner as prescribed for SWPPP's under Part III, subsection B of the NYSDEC SPDES General Permit GP-02-01.

10. Submit a Notice of Termination (NOT) form (see Appendix G) within 48 hours of receipt the Operator's Engineer's certification of final site stabilization to the following:

NYS DEC "Notice of Termination"
Bureau of Permit
625 Broadway
Albany, New York 12233-3505

11. Request and receive all SWPPP records from the Operator's Engineer and archive those records for a minimum of three years after the NOT is filed.

12. Require the implementation of the Post-Construction Inspections and Maintenance procedures outlined in Appendix H.

2.3 Operator's Engineers Responsibilities

1. Prepare the SWPPP using good engineering practices, best management practices, and in compliance with all federal, state, and local regulatory requirements.

2. Prepare the Notice of Intent Form (NOI) form (see Appendix B) and forward to Operator for signature.

3. Prepare and forward the SWPPP Operator Certification form for Operator's signature (see Appendix C).

4. Include a signed NOI and Operator Certification forms in the SWPPP prepared for the job site.

5. Provide copies of the SWPPP to the Town of New Windsor once all signatures and attachments are complete.

6. Prepare a construction site log book to be used in maintaining a record of all inspection reports generated throughout the duration of construction.

7. Participate at pre-construction meeting with the Town's representative, Operator, Contractor, and their sub-contractors to discuss responsibilities as they relate to the implementation of this SWPPP.

8. Enter Contractor's information in Section 2.5 "SWPPP Participants" once a Contractor is selected by the Operator.

9. Conduct an initial site assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment control measures described within this SWPPP and required by Part III.D of the NYSDEC General Permit, GP-02-01, have been

adequately installed and implemented to ensure overall preparedness of the site.

10. Provide on-site inspections at least every seven (7) calendar days and within 24 hours of the end of a storm event of ½-inch or greater to determine compliance with the SWPPP. The written inspection reports shall be provided to the Operator within 24 hours of the field inspection with any deficiencies identified. A description of Construction Phase Inspections and Maintenance requirements are in presented Appendix D. A sample inspection form is provided in Appendix E.

11. Review the Contractor's SWPPP records on a periodic basis to ensure compliance with the requirements for daily reports and inspections and maintenance logs.

12. Maintain the construction site log book throughout the duration of construction.

13. Update the SWPPP each time there is a significant modification to the pollution prevention measures or a change of the principal Contractor working on the project who may disturb site soil.

14. Provide the Operator certification that an inspection has been completed verifying that the site has undergone final stabilization using appropriate measures and that all temporary erosion and sediment controls have been removed.

15. Transfer the SWPPP documents, along with all NOI's, permit certificates, NOT's, construction site log book, and written records required by the General Permit to the Operator for archiving.

2.4 Contractor's Responsibilities

1. Send all notifications required by SPDES General Permit Number GP-02-01 via certified mail with return receipt. Copies of mailing receipts shall be kept on record at the project site with the SWPPP and shall be considered part of the contract documents.

2. Sign the SWPPP Contractor's Certification form contained within Appendix C and forward to the Operator's Engineer for inclusion into the SWPPP.

3. Provide the names and addresses of all subcontractors working on the project site. Require all subcontractors who will be involved with the major

construction activities that will result in soil disturbance sign a copy of the Contractor's Certification Form and forward to the Operator's Engineer for inclusion into the SWPPP. This information must be retained as part of the SWPPP.

4. Participate in pre-construction meeting which shall include the Town representative, Operator, Operator's Engineer, and all sub-contractors to discuss responsibilities as they relate to the implementation of this SWPPP.

5. Implement site stabilization, erosion and sediment control measures, and other requirements of the SWPPP.

6. Conduct daily inspections, prepare, and retain written documentation of inspections as well as all repairs/maintenance activities performed on erosion and sediment control measures.

7. Maintain a record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated, until such time as the NOT is filed. A log for keeping such records is provided in Appendix F.

8. Provide monthly training sessions for all entities and subcontractors involved with installing, applying, performing, maintaining and inspection of the SWPPP.

2.5 SWPPP Participants

1. Operator's Engineer:

   Joseph M. Lanaro, P.E., Director of Engineering
   The Chazen Companies
   547 River Street
   Troy, New York 12180
   Phone: 518-273-0055
   Fax: 518-273-8391

2. Operator:

   Hudson Valley Federal Credit Union
   159 Barnegat Road
   Poughkeepsie, New York 12601
   Phone: 1-800-468-3011
   Fax: 845-463-3496

3. Contractor[2]:

   Name and Title: _____
   Company Name: _____
   Mailing Address: _____
   _____
   Phone: _____
   Fax: _____

[2] Contractor's information to be entered once the Contractor has been selected.

JCTION

has been prepared for major activities associated with construction of y Federal Credit Union proposed branch located at the intersection of : and Willow Lane in the Town of New Windsor, Orange County, New WPPP includes the elements necessary to comply with the national eral permit for construction activities enacted by the U.S. ıl Protection Agency (EPA) under the National Pollutant Discharge System (NPDES) program and all local governing agency This SWPPP must be implemented at the start of construction.

ɔhase pollutant sources anticipated at the site are disturbed (exposed) ıels and lubricants, chemicals associated with building construction, materials. Without adequate control there is the potential for with ɔllutant to be transported by stormwater.

uction will consist of primarily of site grading, paving, storm drainage, and sewage collection to facilitate the construction of a proposed / Federal Credit Union Branch.

ɔnsiders the impacts associated with the intended development with :

ining existing drainage patterns as much as possible while continuing veyance of upland watershed runoff;

ling increases in the rate of stormwater runoff resulting from the d development without adversely altering downstream conditions;

ing potential stormwater quality impacts and preventing soil erosion limentation resulting from stormwater runoff generated both during ɜr construction.

te this, pre- and post-development stormwater runoff conditions have ed and proposed stormwater management facilities have been evaluated.

ic and hydraulic analyses were completed in accordance with the dards and guidelines:

rk State Stormwater Management Design Manual (August 2003).

- *New York State Standards and Specifications for Erosion and Sediment Control* (August 2005).

The analysis and design completed and documented in this report is intended to be part of the application made for a commercial development project completed on behalf of the Hudson Valley Federal Credit Union.

A location map of the site has been provided in Appendix I, as Figure 1.

4.0 CONSTRUCTION SEQUENCE

This project has not received written approval from NYSDEC allowing the disturbance of more than five (5) acres of land at any one time. Therefore, if the Contractor's construction sequence requires the disturbance of more than five acres at any one time, written approval must be obtained from NYSDEC prior to the commencement of construction.

Described below are the major construction activities that are the subject of this SWPPP. They are presented in the order (or sequence) they are expected to begin, but each activity will not necessarily be completed before the next begins. Also, these activities could occur in a different order if necessary to maintain adequate erosion and sediment control.

The Contractor will be responsible for implementing the following erosion and sediment control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper function remains with the Contractor. The order of activities will be as follows:

1. Selectively clear only the areas required for the installation of the stabilized construction entrances/exits and temporary sediment and erosion and sediment control measures.

2. Install stabilized construction entrances/exits for all construction entrances/exits. This will be the first construction work on the project.

3. Install sediment control barriers down slope from construction activities that disturb site soil.

4. Install temporary sediment basins.

5. Begin clearing and grubbing operations. Clearing and grubbing shall be done only in areas where earthwork will be performed and only in areas where construction is planned to commence within 14 days after clearing and grubbing.

6. Frequent watering of the excavation and fill areas shall be done to minimize wind erosion.

7. Commence site grading.

8. Disturbed areas of the site, where construction activity has ceased for more than 14 days, shall be temporarily or permanently seeded, mulched, and watered.

9. Install protective measures at the locations of all grate inlets, curb inlets, and at the ends of all exposed storm sewer pipes.

10. Construct all utilities, curb and gutter, gutter inlets, area inlets, and storm sewer manholes, as shown on the plans. Inlet protection may be removed temporarily for this construction. Place required rip-rap at locations shown on the plans.

11. Finalize pavement sub-grade preparation.

12. Remove protective measures around inlets and manholes no more than 24 hours prior to placing stabilized base course.

13. Install sub-base material as required for pavement.

14. Carry out final grading, seeding, mulching, and landscaping.

15. Remove silt fencing only after all paving is complete and exposed tributary surfaces are stabilized.

16. Remove stabilized construction entrance(s) only prior to pavement construction in these areas (These areas are to be paved last).

17. Complete on-site stabilization.

18. Remove temporary sediment controls only after all paving is complete and exposed surfaces are completely stabilized, and cleanout all stormwater collection conveyance, and treatment facilities.

Refer to the accompanying plans for clarifications and specifications regarding the construction sequencing schedule.

5.0 SITE DESCRIPTION

5.1 Land Use

The subject site is comprised of a grass field, a gravel area (which appears to be fill), and a wooded area. A wetland area exists in the southeastern (narrow) portion of the subject site. Also, an unnamed stream traverses the southeastern boundary of the subject site. Currently there are two existing curb cuts adjoining the subject site to NYS Route 32 and one to Willow Lane via a paved access road that traverses the subject site along the northwest.

The majority of subject site is located within the Town of New Windsor C Design Shopping Zoning District with a portion being located in the Residential R-4 District. Since the majority of the subject site is located within Zone C the regulations associated with Zone C are applied and the permitted principle uses within the district includes among other uses, banks.

Storm sewers exist along the west corner of the subject site which ultimately discharge to the stream at the southeastern region of the subject site.

Based upon a review of topography for the area and field observations, the subject site is nearly level with steep slopes continuous with the unnamed stream and related tree line. The subject site appears to drain surface run-off to the low lying southeast wetland area and the existing stream.

5.2 Soils

The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Survey for Orange County was reviewed and provided surficial soil conditions for the study area. The SCS identified the presence of Bath-Nassau and Mardin series soil types. Soil data was provided by the SCS and is presented in Table 1.

Table 1: USDA Soil Data

MAP SYMBOL/ DESCRIPTION	HYDROLOGIC SOIL GROUP	SLOPE (%)	SOIL PROFILE		K VALUE	DEPTH TO WATER TABLE (FT)	DEPTH TO BEDROCK (IN)
			DEPTH (IN)	USDA TEXTURE			
BnB	C	3 to 8 percent	0-9 9-29 29-53 53	Shaly silt loam Channery loam, shaly silt loam, silt loam. Channery loam, very shaly silt loam, shaly sandy loam. Unweathered bedrock	0.24	2.0-4.0	48-60
MdB	C	3 to 8 percent	0-8 8-20 20-60	Gravelly silt loam Channery silt loam, loam, gravelly loam. Channery loam, channery silt loam, very channery loam.	0.24	1.5-2.0	>60

The Soil Conservation Service defines the hydrologic soil groups as follows:

- Type A Soils: Soils having a high infiltration rate and low runoff potential when thoroughly wet. These soils consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a moderate rate of water transmission.

- Type B Soils: Soils having a moderate infiltration rate when thoroughly wet and consists mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately course textures. These soils have a moderate rate of water transmission.

- Type C Soils: Soils having a low infiltration rate when thoroughly wet and consists chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine-to-fine texture. These soils have a low rate of water transmission.

- Type D Soils: Soils having a very low infiltration rate and high runoff potential when thoroughly wet. These soils consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very low rate of water transmission.

The soils map for the study area is presented in Appendix I, as Figure 2.

5.3 Groundwater

The subject site is not located over a primary, principal, or sole source aquifer as per by the NYSDEC Division of Water Technical and Operational Guidance, Series (2.1.3), Primary and Principle Aquifer Determinations, Table 1, 1990, and the Atlas of Eleven Selected Aquifers in New York, U.S. Geological Survey in cooperation with the NYS Department of Health, 1982.

Depth to groundwater varies across the subject site according to Table 17 "Soil and Water Features" of the USDA Soil Conservation Service Soil Survey for Orange County as shown in Table 1 "USDA Soil Data".

5.4 Topography

The overall site is moderately sloping, with slopes ranging from 2 to 40 percent. Site elevations range from approximately 190 feet above mean sea level (MSL) to 220 feet MSL. Based upon a review of topography for the area and field observations, the subject site is nearly level with steep slopes continuous with the unnamed stream and related tree line. The subject site appears to drain surface run-off to the low lying southeast wetland area and the existing stream.

5.5 Wetlands

Wetlands depicted on the accompanying plan set were delineated by TCC on September 2, 2005. The wetland boundary was surveyed by TCC and is presented on a map entitled "Existing Conditions" dated 10/03/05. These wetlands are anticipated to be Federally regulated and encompass approximately 0.20 acres of the 2.33 acre site.

The wetland limits located in the eastern portion of the subject site extend beyond the boundary lines approximately 300 feet. The stream is a tributary to Moodna Creek which is tributary to the Hudson River. The closest NYSDEC wetland is Wetland CO-5 located approximately 4,700 feet to the northeast on a different tributary.

5.6 Surface Waters and Flood Plains

According to the National Flood Insurance Program Flood Insurance Rate Map (FIRM), Town of New Windsor, New York Orange County, New York, Community Panel Number 360628 0010 B, the subject site lies within Flood Zone B and Flood Zone C. Flood Zone B is defined as areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less then one foot or where the contributing drainage area is less then one square

mile; or areas protected by levees from the base flood. Flood Zone C is defined as areas of minimal flooding.

The subject site contains one intermittent stream located near the southern boundary and a wetland located in the eastern portion of the subject site, away from proposed development. The stream is six to ten feet wide with banks one to four feet high. The substrate consists of sand, gravel, and cobble. Stormwater runoff from the subject site flows to the stream and wetland.

The water course is not a 303(d) listed segment and the project is not located within a Total Maximum Daily Load (TMDL) Watershed.

5.7 Rainfall Data

Rainfall data utilized in the modeling and analysis was taken from National Weather Service (NWS) Technical Paper 40 (TP-40), Rainfall Frequency Atlas of the U.S. Weather Bureau, published by the U.S. Department of Commerce. Rainfall data specific to the portion of Orange County under consideration, for various 24 hour storm events, are presented in Table 2:

Table 2: Rainfall Data

1 year	2.9–inches
5 year	4.5–inches
10 year	5.5–inches
25 year	6.5–inches
100 year	8.0–inches

These values were used to evaluate the pre- and post-development stormwater runoff conditions.

6.0 EROSION AND SEDIMENT CONTROLS

The SWPPP and accompanying plans identify the temporary and permanent erosion and sediment control measures that have been incorporated into the design of this project. These measures will be implemented during construction, to minimize soil erosion and control sediment transport off-site, and after construction, to control the quality and quantity of stormwater runoff from the developed site.

Erosion control measures, designed to minimize soil loss, and sediment control measures, intended to retain eroded soil and prevent it from reaching water bodies or adjoining properties, have been developed in accordance with the following documents:

- NYSDEC SPDES General Permit for Stormwater Discharges From Construction Activity, Permit No. GP-02-01 (effective January 2003).
- *New York State Standards and Specifications for Erosion and Sediment Control*, NYSDEC (August 2005).
- *New York State Stormwater Management Design Manual*, NYSDEC (August 2003).

The SWPPP and accompanying plans outline the construction scheduling for implementing the erosion and sediment control measures. The SWPPP and accompanying plans include limitations on the duration of soil exposure, criteria and specifications for placement and installation of the erosion and sediment control measures, a maintenance schedule, and specifications for the implementation of erosion and sediment control practices and procedures.

6.1 Erosion and Sediment Control Measures

The proposed stormwater management system has been designed to convey stormwater flows off-site via a combination of closed storm sewers, open ditches, stormwater quality and quantity control measures with overflow spillways, thereby preventing erosion and uncontrolled conveyance to the down gradient facilities.

The use of the surface sand filter with a pretreatment structure provides treatment of stormwater runoff and removal of suspended particles.

Temporary and permanent erosion and sediment control measures that shall be applied during construction generally include:

1. Minimizing soil erosion and sedimentation by stabilization of disturbed areas and by removing sediment from construction-site discharges.

2. Preservation of existing vegetation as much as possible. Following the completion of construction activities in any portion of the site permanent vegetation shall be established on all exposed soils.

3. Site preparation activities shall be planned to minimize the area and duration of soil disruption.

4. Permanent traffic corridors shall be established and "routes of convenience" shall be avoided.

6.2 Temporary Erosion and Sediment Control Measures

Temporary erosion and sediment control measures are included as part of the construction documents and generally include the following:

1. Stabilized Construction Entrance

   Prior to construction, stabilized construction entrances will be installed, as shown on the detail plan, to reduce the tracking of sediment onto public roadways.

   Construction traffic must enter and exit the site at the stabilized construction entrance. The intent is to trap dust and mud that would otherwise be carried off-site by construction traffic.

   The entrance shall be maintained in a condition, which will control tracking of sediment onto public rights-of-way or streets. When necessary, the placement of additional aggregate atop the filter fabric will be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped, or washed onto the public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

2. Dust Control

   Water trucks shall be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the general Contractor to a degree that is acceptable to the Owner, and in compliance with the applicable local and state dust control requirements.

3. Temporary Soil Stockpile

   Materials, such as topsoil, will be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and will be properly protected from erosion by a surrounding silt fence barrier.

4. Silt Fencing

   Prior to the initiation of and during construction activities, a geotextile filter fabric (or silt fence) will be established along the perimeter of areas to be disturbed as a result of the construction which lie up gradient of water courses or adjacent properties. These barriers may extend into non-impact areas to ensure adequate protection of adjacent lands.

   Clearing and grubbing will be performed only as necessary for the installation of the sediment control barrier. To ensure effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events will be performed by site personnel. Maintenance of the fence will be performed as needed.

5. Temporary Seeding

   Within 14 days after construction activity ceases on any particular area of the site, all disturbed areas where there will not be construction for longer than 21 days shall be temporarily seeded and mulched to minimize erosion and sediment loss.

6. Stone Inlet Protection Barrier

   Concrete blocks surrounded by wire mesh and crushed stone will be placed around both existing catch basins, and proposed catch basins once they have been installed, to keep sediment from entering the catch basins and storm sewer system. During construction, crushed stone shall be replaced as necessary to ensure proper function of the structure.

7. Erosion Control Blanket

   Erosion control blankets shall be installed on all slopes exceeding 3:1. Erosion control blankets provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses associated with high runoff flow velocities associated with steep slopes.

8. Stone Check Dams

   Stone check dams will be installed within drainage ditches to reduce the velocity of stormwater runoff, to promote settling of sediment, and to reduce sediment transport offsite.

   The stone check dams shall be inspected at least every seven (7) calendar days and within 24 hours of the end of a storm event of ½-inch or greater. Damage will be repaired upon discovery. If significant erosion has occurred between structures, a liner of stone or other suitable material shall be installed in that portion of the channel.

   Sediment accumulated behind the stone check dam will be removed as needed to allow the channel to drain through the stone check dam and prevent large flows from carrying sediment over or around the dam. Stones shall be replaced as needed to maintain the design cross section of the structures.

9. Temporary Sediment Basin

   Temporary sediment basins shall be constructed to intercept sediment laden runoff and reduce the amount of sediment leaving the disturbed areas and to protect drainage ways, properties, and rights-of-way.

   Temporary sediment basins shall be inspected at least every seven (7) calendar days and within 24 hours of the end of a storm event of ½-inch or greater. All damages caused by soil erosion and construction equipment shall be repaired upon discovery. Accumulated sediment shall be removed from the basin when it reaches 50 percent of the design capacity and shall not exceed 50 percent. Sediment shall not be placed downstream from the embankment, adjacent to a stream, or floodplain.

6.3 Permanent Erosion and Sediment Control Measures

Permanent erosion and sediment control measures are included as part of the construction documents and include the following:

1. Establishment of Permanent Vegetation

   Disturbed areas that will be vegetated must be seeded in accordance with the contract documents. The type of seed, mulch, and maintenance measures as described in the contract documents shall also be followed.

All areas at final grade must be seeded and mulched within 14 days after completion of the major construction activity. All seeded areas should be protected with mulch.

Final site stabilization is achieved when all soil-disturbing activities at the site has been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

2. Rock Outlet Protection

Rock outlet protection shall be installed at the locations as indicated and detailed on the accompanying plans. The installation of rock outlet protection will reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving water course or water body.

6.4 Other Pollutant Controls

Control of sediments has been described previously. Other aspects of this SWPPP are listed below:

1. Solid Waste Disposal

No solid materials, including building materials, are allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied periodically by a contract trash disposal service and hauled away from the site.

Substances that have the potential for polluting surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

2. Sanitary Facilities

Temporary sanitary facilities will be provided by the Contractor throughout the construction phase. They must be utilized by all construction personnel

and will be serviced by a commercial Contractor. These facilities must comply with state and local sanitary or septic system regulations.

3. Water Source

   Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not originate from an approved public supply must not discharge from the site. It can be retained in the ponds until it infiltrates and evaporates.

4. Long-Term Pollutant Controls

   In addition to the permanent stormwater management facilities, identified on the accompanying plans, stormwater pollutant control measures installed during construction that will also provide benefits after construction include temporary sediment basins and rip-rapped outfalls. Temporary sediment basins that do not interfere with normal operations and appear to provide long-term benefits may be left in place after construction is completed, as directed by the Operator.

6.5 Construction Housekeeping Practices

During the construction phase, the general Contractor will implement the following measures:

1. Material resulting from the clearing and grubbing operation will be stockpiled up slope from adequate sedimentation controls.

2. The general Contractor will designate areas for equipment cleaning, maintenance, and repair. The general Contractor and subcontractors will utilize those areas. The areas will be protected by a temporary perimeter berm.

3. The use of detergents for large scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

4. Spill Prevention and Response

   A Spill Prevention and Response Plan shall be developed for the site by the Contractor. The plan shall detail the steps needed to be followed in the event

of an accidental spill and shall identify contact names and phone numbers of people and agencies that must be notified.

The plan shall include Material Safety Data Sheets (MSDS) for all materials to be stored on-site. All workers on-site will be required to be trained on safe handling and spill prevention procedures for all materials used during construction. Regular tailgate safety meetings shall be held and all workers that are expected on the site during the week shall be required to attend.

5. Material Storage

Construction materials shall be stored in a dedicated staging area. The staging area shall be located in an area that minimizes the impacts of the construction materials effecting stormwater quality.

Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated and disposed at an approved solid waste or chemical disposal facility.

6.6 Inspection and Maintenance Requirements

1. Pre-Construction Inspection and Certifications

Prior to the commencement of construction, the Operator's Engineer shall conduct an assessment of the site and certify that the appropriate erosion and sediment control structures have been adequately installed and implemented. The Contractor shall contact the Operator's Engineer once the erosion and sediment control measures have been installed.

2. Construction Inspection and Maintenance

To ensure the stability and effectiveness of all protective measures and practices during construction, all erosion and sediment control measures employed will be inspected by the Operator's Engineer at least every seven (7) calendar days and within 24 hours of the end of a storm event of ½-inch or greater. Section 6.7 Subsection 1 "Inspection and Maintenance Reports" outlines what each inspection shall include.

In addition to the inspections performed by the Operator's Engineer, routine inspections shall be performed by the Contractor and include a visual check of all erosion and sediment control measures. All inspections and

maintenance shall be performed in accordance with the inspection and maintenance schedule provided on the accompanying plans. Sediment removed from erosion and sediment control measures will be exported from the site, stockpiled for later use, or used immediately for general non-structural fill.

3. Post-Construction Inspection and Maintenance

   Inspections shall be performed by the Operator in accordance with Appendix H, when all disturbed areas are stabilized and all stormwater management systems are in place and operable.

6.7 Reporting

1. Inspection and Maintenance Reports

   Inspection/maintenance reports shall be prepared prior to and during construction in accordance with the schedule outlined herein and in the SPDES General Permit GP-02-01. The reports shall be prepared to identify and document the maintenance of the erosion and sediment control measures.

   Specifically, each inspection shall record the following information:

   1. On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14 day period.

   2. Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization.

   3. Indicate all disturbed site areas that have not undergone active site work during the previous 14 day period.

   4. Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume (e.g., 10 percent, 20 percent, 50 percent, etc.).

   5. Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of

rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.

6. All deficiencies identified with the implementation of the SWPPP.

2. Site Log Book

The Operator shall retain a copy of the SWPPP required by NYSDEC SPDES General Permit GP-02-01 at the construction-site from the date of initiation of construction activities to the date of final stabilization.

During construction, the Operator or Operator's representative shall maintain a record of all erosion and sediment control inspection reports at the site in a log book. The site log book shall be maintained on-site and made available to the permitting authority.

3. Post Construction Records and Archiving

Following construction, the Operator shall retain copies of the SWPPP, the complete construction site log book, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by the Department, in its sole discretion, at any time upon written notification.

The Operator should maintain a record of all post construction inspections and maintenance work performed in accordance with the requirements outlined in Appendix H.

7.0 STORMWATER MANAGEMENT PLAN

The goals of this Stormwater Management Plan are to analyze the peak rate of runoff under pre- and post-development conditions, to maintain the pre-development rate of runoff in order to minimize impacts to adjacent or downstream properties, and to minimize the impact of the quality to runoff exiting the site.

These objectives will be met by applying Best Management Practices (BMPs) to limit peak runoff rates and treat the water quality. In addition, both temporary and permanent erosion and sediment control measures will be installed prior to and during construction to minimize erosion, and control sediment transport off-site.

7.1 Stormwater Management Systems

Stormwater runoff from the proposed development will be collected and conveyed to the quantity and quality control systems described herein through a combination of a closed stormwater network conveyance systems.

The closed stormwater network, consisting of catch basins, drainage manholes, high density polyethylene piping (HDPE), has been designed to convey the 10 year storm event.

The following stormwater quantity and quality control systems have been incorporated into the stormwater management plan for this project.

1. Surface Sand Filter (F-1)

   Sand filters have been demonstrated to be effective in removing many of the common pollutants found in urban stormwater runoff, especially those found in particle form. Sand filters work by receiving the water quality volume and settling out the heavier sediment in the pretreatment basin. Water flows to and is spread over the sand filter, where pollutants are either trapped or strained out. Filtered runoff may be collected and returned to the conveyance system, or allowed to partially exfiltrate into the soil.

   The Surface sand filter (F-1) was designed according to the criteria set forth in Section 6.4 "Stormwater Filtering Systems" of the *NYS Stormwater Management Design Manual.*

   Design Calculations have been provided in Appendix L.

2. Stormwater Detention Basin

   A stormwater detention basin is proposed to attenuate proposed stormwater run-off from the proposed site. Run-off flows into the basin and the discharge from the basin is controlled by an outlet control structure. The basin controls the off-site discharge under the developed condition so that post-development rates are less than or equal to pre-development rates at the design point.

7.2 Hydrologic and Hydraulic Analysis

This report presents the pre-development and post-development features and conditions associated with surface water runoff within the study area. For both cases, the drainage patterns, drainage structures, soil types, and ground cover types are considered in this study.

1. Methodology

   The methodology used for the hydrologic and hydraulic analysis was obtained from the United States Department of Agriculture (USDA) Soil Conservation Service's (SCS) Technical Release No. 20, as utilized by the application program HydroCAD. HydroCAD, developed by Applied Microcomputer Systems of Chocorua, New Hampshire, is a Computer-Aided-Design (CAD) program for analyzing the hydrologic and hydraulic characteristics of a given watershed and associated stormwater management facilities. It utilizes the latest techniques to predict the consequences of any given storm.

   HydroCAD has the capability of computing hydrographs (which represents discharge rates characteristic of specified watershed conditions, precipitation, and geologic factors) combining hydrographs and routing flows though pipes, streams and ponds. Documentation for HydroCAD can be found on their website: http://www.hydrocad.net/.

   For this analysis, the watershed and drainage system was broken down into a network consisting of four types of components as described below:

   1. Subcatchment: A relatively homogeneous area of land, which produces a volume and rate of runoff unique to that area.

   2. Reach: Uniform streams, channels or pipes that convey stormwater from one point to another.

3. Pond: Natural or man-made impoundment, which temporarily stores stormwater runoff and empties in a manner determined by its geometry and the hydraulic structure located at its outlets.

4. Link: A multi-purpose mechanism used to introduce a hydrograph from another file.

Subcatchments, reaches, ponds and links are represented by hexagons, squares, triangles, and broken boxes respectively, on the watershed routing diagrams provided with the computations included in Appendix J and Appendix K.

2. Analysis

The analysis of hydrologic and hydraulic conditions and proposed stormwater management facilities, servicing the study area, was performed by dividing the tributary watershed into relative homogeneous sub-catchments. The separation of the watershed into sub-catchments was dictated by watershed conditions, methods of collection, conveyance, and points of discharge. Watershed characteristics for each subcatchment were then assessed from United States Geological Service (USGS) 7.5-minute topographic maps, aerial photographs, a topographical survey, soil surveys, site investigations, and land use maps.

Proposed stormwater management facilities were designed and evaluated in accordance with the *NYS Stormwater Management Design Manual* and local regulatory requirements. The hydrologic and hydraulic analysis considered the SCS, Type III 24 hour storm events identified in Table 3.

Table 3: Design Events

Facility	24 Hour Storm Event
Storm Sewer	10 year
Detention Basin (pond)	1 year
	5 year
	10 year
	25 year
	100 year
Flood Conditions	100 year

3. Study Area and Design Point (DP)

The study area consists of an overall watershed that encompasses approximately 2.58 acres and contains the 2.33 acre subject site. The overall watershed was broken down into smaller watersheds, or subcatchments, to

allow for analysis of runoff conditions at several locations throughout the study area. A Design Point (DP) was selected in order to compare the effects resulting from stormwater management facilities proposed as part of the project. A description of the selected design point is provided below.

- Design Point 1: The design point is located near the southern corner of the subject site and is the existing stream channel. The area analyzed is approximately 2.58 acres in size and run-off drains from the northern portions of the subject site towards the stream channel and ultimately to the southern corner of the subject site.

7.3 Pre-Development Watershed Conditions

The pre-development subject site is covered predominantly by open grass areas with some wooded areas. Analysis of pre-development conditions considered existing drainage patterns, soil types, ground cover, and topography.

The Pre-Development Watershed Delineation Map has been provided in Appendix I as Figure 3. The results of the computer modeling used to analyze the overall watershed under pre-development conditions are presented in Appendix J. A summary of the pre-development discharge rates is presented in Table 4.

7.4 Post-Development Watershed Conditions

The post-development subject site is covered predominantly by paved and lawn areas with the southern portion of the property remaining undeveloped and used for stormwater management. The analysis of post-development conditions considered existing drainage patterns, soil types, ground cover to remain, planned site development, site grading and, stormwater management facilities proposed as part of site improvements.

The Post-Development Watershed Delineation Map has been provided in Appendix I as Figure 4. The results of the computer modeling used to analyze the overall watershed under post-development conditions are presented in Appendix K. A summary of the post-development discharge rates is presented in Table 4.

7.5 Hydrologic and Hydraulic Calculations

Comparison of pre- and post-development watershed conditions demonstrates that the peak rate of runoff from the proposed site will not be increased at all design points therefore will not pose a significant adverse impact to the adjacent or downstream properties or receiving water courses. Table 4 "Summary of Pre- and

Post-Development Peak Discharge Rates" summarizes the results of the analyses for such comparison.

Table 4: Summary of Pre- & Post-Development Peak Discharge Rates

Pre- vs. Post-Development Discharge Rate (cfs)										
DESIGN POINT (DP)	1 YEAR STORM EVENT		5 YEAR STORM EVENT		10 YEAR STORM EVENT		25 YEAR STORM EVENT		100 YEAR STORM EVENT	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	2.80	1.51	6.22	4.11	8.52	7.02	10.87	9.58	14.46	12.89

The results of the computer modeling used to analyze the stormwater management system under pre- and post-development conditions are presented in Appendix J and Appendix K, respectively.

7.6 Proposed Water Quantity and Quality Controls

1. Water Quantity Controls

   The proposed stormwater quantity controls will include an open detention basin, sand filters, catch basins and piping.

   The proposed quantity controls have been designed and sized to provide channel protection (C_{p_v}), overbank flood control ($Q_{p_{10}}$) and extreme flood protection ($Q_{f_{100}}$), where:

   - Channel Protection Volume (C_{p_v}) requirements are designed to protect stream channels from erosion. This is accomplished by providing 24-hour extended detention of the 1- year 24 hour storm event.

   - Overbank Flood Control Volume ($Q_{p_{10}}$) requirements are designed to prevent flow events that exceed the bankfull capacity of a channel, and therefore must spill over into the floodplain. This requires storage to assure that the post-development 10 year 24 hour peak discharge rates do not exceed pre-development rates.

   - Extreme Flood Protection Volume ($Q_{f_{100}}$) requirements are designed to:

     1. Prevent the increased risk of flood damage from large storm events.

     2. Maintain the boundaries of pre-development 100 year floodplain.

3. Protect the physical integrity of the stormwater management practices. This requires storage to assure that the post-development 100 year 24 hour peak discharge rates do not exceed pre-development rates.

A stormwater detention basin is proposed for providing control of off-site discharge of stormwater. The basin has been designed to provide the above quantity controls by attenuating stormwater runoff up to the 100 year event or releasing runoff to off-site locations at a rate equal to or less than that which existed prior to development of the site. The design is summarized in Table 5.

Table 5: Proposed Detention Basin

STORM EVENT	STORAGE VOL. (CF)	WATER ELEV. (FT)	FREEBOARD (FT)	DISCHARGE	
				RATE (CFS)	VOLUME (AF)
1 year, Cp_v	3,590	1.79	2.71	0.31	0.257
5 year,	5,379	2.38	2.12	2.46	0.459
10 year, Q_p	6,382	2.68	1.82	4.15	0.590
25 year,	7,266	2.92	1.58	5.70	0.723
100 year, Q_f	8,373	3.20	1.30	7.64	0.926

Flood Elevation of basin (top of berm) = 201.00
Overflow Weir Elevation = 200.5
Primary Outlet Elevation = 198.30
Low Flow Orifice Elevation = 196.50
Elevation at bottom of basin = 196.50

2. Water Quality Controls

Stormwater runoff from impervious surfaces is recognized as a significant contributor of pollution that can adversely affect the quality of the receiving water bodies. Therefore, treatment of stormwater runoff is important since most runoff related water quality contaminants are transported from land, particularly the impervious surfaces, during the initial stages of storm events.

The proposed water quality (WQ_v) controls have been sized based on the 90% rule methodology as described in Table 4.1 "New York Stormwater Sizing Criteria" of the *NYS Stormwater Management Design Manual* dated August 2003. The water quality (WQ_v) control is defined as:

$$WQ_v = \frac{[(P)(R_v)(A)]}{12}$$

Where:

P	=	90% Rainfall Event Number
R_v	=	0.05 + 0.009 (I), minimum R_v = 0.2

I = Impervious Cover (Percent)
A = Site Area in Acres

Utilizing the above design equation, each of the devices has been sized accordingly to provide the required water quality volume (WQ_v) for its contributing drainage area. Design computations for the Stormwater Quality Control Components for each basin are presented in Appendix L. The required water quality volume (WQ_v) has been determined and is summarized in Table 6.

Table 6: Proposed Stormwater Management Water Quality Criteria

1	F-1	4,160	1,040 cf	2,080 cf	1,069 cf *	5,421	6,490

* Note: Pre-Treatment provided in 8,000 Gal storage tank prior to flow into filter basin.

8.0 conclusion

The Chazen Companies have completed a Stormwater Pollution Prevention Plan for the planned Hudson Valley Federal Credit Union Branch located at the intersection of NYS Route 32 and Willow Lane in the Town of New Windsor, Orange County, New York. The analyses included the review of watershed conditions, hydrologic and hydraulic analysis using computer modeling, and an evaluation of the proposed improvements across the subject site.

The Stormwater Management Plan allows for the maintenance of existing drainage patterns while continuing the conveyance of stormwater runoff from upland watershed areas.

The Stormwater Management Plan controls increases in the stormwater rate of runoff resulting from the proposed development without adversely affecting downstream conditions. This is demonstrated by comparing pre- and post-development flows for various storm events. Table 4 "Summary of Pre- and Post-Development Peak Discharge Rates" summarizes the results of the analyses for such comparison.

The comparison of pre- and post-development watershed rate of runoff demonstrates that off-site peak flow conditions at the design point will pose no significant adverse impacts to the adjacent or downstream properties or receiving water courses.

The proposed stormwater collection system consisting of pipes, open drainage ways and on-site stormwater management facilities will adequately collect, treat, and convey the stormwater.

Stormwater quality will be enhanced through the implementation of the proposed stormwater management facilities, erosion and sediment control measures and maintenance practices outlines herein.

In conclusion, it is our opinion that the proposed development will not adversely impact adjacent or downstream properties if the stormwater management facilities are properly constructed, and maintained in accordance with the requirements outlines herein.

Appendix A:
NYSDEC SPDES
General Permit GP-02-01

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

from

CONSTRUCTION ACTIVITY

Permit No. GP-02-01

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 8, 2003 | Expiration: January 8, 2008

William R. Adriance
Chief Permit Administrator

Address: NYS DEC
Div. Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

Authorized Signature
William R. Adriance

Date: January 8, 2003

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES
FROM CONSTRUCTION ACTIVITY

Preface

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater discharges from certain construction activities to waters of the United States[1] are unlawful unless they are authorized by a NPDES (National Pollutant Discharge Elimination System) permit or by a state permit program. New York's SPDES (State Pollutant Discharge Elimination System) is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law ("ECL"). Discharges of pollutants to all other "Waters of New York State" such as groundwaters are also unlawful unless they are authorized by a SPDES permit.

A discharger, owner, or operator may[2] obtain coverage under this general permit by submitting a Notice of Intent ("NOI") to the Department. Copies of this General Permit and the NOI for New York are available by calling (518) 402-8109 or at any Department of Environmental Conservation (the Department) regional office (see Appendix A on Page 23). They are also available on the Department's website at:

www.dec.state.ny.us

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1 "Waters of the United States" means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; and
(b) All interstate waters, including interstate "wetlands"; and
(c) All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    (3) Which are used or could be used for industrial purposes by industries in interstate commerce; and
(d) All impoundments of waters otherwise defined as waters of the United States under this definition; and
(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; and
(f) The territorial sea; and
(g) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal areas in wetlands) nor resulted from the impoundment of waters of the United States.

2 "may" refers to circumstances under which the discharger is ineligible for coverage under this general permit because of other provisions of this permit. Dischargers which are excluded from coverage under this general permit as provided for in Part I, Section C, for example, are not authorized to discharge under this permit. This also applies to possible situations in which an NOI has been submitted and/or a regulatory fee paid pursuant to Article 72 of the ECL. The submittal of an NOI and/or regulatory fee has no bearing or relevance whatsoever on the eligibility of the construction activity discharging stormwater runoff under the authority of this permit.

Local Programs of a Regulated MS4

Under the federal Phase II stormwater program, many cities, villages, towns, and other public entities in New York State which are located within "Urbanized Areas" as defined by the U.S. Census and who operate a Municipal Separate Storm Sewer System ("MS4") will be required to obtain SPDES permit coverage for stormwater discharges under their jurisdiction and control (see 40CFR Part 122 §122.26.32). Additionally, MS4s may be designated by the Department as regulated MS4s. Among other requirements, the Phase 2 NPDES stormwater regulations require regulated MS4s to address stormwater runoff from construction activities. Construction activities covered under this general permit, which are subject to stormwater runoff controls of a regulated MS4, will also need to comply with the MS4's controls.

Five (5) Day Coverage

Prior to the submission of an NOI, the owner or operator must have completed a Storm Water Pollution Prevention Plan (SWPPP) that complies with all requirements of this general permit. Submitting an NOI is an affirmation that a SWPPP has been prepared and will be implemented. If an applicant certifies that the SWPPP has been developed in conformance with the Department's technical standards, the applied-for activity may obtain coverage under this general permit in five (5) business days after the Department's receipt of the NOI provided, that the activity is eligible for coverage under this general permit and that the Department has not informed the applicant otherwise.

Sixty (60) Day Coverage

While the Department's technical standards are appropriate statewide, it is recognized that there may be situations where stormwater management goals can best be met by alternative means that are more suitable given local conditions.

For construction projects in these situations, applicants must identify in their NOI each of the deviations from the Department's technical standards that they are seeking. Applicants must also explain why the deviations are needed or desired and what impacts to water quality, if any, can be expected if the deviation were allowed. Applicants must also explain the actions, if any, that local board(s) have taken with respect to the deviation(s). For applicants which cannot certify conformance with the Department's technical standards, the SWPPP must also be certified by a licensed/certified professional that the SWPPP has been developed in a manner which will insure compliance with water quality standards and with the substantive intent of this permit.

In cases of deviations from the Department's technical standards, applicants must allow sixty (60) business days after the receipt by the Department of a completed NOI and certification before gaining coverage under this general permit and before initiating any construction activity. During this 60 day period, the Department may conduct further review of the NOI and SWPPP. If additional information is needed to complete the review, the NOI will be considered

incomplete and the applicant will be so advised. The intent of this provision is to require conformance the Department's technical standards wherever possible and appropriate. At the same time, alternative means to address stormwater control may be allowed under this general permit where they are more suitable for the site in question and where they will not diminish water quality protection.

There are other scenarios under which coverage under this general permit will not occur until 60 business days from the receipt of a completed NOI. For example, if the construction activity or post construction runoff causes the discharge of a pollutant of concern to a water identified on the 303(d) list or a watershed with an approved TMDL for that pollutant of concern, coverage under the general permit will not occur until sixty (60) business days from the receipt by the Department of a completed NOI. For these projects the operator may be required to submit the SWPPP and/or appropriate certification(s) to the Department for review. The flowchart shown in Figure 1 on page vi will help to describe the process under which certain conditions exist that require possible further analysis and water quality/quantity considerations.

Computer Tool Available For Completion of SWPPPs and NOIs Under Development

The Department is currently developing an interactive computer software tool entitled "How to Prepare SWPPPs and Notices of Intent" to assist applicants in both developing SWPPPs and completing NOIs. This will be available in the near future for use on the Department website as well as being packaged independently on compact discs. This tool will contain guidance as well as many useful links to reference materials and documents concerning erosion and sedimentation control, as well as to the design of stormwater management practices . The Department's website will contain the latest information and guidance on the various tools available.

The Department's Technical Standards

The Department's technical standards for erosion and sediment control are contained in the document, *"New York Standards and Specifications for Erosion and Sediment Control"*[3] published by the Empire State Chapter of the Soil and Water Conservation Society. For the design of water quantity and water quality controls (post-construction stormwater control practices), the Department's technical standards are detailed in the *"New York State Stormwater Management Design Manual."* Both of these documents are available on the Department's website. If an applicant certifies that stormwater management practices will conform to the Department's technical standards, then coverage under the permit may occur sooner than otherwise would be the case if non-conformance with the manuals existed. See Figure 1 on page vi for more information.

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[3] Previously, the *"New York Guidelines for Urban Erosion and Sediment Control"*, also commonly referred to as the "Blue Book".

Permit Valid for Any Size Disturbance

This permit may be used for construction activities involving any amount of disturbed acreage, provided that all other eligibility conditions in subsection B of Part I are satisfactorily met (see page 2 of this permit). Thus, this permit may apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(14)(x) which are also referred to as "NPDES Phase 1 construction activities" involving soil disturbances of five (5) acres or more. This permit may also apply to activities identified under 40 CFR Part 122, subsection 122.26(b)(15) which are also referred to as "NPDES Phase 2 small construction activities" involving soil disturbances of between one (1) and five (5) acres. And, this permit may also apply to construction activities involving soil disturbances of less than one (1) acre if the Department determines that a SPDES permit is required pursuant to the ECL. In any and all cases, all of the eligibility provisions of this general permit must be met in order to gain coverage.

Notice of Termination

After construction is completed as defined in the general permit (see Part II beginning on Page 7), cancellation of coverage is accomplished by the submittal of a Notice of Termination ("NOT"). Failure to submit a NOT may result in the continued obligation to pay a yearly Regulatory Fee established pursuant to Article 72 of the ECL and/or may be cause for suspension of permit coverage.

Previous versions of NOIs, NOTs and Notices of Intent, Transfer and Termination ("NOITT"s) cannot be used in conjunction with this general permit. There is a new NOI required for obtaining coverage under this general permit. Failure to include information identified as "mandatory" entries on the new NOI form may prevent and/or delay discharge authorization being sought under this permit.

The new NOT will also include an identification of any permanent structures that are being left on the site after stabilization occurs and after termination of permit coverage under this general permit. The NOT will also include a certification that the structures were constructed as described in the SWPPP and that an Operation and Maintenance ("O&M") manual has been prepared and has been made available to the owner of such permanent structures who is expected to conduct the necessary O&M over the life of the structure(s).

Ineligible Activities

The submittal of a completed NOI and/or the payment of an annual regulatory fee by an applicant does not necessarily mean that an applicant is covered under this permit if the applicant is ineligible for coverage under this permit under the terms cited in Part I of this permit. In other words, submitting a completed NOI and paying an annual regulatory fee does not automatically gain an applicant permit coverage if the applicant is ineligible for coverage under this permit even if the Department fails to immediately inform the applicant of such ineligibility.

Permit Expiration Date

Coverage under this general permit is available January 8, 2003 and will expire five (5) years after issuance on January 8, 2008.

Activities Previously Covered Under GP-93-06

In a separate proposal, the Department is also concurrently seeking to re-issue GP-93-06 with an expiration of August 1, 2003. The purpose of this action is to provide a transition period for permittees which have had SPDES permit coverage under GP-93-06 immediately prior to January 8, 2003, the effective date of GP-02-01. **Prior to August 1, 2003**, these activities will need to:
(1) stabilize their sites in accordance with GP-93-06 and submit an NOT; or, if necessary,
(2) gain coverage under GP-02-01 by submitting a new NOI.

For **new** construction activities, coverage under GP-93-06 will not be available after the effective date of GP-02-01, January 8, 2003. Such discharges may be eligible for coverage under GP-02-01 (see Part I.B. on page 2 of this permit).

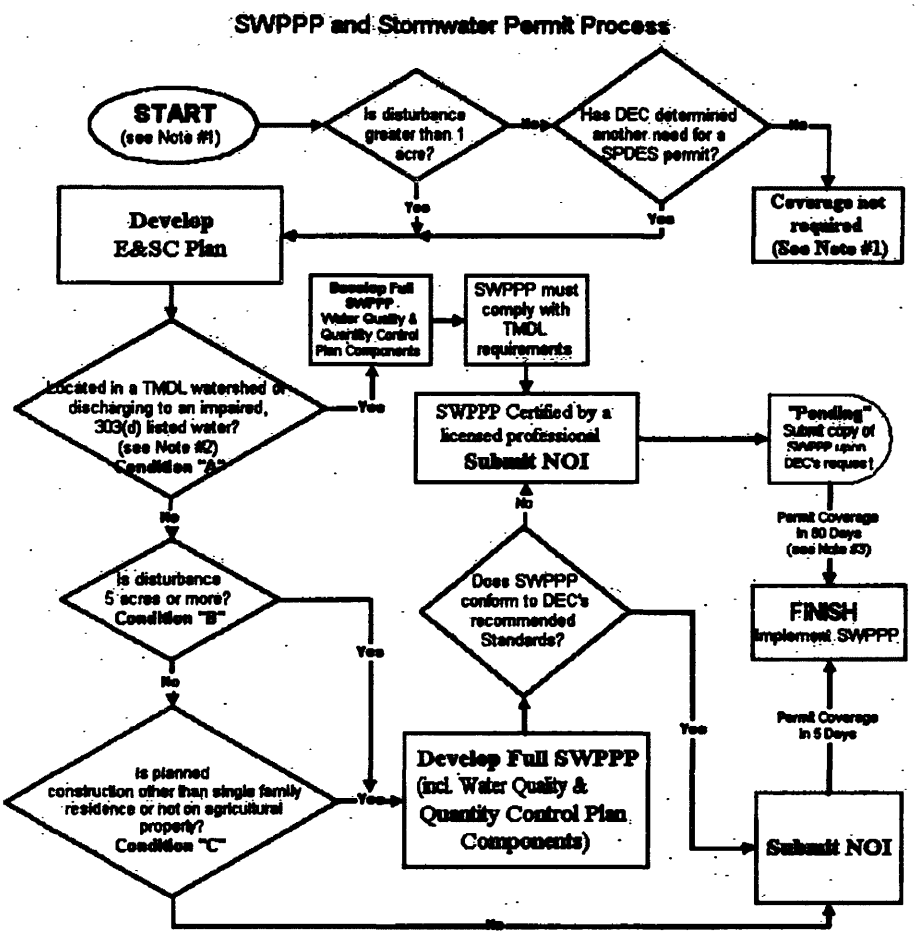
Water Quality Violations Not Permitted

This permit does not authorize any person to cause or contribute to a condition in contravention of any water quality standards that are contained in the Rules and Regulations of the State of New York (see Part I of this permit on page 2) even if the permittee is in compliance with all other provisions of this permit. Any violations of water quality standards may be considered by the Department to be violations of this permit and/or the ECL, including its accompanying regulations.

Other Department Permits

Construction activities may also require other Department permits in addition to the coverage provided by this general permit including, but not limited to, dam safety, wetlands and stream protection. Such other Department permits must be obtained separately from coverage under this general permit. Further information concerning these permits should be sought from the Regional Permit Administrator at the appropriate Department regional office (See Appendix A on page 23).

FIGURE 1



NOTES:
1. Under any of the above conditions other environmental permits may be required. DEC may require permit for construction disturbance < 1 acre on a case by case basis.
2. and the following exists: construction and/or stormwater discharges from the construction or post-construction site contain the pollutant of concern identified in the TMDL or 303(d) listing.
3. After receipt by DEC of completed application.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES

FROM CONSTRUCTION ACTIVITIES

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Part I. COVERAGE UNDER THIS PERMIT

A. **Maintaining Water Quality** - It shall be a violation of this general permit and the Environmental Conservation Law ("ECL") for any discharge authorized by this general permit to either cause or contribute to a violation of water quality standards as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York including, but not limited to:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal and settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

B. **Eligibility Under This General Permit**

1. This permit may authorize all discharges of stormwater from construction activity[4] to surface waters and groundwaters except for ineligible discharges identified under subparagraph C of this Part (see below). Discharge authorization under this permit requires the submittal of a completed NOI.

2. Except for non-stormwater discharges explicitly listed in the next paragraph, this permit only authorizes stormwater discharges from construction activities.

3. Notwithstanding paragraphs B.1 and B.2 above, the following non-stormwater discharges may be authorized by this permit: discharges from fire

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[4] This includes discharges of stormwater associated with industrial activity identified under 40 CFR Part 122, subsection 122.26(b)(14)(x), small construction activities identified under 40 CFR Part 122, subsection 122.26(b)(15) or any other stormwater from construction activities that are not otherwise ineligible for coverage under this permit (See Part I, subsection B beginning on page 2).

fighting activities; fire hydrant flushings; waters to which cleansers or other components have **not** been added that are used to wash vehicles or control dust in accordance with the SWPPP, routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; and foundation or footing drains where flows are not contaminated with process materials such as solvents. For those entities required to obtain coverage under this general permit, and who discharge as noted in this paragraph, and with the exception of flows from fire fighting activities, these discharges must be identified in the SWPPP(see Part III beginning on Page 7). Under all circumstances, the permittee must still comply with water quality standards (see Part I, subsection A on Page 2).

C. **Activities Which Are Ineligible for Coverage Under This General Permit** - All of the following stormwater discharges from construction activities are **not** authorized by this permit:

1. Discharges after construction activities have been completed and the site has undergone final stabilization[5];

2. Discharges that are mixed with sources of non-stormwater other than those expressly authorized under subsection B.3. of this Part (see page 3) and identified in the SWPPP required by this permit;

3. Discharges that are subject to an existing SPDES individual or general permit or which are required to obtain an individual or alternative general permit pursuant to Part V, subparagraph K (see page 21) of this permit;

4. Discharges that are likely to adversely affect a listed, or proposed to be listed, endangered or threatened species, or its critical habitat;

5. Discharges which are subject to an existing effluent (limitation) guideline addressing stormwater and/or process wastewater unless said guidelines are contained herein; or

6. Discharges which either cause or contribute to a violation of water quality standards adopted pursuant to the ECL and its accompanying regulations (See subsection A of Part I on page 2).

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[5] "Final Stabilization" means that all soil disturbing activities at the site have been completed, and that a uniform perennial vegetative cover with a density of 80% has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

D. **Authorization Under This General Permit**

1. An operator[6] must submit a completed NOI form in order to be authorized to discharge under this general permit. The NOI form shall be one which is associated with this general permit, signed in accordance with Part V. H.(see Page 19) of this permit and submitted to the address indicated on the NOI form. NOIs and NOITTs used in association with either previous or other general permits are not valid for obtaining coverage under this general permit. The submittal of an NOI is an affirmation to the operators' understanding and belief that the activity is eligible for coverage under this permit and that a SWPPP has been prepared and will be implemented in accordance with Part III of this permit.

2. All contractors and subcontractors of the operator identified under Part III.E.1 (see page 17) must provide the certification cited under Part III.E.2 (see page 17). Such certifications shall become part of the SWPPP for the construction activity covered under this general permit.

3. Unless notified by the Department to the contrary, operators who are eligible for coverage under this permit **and** who submit an NOI in accordance with the requirements of this permit, may be authorized to discharge stormwater from construction activities under the terms and conditions of this permit, and in accordance with the following timetable:

a. For construction activities which:

(1) develop a SWPPP in conformance with the Department's technical standards (See subsection D of Part III on page 10), and do not or will not discharge a pollutant of concern to an impaired water or a TMDL watershed;

or

(2) as of the effective date of this general permit, GP-02-01, have obtained coverage under, and are operating in compliance with, GP-93-06; and do not or will not discharge a pollutant of concern to an impaired water or a TMDL watershed;

authorization to discharge under this permit may occur <u>five (5) business days</u> after the date on which the NOI is received by the Department.

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6 For the purposes of this permit, the term "operator" means the person, persons, or legal entity which owns or leases the property on which the construction activity is occurring. Also, see Part V., subsection H. on page 19 of this permit.

b. For activities which do not comply with the preceding subsection (i.e. Part I.D.3.a.), authorization to discharge under this permit will begin no sooner than sixty (60) business days from the receipt of the completed NOI unless notified differently by the Department pursuant to Part V, subsection K of this permit (see page 21). For activities not satisfying Part I.D.3.a.(1) above, or for construction site runoff subject to a TMDL (see Figure 1 on page vi), the SWPPP must be prepared by a licensed/certified professional[7] and include a certification stating that the SWPPP has been developed in a manner which will assure compliance with water quality standards (see Part I.A.) and with the substantive intent of this permit.

c. For construction activities which are subject to a sixty-day period provision identified in the preceding subparagraph b., the SWPPP shall include each of the components identified in Part III.A.1.b. (see page 8).

4. At its sole discretion, the Department may deny or terminate coverage under this permit and require coverage under another SPDES permit at any time based on a review of the NOI, the SWPPP or other relevant information (see Part V, subsection K of this permit on page 21).

5. A copy of the NOI and a brief description of the project shall be posted at the construction site in a prominent place for public viewing.

6. A signed copy of the NOI, the SWPPP, and any reports required by this permit shall also be submitted concurrently to the local governing body and any other authorized agency[8] having jurisdiction or regulatory control over the construction project.

7. New stormwater discharges from construction activities that require any other Uniform Procedures Act permit (Environmental Conservation Law, 6 NYCRR Part 621) cannot be covered under this general permit until the other required permits are obtained. Upon satisfaction of the State Environmental Quality Review Act ("SEQRA") for the proposed action and issuance of necessary permits, the applicant may submit an NOI to obtain coverage under this general

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7 A "licensed/certified professional" means a person currently licensed to practice engineering in New York State or is a Certified Professional in Erosion and Sediment Control (CPESC).

8 For the purposes of this general permit, "any other authorized agency" shall include any local, regional, or state entity or agency except the Department which has authority to review stormwater discharge from the project, including authority under any approved watershed protection plan or regulations.

permit.[9] In order to facilitate the Department's review of a multi-permitted project, an applicant should submit, at a minimum, a copy of the SWPPP which contains the information specified in Appendix B (see page 24). This information will assist the Department in determining whether or not coverage under this general permit or another SPDES permit is the more appropriate option. The Department may also require the submission of additional information in order to determine the SWPPP's conformance with the Department's technical standards.

8. Upon renewal of this general permit or issuance of a new general permit, the permittee is required to notify the Department of its intent to be covered by the new general permit. Coverage will continue under this permit for its term unless action is taken to terminate permit coverage as provided elsewhere in this permit. See also Part V. subsection B. on page 18 of this permit.

9. In the event of a transfer of ownership or responsibility for stormwater runoff, there can be no "automatic" transfer of permit coverage from one permittee to the next without appropriate notification from the dischargers. The former permittee must submit an NOT and notify the new discharger of the possible need for the new discharger to submit a new NOI (see Section E, subparagraph 2 below).

E. **Deadlines for Notification**

1. Operators who intend to obtain coverage under this general permit for stormwater runoff from construction activities must submit an NOI in accordance with the requirements of this Part at least five (5), or sixty (60) business days, as appropriately determined from Part I, Section D.3 (see page 4) prior to the commencement of construction[10] activities.

2. For stormwater runoff from construction activities where the operator changes, a new NOI must be submitted by the new operator in accordance with the requirements of this permit. The former operator must submit a NOT in accordance with Part II (see page 7) of this permit and notify the new operator of the requirement to submit a new NOI to obtain coverage under this permit. The new operator must also review and sign the SWPPP in accordance with Part III.B.(see page 9) and continue implementation of the SWPPP as required by this

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9 The purposes of this subsection is to assure that the requirements of SEQRA are fulfilled, if necessary, before any discharge authorization under this general permit is granted.

10 "Commencement of Construction" means the initial disturbance of soils associated with clearing, grading, or excavating activities, or other construction activities.

permit.

Part II. TERMINATION OF COVERAGE[11]

Where a site has been finally stabilized, the operator must submit a NOT form prescribed by the Department for use with this general permit. The NOT shall be signed in accordance with Part V. H.(see page 19) of this permit and submitted to the address indicated on the approved NOT form.

The permittee must identify all permanent stormwater management structures that have been constructed and provide the owner(s) of such structures with a manual describing the operation and maintenance practices that will be necessary in order for the structure to function as designed after the site has been stabilized. The permittee must also certify that the permanent structure(s) have been constructed as described in the SWPPP.

Part III. STORMWATER POLLUTION PREVENTION PLANS ("SWPPP"s)

A. General

1. SWPPP Preparation

a. A SWPPP shall be developed by the operator for construction activities at each site to be covered by this permit, prior to the initiation of activities requiring coverage under this permit. SWPPPs shall be prepared in accordance with sound engineering practices. The SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges. In addition, the SWPPP shall describe and ensure the implementation of practices which will be used to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of this permit. Operators are encouraged to have their SWPPP reviewed for adequacy and completeness by the local soil and water conservation district ("SWCD") and/or other professionals qualified in erosion and sediment control practices[12] and stormwater management. Moreover, if the construction activity is identified under Part I, subsection D.3.b. (See page 5), or for construction site runoff subject to a TMDL (see Figure 1 on page vi), the SWPPP must include a certification by a licensed/certified professional.

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11 Submittal of an NOT will terminate coverage under this general permit and will also remove the permittee from subsequent billings of the annual regulatory fee levied under Article 72 of the ECL.

12 For example, CPESC, Inc. administers a certified program of individuals under its CPESC (Certified Professional in Erosion and Sediment Control) program which is sponsored by the International Erosion Control Association (IECA) and the Soil and Water Conservation Society (SWCS) and is endorsed by USDA - Natural Resources Conservation Service. CPESC, Inc. also administers the CPSWQ (Certified Professional in Stormwater Quality) program.

b. All SWPPPs shall include erosion and sediment controls. For construction activities meeting either Condition "A", "B" or "C" described below, the SWPPP shall also include water quantity and water quality controls (post-construction stormwater control practices).(see Part III. D.).

(1) Condition A - Construction site or post construction runoff discharging a pollutant of concern to either an impaired water identified on DEC's 303(d) list or a TMDL watershed for which pollutants in stormwater have been identified as a source of the impairment.

(2) Condition B - Construction site runoff from Phase 1 construction activities (construction activities disturbing five (5) or more acres) identified under 40 CFR Part 122, §122.26(b)(14)(x).

(3) Condition C - Construction site runoff from construction activity disturbing between one (1) and five (5) acres of land during the course of the project, exclusive of the construction of single family residences and construction activities at agricultural properties.

2. **SWPPP Implementation** - Operators are responsible for implementing the provisions of the SWPPP and ensuring that all contractors and subcontractors who perform professional services at the site provide certification of the SWPPP in accordance with Part I.D.2. (see page 4) and Part III.E.2. (see page 17) of this permit. All contractors and subcontractors identified in the SWPPP in accordance with Part III.E.1. (see page 17) of this permit must agree to implement applicable provisions of the SWPPP and satisfy the certification requirement of Part III.E.2. (see page17). However, contractors and subcontractors who are not operators, as defined in this permit (see page 4), are not required to submit a NOI in addition to the NOI submitted by the operator.

3. **Deadlines for SWPPP Preparation and Compliance** - The SWPPP must be developed prior to the submittal of an NOI and provide for compliance with the terms and schedule of the SWPPP beginning with the initiation of construction activities. The operator shall also certify in the SWPPP that all appropriate stormwater control measures will be in place before commencement of construction of any segment of the project that requires such measures.

4. **Local Requirements** - Developing a SWPPP that complies with the requirements listed herein does not relieve an operator from the obligation of complying with stormwater management requirements of the local government having jurisdiction over the project.

5. **Activities Previously Covered Under GP-93-06** - For construction activities which are covered by GP-93-06 as of the effective date of this permit (GP-02-01), the continued implementation of their SWPPP that was developed and implemented in accordance with GP-93-06 is acceptable until such time as:

(a) an NOT is submitted;

(b) the Department notifies them otherwise in accordance with this permit, including Part V, subsection K (see page 21); or

(c) this permit expires.

B. **Signature and SWPPP Review**

1. The SWPPP shall be signed in accordance with Part V. H.(see page 19), and be retained at the site where the construction activity occurs in accordance with Part IV (see retention of records on page 17) of this permit.

2. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity. The operator shall make SWPPPs available upon request to the Department and any local agency having jurisdiction; or in the case of a stormwater discharge associated with industrial activity which discharges through a municipal separate storm sewer system, to the municipal operator of the system.

3. The Department, or its authorized representative, may notify the permittee at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. Such notification shall identify those provisions of the permit which are not being met by the SWPPP and identify which provisions of the SWPPP require modifications in order to meet the minimum requirements of this permit. Within seven (7) days of such notification, (or as otherwise provided by the Department) the permittee shall make the required changes to the SWPPP and shall submit to the Department a written certification that the requested changes have been made. Notwithstanding the foregoing, the Department reserves all rights to enforce the terms of the ECL.

C. **Keeping SWPPPs Current** - The permittee shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or

2. The SWPPP proves to be ineffective in:

a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP required by this permit, or

b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity.

3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP (see Part III.E, page 17 below). Amendments to the SWPPP may be reviewed by the Department in the same manner as provided by Part III.B (see page 9 above).

D. **General Contents of SWPPPs** -

1. **Standards for construction activities covered under this permit** - The Department's technical standards for erosion and sediment controls are detailed in the "*New York Standards and Specifications for Erosion and Sediment Control*"[13] published by the Empire State Chapter of the Soil and Water Conservation Society. For the design of water quality and water quantity controls (post-construction stormwater control practices), the Department's technical standards are detailed in the "*New York State Stormwater Management Design Manual.*"

If an operator certifies that the SWPPP has been developed in conformance with the Department's technical standards referenced above, they may obtain coverage under this general permit in five (5) business days from the Department's receipt of the NOI, provided the construction activity does not meet Condition A in Part III.A.1.b. For SWPPPs which will not conform with the Department's technical standards, the SWPPP must be prepared by a licensed/certified professional and include a certification stating that the SWPPP has been developed in a manner which will assure compliance with the State's water quality standards and with the substantive intent of this permit. In addition, coverage under this general permit will not begin until sixty (60) business days from the receipt of a completed NOI.

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13 Previously, the "*New York Guidelines for Urban Erosion and Sediment Control,*" also commonly referred to as the "Blue Book."

2. **Minimum SWPPP Components** SWPPPs prepared pursuant to this general permit shall present fully designed and engineered stormwater management practices with all necessary maps, plans and construction drawings. The SWPPP must, at a minimum, include the following:

a. For all construction activities subject to this general permit -

(1). provide background information about the scope of the project, including the location, type and size of project.

(2) provide a site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharge(s);

(3) provide a description of the soil(s) present at the site;

(4) provide a construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Guidelines for Urban Erosion and Sediment Control, there shall not be more than five (5) acres of disturbed soil at any one time without prior written approval from the Department;

(5) provide a description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in the storm water discharges;

(6) provide a description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to storm water, and spill prevention and response;

(7) describe the temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land

clearing and grubbing to project close-out;

(8) identify and show on a site map/construction drawing(s) the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

(9) provide the dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;

(10) identify temporary practices that will be converted to permanent control measures;

(11) provide an implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and the duration that each practice should remain in place;

(12) provide a maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practices;

(13) provide the names(s) of the receiving water(s);

(14) provide a delineation of SWPPP implementation responsibilities for each part of the site;

(15) provide a description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and

(16) provide any existing data that describes the stormwater runoff characteristics at the site.

b. <u>For construction activities meeting Condition A, B or C in Part III.A.1.b.</u>

(1) provide all the information required in Parts III.D.2.a.1 - 16 above;

(2) provide a description of each post-construction stormwater control practice;

(3) identify and show on a site map/construction drawing(s) the specific location(s) and size(s) of each post-construction stormwater control practice;

(4) provide a hydrologic and hydraulic analysis for all structural components of the stormwater control system for the applicable design storms;

(5) provide a comparison of post-development stormwater runoff conditions with pre-development conditions;

(6) provide the dimensions, material specifications and installation details for each post-construction stormwater control practice;

(7) provide a maintenance schedule to ensure continuous and effective operation of each post-construction stormwater control practice.

The following three subsections, Part III.D. 3. through Part III.D. 5., apply only to construction activities covered under this general permit which meet Conditions "A" , "B"[14] or "C" in Part III. A.1.b. Beginning with Part III.E. below (see page 17) the requirements set forth therein apply to all permittees covered under this permit.

3. **Site Assessment and Inspections** -

a. The operator shall have a qualified professional[15] conduct an assessment of the site prior to the commencement of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and required by Part III.D. (see page 10) of this permit have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction. Following the commencement of construction, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. During each inspection, the qualified professional shall record the following information:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

(4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and

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14 Condition "B" includes construction activities covered under GP-93-06 and, therefore, are subject to Part III.D.3 through Part III.D. 5.

15 "Qualified professional" means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a licensed professional engineer, Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist.

containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water;
and

(6) All deficiencies that are identified with the implementation of the SWPPP.

b. The operator shall maintain a record of all inspection reports in a site log book. The site log book shall be maintained on site and be made available to the permitting authority upon request. Prior to the commencement of construction,[16] the operator shall certify in the site log book that the SWPPP, prepared in accordance with Part III.D. (see page 10) of this permit, meets all Federal, State and local erosion and sediment control requirements.

The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis.

c. Prior to filing of the Notice of Termination or the end of permit term, the operator shall have the qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[17] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

d. The operator shall certify that the requirements of Parts III.D.3., III.D.4. and III.D.5 of this permit have been satisfied within 48 hours of actually meeting such requirements.

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16 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

17 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

4. **Stabilization**[18] - The operator shall initiate stabilization measures as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. This requirement does not apply in the following instances:

a. Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceased is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable;

b. Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within twenty-one (21) days, temporary stabilization measures need not be initiated on that portion of the site.

5. **Maintenance** - Sediment shall be removed from sediment traps or sediment ponds whenever their capacity has been reduced by fifty (50) percent from the design capacity.

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18 "Stabilization" means covering or maintaining an existing cover over soil. Cover can be vegetative (e.g. grass, trees, seed and mulch, shrubs, or turf) or non-vegetative (e.g. geotextiles, riprap, or gabions).

E. **Contractors**

1. The SWPPP must clearly identify for each measure identified in the SWPPP, the contractor(s) and subcontractor(s) that will implement the measure. All contractors and subcontractors identified in the SWPPP must sign a copy of the certification statement in Part III.E.2 (see below) of this permit in accordance with Part V.H.(see page 19) of this permit. All certifications must be included in the SWPPP. Additionally, new contractors and subcontractors (see subsection C.3. above) need to similarly certify.

2. **Certification Statement** - All contractors and subcontractors identified in a SWPPP in accordance with Part III.E.1 (see above) of this permit shall sign a copy of the following certification statement before undertaking any construction activity at the site identified in the SWPPP:

> "I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge stormwater. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

The certification must include the name and title of the person providing the signature in accordance with Part V.H.(see page 19) of this permit; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

Part IV. MONITORING, REPORTING AND RETENTION OF RECORDS

A. The Department may, at its sole discretion, require monitoring of discharge(s) from the permitted construction activity after notifying the permittee in writing of the basis for such monitoring, the parameters and frequency at which monitoring shall occur and the associated reporting requirements, if any.

B. The operator shall retain copies of SWPPPs and any reports submitted in conjunction with this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the site is finally stabilized. This period may be extended by the Department, in its sole discretion, at any time upon written notification.

C. The operator shall retain a copy of the SWPPP required by this permit at the construction site from the date of initiation of construction activities to the date of final

stabilization.

D. The operator shall also prepare a written summary of its status with respect to compliance with this general permit at a minimum frequency of every three months during which coverage under this permit exists. The summary should address the status of achieving each component of the SWPPP . This summary shall be handled in the same manner as prescribed for SWPPPs under Part III, subsection B (see Page 9).

E. **Addresses** - Except for the submittal of NOIs and NOTs, all written correspondence under this permit directed to the Department, including the submittal of individual permit applications, shall be sent to the address of the appropriate Department Office as listed in Appendix A (see page 23).

Part V. STANDARD PERMIT CONDITIONS

A. **Duty to Comply** - The operator must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the ECL and is grounds for an enforcement action against either the operator or the contractor/subcontractor; permit revocation or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all construction activity at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the operator or the operator's on-site representative.

B. **Continuation of the Expired General Permit** - This permit expires five (5) years after issuance on January 8, 2008. However, coverage may be obtained under the expired general permit which will continue in force and effect until a new general permit is issued. After issuance of a new general permit, those with coverage under GP-02-01 will have six (6) months from the effective date of the new general permit to complete their project or obtain coverage under the new permit. Unless otherwise notified by the Department in writing, operators seeking authorization under a new general permit must submit a new NOI in accordance with the terms of such new general permit. See also Part I, subsection D.8. on page 6.

C. **Penalties for Violations of Permit Conditions** - There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $25,000 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. **Need to halt or reduce activity not a defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the construction activity in order to maintain compliance with the conditions of this permit.

E. **Duty to Mitigate** - The permittee and its contractors and subcontractors shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. **Duty to Provide Information** - The permittee shall furnish any information requested by any agency with regulatory or review authority over this project for the purpose of determining compliance with this permit or compliance with any other regulatory requirements placed on the project in conjunction with this permit. Failure to provide requested information shall be a violation of this permit. Such regulating agencies include but are not limited to the Department, SWCDs,[19] local planning, zoning, health, and building departments that review and approve erosion and sediment control plans, grading plans, and Stormwater Management Plans, as well as MS4s into whose system runoff from the permitted project or activity discharges. The SWPPP and inspection reports required by this general permit are public documents that the operator must make available for inspection, review and copying by any person within five (5) business days of the operator receiving a written request by any such person to review the SWPPP and/or the inspection reports. Copying of documents will be done at the requester's expense.

G. **Other Information** - When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Department, he or she shall promptly submit such facts or information.

H. **Signatory Requirements** - All NOIs, NOTs, SWPPPs, reports, certifications or information required by this permit or submitted pursuant to this permit, shall be signed as follows:

1. All NOIs and NOTs shall be signed as follows:

   a. For a corporation: by (1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person authorized to and who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

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19 "SWCD" means Soil and Water Conservation District

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and all reports required by the permit and other information requested by the Department or local agency shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described above and submitted to the Department.

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

c. **Certification** - Except for NOIs and NOTs, any person signing documents in accordance with this Part shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

I. **Property Rights** - The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

J. **Severability** - The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. **Denial of Coverage Under This Permit**

1. At its sole discretion, the Department may require any person authorized by this permit to apply for and/or obtain either an individual SPDES permit or an alternative SPDES general permit. Where the Department requires a discharger authorized to discharge under this permit to apply for an individual SPDES permit, the Department shall notify the discharger in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the discharger to file the application, and a statement that on the effective date of issuance or denial of the individual SPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. Applications shall be submitted to the appropriate Department Office indicated in Appendix A of this permit. The Department may grant additional time to submit the application upon request of the applicant. If a discharger fails to submit in a timely manner an individual SPDES permit application as required by the Department under this paragraph, then the applicability of this permit to the individual SPDES permittee is automatically terminated at the end of the day specified by the Department for application submittal.

2. Any discharger authorized by this permit may request to be excluded from the coverage under this permit by applying for an individual permit. In such cases, the permittee shall submit an individual application in accordance with the requirements of 40 CFR 122.26(c)(1)(ii) and 6 NYCRR Part 621, with reasons supporting the request, to the Department at the address for the appropriate Department Office (see addresses in Appendix A on page 23 of this permit). The request may be granted by issuance of an individual permit or an alternative general permit at the discretion of the Department.

3. When an individual SPDES permit is issued to a discharger covered by this permit, or the discharger is authorized to discharge under an alternative SPDES general permit, the applicability of this permit to the individual SPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual SPDES permit is denied to an operator otherwise subject to this permit, or the operator is denied for coverage under an alternative SPDES general permit, the applicability of this permit to the individual SPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the Department.

L. **Proper Operation and Maintenance** - The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWPPPs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

M. **Inspection and Entry** - The permittee shall allow the Department or an authorized representative of EPA, the State, or, in the case of a construction site which discharges through an MS4, an authorized representative of the MS4 receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

N. **Permit Actions** - At the Department's sole discretion, this permit may, at any time, be modified, revoked, or renewed. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not stay compliance with any terms of this permit.

APPENDIX A

List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	Bldg 40 - SUNY @ Stony Brook Stony Brook, NY 11790-2356 Tel. (631) 444-0365	Bldg 40 - SUNY @ Stony Brook Stony Brook, NY 11790-2356 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	200 White Plains Road, 5th Floor Tarrytown, NY 10591-5805 Tel. (845) 332-1835
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	Route 86, PO Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Hudson Street Warrensburg, NY 12885-0220 Tel. (518) 623-1200
6	Herkimer, Jefferson, Lewis, Oneida and St. Lawrence	State Office Building 317 Washington Street Watertown, NY 13601-3787 Tel. (315) 785-2245	State Office Building 207 Genesee Street Utica, NY 13501-2885 Tel. (315) 793-2554
7	Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga and Tompkins	615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7438	615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7500
8	Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne and Yates	6274 East Avon-Lima Road Avon, NY 14414-9519 Tel. (585) 226-2466	6274 East Avon-Lima Rd. Avon, NY 14414-9519 Tel. (585) 226-2466
9	Allegany, Cattaraugus, Chautauqua, Erie, Niagara and Wyoming	270 Michigan Avenue Buffalo, NY 14203-2999 Tel. (716) 851-7165	270 Michigan Ave. Buffalo, NY 14203-2999 Tel. (716) 851-7070

APPENDIX B

Information Required of Construction Activities Which Are Identified Under Part I, subsection D.7. (see page 5)

A. The location (including a map) and the nature of the construction activity;

B. The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

C. Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

D. Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

E. An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of the fill material and existing data describing the soil or the quality of the discharge; and

F. The name of the receiving water(s).

Appendix B:
Notice of Intent (NOI)

1752059166

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR _____
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-02-01

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required. To properly complete this form, please refer to the Instruction Manual which can be accessed at www.dec.state.ny.us/website/dow/toolbox/instr_man.pdf

-IMPORTANT-

THIS FORM FOR MACHINE PRINT ONLY

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State

Zip -

Phone (Owner/Operator) - -

Fax (Owner/Operator) - -

Email (Owner/Operator)

Location Information

Project Site Information

Project/Site Name

Street Address (NOT P.O. BOX)

City/Town/Village (THAT ISSUES BUILDING PERMIT)

State N Y

Zip -

County

DEC Region (if known)

Name of Nearest Cross Street

Distance to Nearest Cross Street (Feet)

Direction to Nearest Cross Street

○ North ○ South ○ East ○ West

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you must go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.state.ny.us/website/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site go to the dropdown menu on the left and choose "Get Coordinates". Click on the center of your site and a small window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

Y Coordinates (Northing) 4

2. What is the nature of this construction project?

○ New Construction

○ Redevelopment with increase in imperviousness

○ Redevelopment with no increase in imperviousness

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use	Number of Lots
O FOREST	O SINGLE FAMILY HOME	
O PASTURE/OPEN LAND	O SINGLE FAMILY SUBDIVISION	
O CULTIVATED LAND	O TOWN HOME RESIDENTIAL	
O SINGLE FAMILY HOME	O MULTIFAMILY RESIDENTIAL	
O SINGLE FAMILY SUBDIVISION	O INSTITUTIONAL/SCHOOL	
O TOWN HOME RESIDENTIAL	O INDUSTRIAL	
O MULTIFAMILY RESIDENTIAL	O COMMERCIAL	
O INSTITUTIONAL/SCHOOL	O ROAD/HIGHWAY	
O INDUSTRIAL	O RECREATIONAL/SPORTS FIELD	
O COMMERCIAL	O BIKE PATH/TRAIL	
O ROAD/HIGHWAY	O LINEAR UTILITY (water, sewer, gas, etc.)	
O RECREATIONAL/SPORTS FIELD	O PARKING LOT	
O BIKE PATH/TRAIL	O OTHER	
O SUBSURFACE UTILITY	OTHER	
O PARKING LOT		
O OTHER		
OTHER		

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? O Yes O No

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? O Yes O No

6. Is this property owned by a state authority, state agency or local government? O Yes O No

7. In accordance with the larger common plan of development or sale; enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed
.	.	.	.

8. Will there be more than 5 acres disturbed at any given time? O Yes O No

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
%	%	%	%

10. Is this a phased project? **(if yes, The SWPPP must address all planned phases)** ○ Yes ○ No

11. Enter the planned start and end dates of the disturbance activities

Start Date __ / __ / ____ - **End Date** __ / __ / ____

12. Provide the name of the nearest, natural, classified surface waterbody(ies) into which construction site runoff has the potential to discharge.

For Questions 13 and 14 refer to the Instruction Manual for a subset of 303(d) segments and TMDL watersheds subject to Condition A of the permit. These waterbodies and watersheds have been identified for regulation within the stormwater program due to some level of impairment by nutrients, silt or sediment. The Instruction Manual can be accessed at www.dec.state.ny.us/website/dow/toolbox/instr_man.pdf

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment? ○ Yes ○ No

14. Is this project located in a TMDL Watershed? ○ Yes ○ No

***NOTE: If you answered Yes to either question 13 or 14, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review.**

15. Does the site runoff enter a separate storm sewer system- including roadside drains, swales, ditches, culverts, etc? **(if no, skip question 16)** ○ Yes ○ No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ○ No ○ Unknown

Stormwater Pollution Prevention Plan (SWPPP)

18. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? ○ Yes ○ No

19. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) **If no, Skip question 20** ○ Yes ○ No

20. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? ○ Yes ○ No

NOTE: If you answered no to question 18 or 20, Pursuant to Part I.D.3.(b) of the permit, you must have your SWPPP prepared and certified by a licensed/certified professional and the SWPPP is subject to a 60-business day review. Please provide further details in the details/comment section on the last page of this form.

21. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer Information
(if different from Owner/Operator info)

SWPPP Preparer

Contact Name (Last, Space, First)

Mailing Address

City

State Zip -

Phone - -

Fax - -

Email

Stormwater Pollution Prevention Plan (SWPPP)

Erosion and Sediment Control Practices

22. Has a construction sequence schedule for the planned management practices been prepared? ○ Yes ○ No

23. Select all of the erosion and sediment control practices that will be employed on the project site.

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ○ Silt Fence
- ○ Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ○ Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Stormwater Pollution Prevention Plan (SWPPP)

Water Quality and Quantity Control

Important: Completion of Questions 24-30 is not required if the project:

Disturbs less than 5 acres and is planned for single-family residential homes (including subdivisions) or construction on agricultural property and does not have a discharge to a 303(d) water or is not located within a TMDL watershed.

Additionally, sites where there will be no future impervious area within the disturbed area and that do not have a change (pre to post development) in hydrology do not need to complete questions 24-30.

24. Indicate **all** the permanent Stormwater Management Practice(s) that will be installed on this site

Post Construction Stormwater Management Practices

Ponds

- ○ Micropool Extended Detention (P-1)
- ○ Wet Pond (P-2)
- ○ Wet Extended Detention (P-3)
- ○ Multiple Pond System (P-4)
- ○ Pocket Pond (P-5)

Filtering

- ○ Surface Sand Filter (F-1)
- ○ Underground Sand Filter (F-2)
- ○ Perimeter Sand Filter (F-3)
- ○ Organic Filter (F-4)
- ○ Bioretention (F-5)
- ○ Other

Wetlands

- ○ Shallow Wetland (W-1)
- ○ Extended Detention Wetland (W-2)
- ○ Pond/Wetland System (W-3)
- ○ Pocket Wetland (W-4)

Infiltration

- ○ Infiltration Trench (I-1)
- ○ Infiltration Basin (I-2)
- ○ Dry Well (I-3)

Open Channels

- ○ Dry Swale (O-1)
- ○ Wet Swale (O-2)

Describe other stormwater management practices not listed above or explain any deviations from the technicial standards. If the SWPPP does not conform to the technicial standards, the SWPPP must be prepared and certified by a licensed/certified professional and is subject to a 60-business day review.

Has a long term Operation and Maintenance plan for the post construction management practices been developed? ○ Yes ○ No

If Yes, Identify the entity responsible for the long term Operation and Maintenance

[redacted]

25. Provide the total water quality volume required and the total provided for the site.

Total Water Quality Volume (WQv)

WQv Required ___ . ___ **acre-feet** **WQv Provided** ___ . ___ **acre-feet**

26. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required ___ . ___ **acre-feet** **CPv Provided** ___ . ___ **acre-feet**

The need to provide for channel protection has been waived because

○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development ___ . ___ **CFS** **Post-development** ___ . ___ **CFS**

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development ___ . ___ **CFS** **Post-development** ___ . ___ **CFS**

The need to provide for flood control has been waived because

○ **Site discharges directly to fourth order stream or larger**

○ **Downstream analysis reveals that flood control is not required.**

IMPORTANT: For questions 27 and 28 impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s) (Total Drainage Area = Project Site + Offsite areas)

27. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. ___ %

28. Post-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. ___ %

29. Indicate the total number of permanent stormwater management practices to be installed ___

30. Provide the total number of stormwater discharge points from the site (include discharges to either surface waters or to seperate storm sewer systems) ___

Other Permits

31. Select any other DEC permits that are required for this project or ○ None

DEC Permits

○ Air Pollution Control	○ Stream Protection/Article 15
○ Coastal Erosion	○ Water Quality Certificate
○ Hazardous Waste	○ Dam Safety
○ Long Island Wells	○ Water Supply
○ Mined Land Reclamation	○ Freshwater Wetlands
○ Other SPDES	○ Tidal Wetlands
○ Solid Waste	○ Wild, Scenic and Recreational Rivers

Other

32. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

N Y R

Details/Comments

Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I also certify under penalty of law that this document and the corresponding documents were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction. and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name MI

Print Last Name

Owner/Operator Signature

Date / /

Appendix C: Operator's and Contractor's Certification Forms

Stormwater Pollution Prevention Plan
Contractor's Certification
Hudson Valley Federal Credit Union Town of New Windsor
NYS Route 32 and Willow Lane
Orange County, New York

The Contractor and/or Subcontractor(s) that will implement the pollutant control measures described in the SWPPP must be identified below. Each must sign a statement certifying that they understand the NPDES and NYSDEC general permit authorizing storm water discharges during construction. These statements must be maintained in the SWPPP file on site.

Contractor Implementing the Storm Water Pollution Prevention Plan:

Business Name:_____

Business Address:_____

Telephone No.:_____

Name of Signatory:_____

Title of Signatory:_____

Signature:_____

Date:_____

Contractor's Responsibility(s):

_____

_____

Certification:

(Note: signature requirements in Part VI.G. of the NPDES General Permit and Part III.E.1 of the NYSDEC SPDES Permit GP-02-01)

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge storm water. I also understand that the Operator must comply with the terms and conditions of the New York State Pollution Discharge Elimination System ("SPDES") general permit for storm water discharges from construction discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

Signatory Requirements - All NOIs, NOTs, SWPPPS, reports, certifications or information required by this permit or submitted pursuant to this permit, shall be signed as follows:

1. For a corporation: by a (1) president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person authorized to and who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having a gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to manage in accordance with corporate procedures;
2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal, or other public agency; by either a principal executive officer ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).

Stormwater Pollution Prevention Plan
Operator's Certification
Hudson Valley Federal Credit Union Town of New Windsor
NYS Route 32 and Willow Lane
Orange County, New York

The Operator that will implement the pollutant control measures described in the SWPPP must be identified below. Each must sign a statement certifying that they understand the NPDES and NYSDEC general permit authorizing storm water discharges during construction. These statements must be maintained in the SWPPP file on site.

Owner:

Business Name:_____

Business Address:_____

Telephone No.:_____

Name of Signatory:_____

Title of Signatory:_____

Signature:_____

Date:_____

Certification:

(Note: signature requirements in Part V.H.2.c of the NYSDEC SPDES Permit GP-02-01)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signatory Requirements - All NOIs, NOTs, SWPPPS, reports, certifications or information required by this permit or submitted pursuant to this permit, shall be signed as follows:

1. For a corporation: by a (1) president, secretary, treasurer, or vice-president of the corporation in charge of a principle business function, or any other person authorized to and who performs similar policy or decision-making functions for the corporation; or (2) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having a gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to manage in accordance with corporate procedures;
2. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal, or other public agency; by either a principal executive officer ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).

Appendix D: Construction Phase Inspections and Maintenance (Pocket)

CONSTRUCTION PHASE INSPECTIONS AND MAINTENANCE

Between the time this SWPPP is implemented and final site stabilization is achieved, all disturbed areas and pollutant controls must be inspected at least once every seven calendar days and within 24 hours following a rainfall of 0.5 inches or greater. The purpose of site inspections is to assess performance of pollutant controls. The inspections will be conducted by the Operator's Engineer. Based on these inspections, the Operator's Engineer will decide whether it is necessary to modify this SWPPP, add or relocate sediment barriers, or whatever else may be needed in order to prevent pollutants from leaving the site via storm water runoff. The general contractor has the duty to cause pollutant control measures to be repaired, modified, maintained, supplemented, or whatever else is necessary in order to achieve effective pollutant control.

Examples of particular items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances.

1. Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction entrance will be constructed where vehicles enter and exit. This entrance will be maintained or supplemented as necessary to prevent sediment from leaving the site on vehicles.

2. Sediment barriers must be inspected and, if necessary, they must be enlarged or cleaned in order to provide additional capacity. All material from behind sediment barriers will be stockpiled on the up slope side. Additional sediment barriers must be constructed as needed.

3. Inspections will evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, in order to contain runoff from material storage areas.

4. Grassed areas will be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement, or have a stand of grass with at least 80 percent density. The density of 80 percent or greater must be maintained to be considered as stabilized. Areas must be watered, fertilized, and reseeded as needed to achieve this goal.

5. All discharge points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters.

Based on inspection results, any modification necessary to increase effectiveness of this SWPPP to an acceptable level must be made within seven calendar days of the inspection. The inspection reports must be completed entirely and additional remarks should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance. An erosion and sediment control inspections and maintenance schedule is presented on the project drawings.

Inspection reports must be kept on file by the general contractor as an integral part of this SWPPP for at least three years from the date of completion of the project.

Ultimately, it is the responsibility of the general contractor to assure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the accompanying plans. (For example, localized concentrations of runoff could make it necessary to install additional sediment barriers.) Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization.

Appendix E:
Inspection Report (Sample Form)

Inspection Type (Circle One):	Routine Weekly	Following 1/2" or Greater Rainfall

Site Assessment / Inspection Report
SWPPP Construction Activities
Hudson Valley Federal Credit Union Town of New Windsor
NYS Route 32 and Willow Lane
Orange County, New York

Report Number:_____ Weather:_____
Inspectors Name (Please Print):_____ Temperature:_____
Date:_____Time:_____ Page:_____of _____

Observation Instructions:

1 On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas are expected to undergo initial disturbance or significant site work within the next 14 day period.

2 Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization.

3 Indicate on a site map all areas that have not undergone active site work during the previous 14-day period.

4 Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume. Note if a substantial increase in turbidity in downstream water courses/bodies exists.

5 Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of sediment control barriers or diversion systems (i.e. silt fence, diversion swales, earthen berms, etc.) and containment systems (i.e. sediment basins and sediment traps, etc.).

6 Inspect all equipment, material handling or storage areas for evidence of apparent spills, leaks or deleterious materials.

7 On a monthly basis, post a copy of the Inspection Log in a publicly accessible location.

Temporary Erosion and Sediment Control Practices:

Practice	Condition	Accumulation %	Conforming	Actions Required
Stabilized Construction Entrance	Good / Fair / Poor		Yes / No	
Temporary Parking	Good / Fair / Poor		Yes / No	
Silt Fence	Good / Fair / Poor		Yes / No	
Temporary Swales and Berms	Good / Fair / Poor		Yes / No	
Check Dams (Stone)	Good / Fair / Poor		Yes / No	
Slope Protection	Good / Fair / Poor		Yes / No	
Dewatering Operations	Good / Fair / Poor		Yes / No	
Sediment Traps	Good / Fair / Poor		Yes / No	
Inlet Protection	Good / Fair / Poor		Yes / No	
Mulching / Seeding	Good / Fair / Poor		Yes / No	

See attached pages for additional comments

Hudson Valley Federal Credit Union Town of New Windsor
Stormwater Pollution Prevention Plan Construction Site Log Book

Report No._____ Page _____ of _____

Practice	Condition	Accumulation %	Conforming	Actions Required
Temporary Stockpiles	Good / Fair / Poor		Yes / No	
Dust Control	Good / Fair / Poor		Yes / No	
Sedimentation on Public Streets	Good / Fair / Poor		Yes / No	
Less than 5 Acres of Disturbance	Good / Fair / Poor		Yes / No	
Other:	Good / Fair / Poor		Yes / No	
Other:	Good / Fair / Poor		Yes / No	

Non-conforming work items still outstanding (List item number):

Inspection Notes:

Inspectors Signature:_____
Inspectors Printed Name:_____

Qualified Professional Signature_____ Date_____

Qualified Professional Printed Name_____

SAMPLE

Appendix F: Record of Stabilization and Construction Activity Dates (Sample Form)

Site Stabilization & Construction Activities Dates

Hudson Valley Federal Credit Union Town of New Windsor
NYS Route 32 and Willow Lane
Orange County, New York

Note: This form shall be completed by the Contractor and shall remain as part of the Storm water Pollution Prevention Plan that is to remain at the project site for the duration of construction.

A record of dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be maintained until final site stabilization is achieved and the Notice of Termination is filed.

SAMPLE

MAJOR GRADING ACTIVITIES:

Page ____ of ____

Description of Activity:_____

Contractor:_____

Location:_____

Start Date:_____ Finish Date:_____

Description of Activity:_____

Contractor:_____

Location:_____

Start Date:_____ Finish Date:_____

Description of Activity:_____

Contractor:_____

Location:_____

Start Date:_____ Finish Date:_____

Description of Activity:_____

Contractor:_____

Location:_____

Start Date:_____ Finish Date:_____

Description of Activity:_____

Contractor:_____

Location:_____

Start Date:_____ Finish Date:_____

Appendix G:
Notice of Termination (NOT)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NOTICE OF TERMINATION for Storm Water Discharges Associated with Construction Activity UNDER SPDES GENERAL PERMIT: ☐ #GP-93-06 or ☐ #GP-02-01

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Permittee Information

1. Owner/Operator Name:

2a. Mailing Address:	2b. City/State/Zip:

3a. Contact Person:	3b. Phone:	3c. E-mail:

II. Site/Activity Information

4. Facility/Project Site Name:

5a. Street Address:	5b. City/State/Zip:

6. County:

III. Reason for Termination

7a. ☐ Site has been finally stabilized in accordance with permit and SWPPP. Date site stabilization completed: _____ month/year

7b. ☐ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _ _ _ _ _ _
(Note: Permit coverage can not be terminated by permittee identified in I.1. above until new owner/operator obtains coverage under GP-02-01)

IV. Final Site Information

8a. Are there permanent stormwater management practices remaining on the site? ☐ yes ☐ no
If the answer to question 8a. is no, go to question 8e.
If the answer to question 8a. is yes, answer the following questions 8b., 8c., and 8d.:

8b. Is the design and function of each permanent practice described in the final SWPPP? ☐ yes ☐ no

8c. Who will be responsible for long-term operation and maintenance of practice(s)?_____

8d. Has the individual(s) responsible for long-term operation and maintenance been given a copy of the operation and maintenance requirements? ☐ yes ☐ no

8e. Provide the total acreage of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____

V. Certification

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name:	Title/Position:
Signature:	Date:

Reset Button

08/16/04

Appendix H: Post-Construction Inspections and Maintenance (Pocket)

POST CONSTRUCTION INSPECTIONS AND MAINTENANCE

1. SITE COVER

a. Inspections

Site cover and associated structures and embankments should be inspected periodically for the first few months following construction and then on a biannual basis. Site inspections should also be performed following all major (i.e., intense storms, thunder storms, cloud burst, etc.) storm events. Items to check for include (but are not limited to):

i. Differential settlement of embankments, cracking or erosion.
ii. Lack of vigor and density of grass turf.
iii. Accumulation of sediments or litter on lawn areas, paved areas, or within catch basin sumps.
iv. Accumulation of pollutants, including oils or grease, in catch basin sumps.
v. Damage or fatigue of storm sewer structures or associated components.

b. Mowing and Sweeping

Vegetated areas and landscaping should be maintained to promote vigorous and dense growth. Lawn areas should be mowed at least three times a year (more frequent mowing may be desired for aesthetic reasons). Resultant yard waste shall be collected and disposed of off-site.

Paved areas should be swept at least twice a year. Additional sweeping may be appropriate in the early spring for removal of deicing materials

c. Debris and Litter Removal

Accumulation of litter and debris should be removed during each mowing or sweep operation.

d. Structural Repair or Replacement

Components of the system which require repair or replacement should be addressed immediately following identification.

e. Catch Basins

The frequency for cleanout of catch basin sumps will depend on the efficiency of mowing, sweeping and debris and litter removal. Sumps should be cleaned when accumulation of sediments are within six inches of the catch basin outlet pipe.

f. Grassed Swales

Swale maintenance will include periodic mowing, occasional spot reseeding and weed control to keep grass cover dense and vigorous. Resultant yard waste shall be collected and disposed of off-site. Application of fertilizers and pesticides should be restricted or limited.

g. Winter Maintenance

To prevent impacts to storm water management facilities, the following winter maintenance limitations, restrictions or requirements are recommended:

i. Remove snow and ice from inlet structures, basin inlet and outlet structures and away from culvert end sections.
ii. Snow removed from paved areas should not be piled at inlets/outlets of the storm water management basin.
iii. Use of deicing materials should be limited to sand and "environmentally friendly" chemical products. Use of salt mixtures should be kept to a minimum.
iv. Sand used for deicing should be clean, course material free of fines, silt, and clay.
v. Materials used for deicing should be removed during the early spring by sweeping and/ or vacuuming.

2. DETENTION BASINS

a. Inspections

Detention Basins should be inspected periodically for the first few months after construction and then on an annual basis. Detention Basins should be inspected after major storm events to ensure inlets and outlets remain clear. Items to check for include (but are not limited to):

i. Differential settlement of embankments.
ii. Cracking, erosion or seepage through embankments.

iii. Evidence of clogging at inlets or outlets.
iv. Erosion of the flow path through the detention basin.
v. Brush, shrub or tree growth on embankments.
vi. Condition of the overflow spillway.
vii. Lack of vigor and density of grass turf on the basin embankments.

b. Mowing

The side slopes, embankments, inlets, and overflow spillways of the detention basins should be mowed at least three times a year and resultant yard wastes collected and disposed of off-site.

c. Debris and Litter Control

Removal of debris and litter should be accomplished during mowing operations. Inlet and outlet structures should be cleared of all debris and litter.

d. Structural repairs and Replacement

Components of the detention basin, which require repair or replacement, should be addressed immediately following identification.

e. Erosion Control

Sources of sedimentation, specifically eroded areas in upland drainage areas, should be stabilized immediately upon identification. Stabilization should be with vegetative practices or other erosion control practices when vegetative measures do not prove effective.

Soil slumpage, erosion of the basin embankment or around inlets/outlets, and cracking should be stabilized and repaired immediately upon identification. Repair, replacement or addition of rip-rap aprons, channels or embankments should be pursued as required.

f. Sediment removal

Sediments, which accumulate in the detention basin, should be removed periodically to prevent clogging of inlet or outlet structures. A typical clean-out cycle should be between 5 to 10 years with more frequent cleanings near inlet and outlet structures.

3. FOREBAYS AND WET POOLS

a. Inspections

Forebays and Wet Pools should be inspected periodically for the first few months after construction and then on an annual basis. Forebays and Wet Pools should be inspected following all major storm events. Items to check for include (but are not limited to):

i. Differential settlement of embankments.
ii. Cracking, erosion or seepage through embankments.
iii. Erosion of the flow path through the facility.
iv. Brush, shrub or tree growth on embankments.
v. Condition of the overflow spillway.
vi. Accumulation of sediment.

b. Mowing

Tree and brush growth must be prevented on basin embankments, side slopes, bottoms and around inlets and the overflow spillway(s). Mowing of the embankments shall be at least three times a year unless more frequent mowing is required to control vegetative growth. Resultant yard waste shall be collected and disposed of off-site.

c. Debris and Litter Removal

Removal of debris and litter shall be accomplished during mowing operations. Inlet structures should be cleared of all debris and litter.

d. Structural Repairs and Replacement

Components of the forebay or wet pool, which require repair or replacement, should be addressed immediately following identification.

e. Erosion Control

Sources of sedimentation, specifically eroded areas in upland drainage areas, should be stabilized immediately upon identification. Stabilization should be with vegetative practices or other erosion control practices when vegetative measures do not prove effective.

Soil slumpage, erosion of the basin embankment or around inlets or overflow outlets, and cracking should be stabilized and repaired immediately upon identification. Repair, replacement or addition of

rip-rap aprons, channels or embankments should be pursued as required.

f. Sediment Removal

Cleanout frequency of Forebays and Wet Pools is dependent upon bottom cover, storage capacity, volume of inflow, and sediment load.

Sediment shall be removed from the Forebays and Wet Pools every 5 to 6 years or when accumulations reach 12 inches in depth. Monitoring the depth of sediments can be measured by installing permanent markers in the newly constructed facilities with a mark 12 inches above the permanent water surface. Markers should not be spaced more than 50 feet apart along the flow path through the facility. A log should be kept indicating the date that the facility was inspected and the distance to the bottom.

When sediment removal is required, the original grades depicted on the project drawings should be reestablished by a qualified contractor. If any of the impermeable material used in the construction of the basin bottom is removed it must be replaced with clean material consistent with the original material specifications.

4. Aquatic Benches

a. Inspection

Aquatic Benches should be inspected periodically for the first few months after construction and then on an annual basis. Aquatic Benches should be inspected after all major storm events. Items to check for include (but are not limited to):

i. Checking basin embankments for subsidence, erosion, cracking, tree growth and the presence of burrowing animals.
ii. Health and vigor of wetland vegetation.
iii. Accumulation of sediment.

b. Mowing

Mowing is not desirable nor allowed in the Aquatic Benches. Trees and shrubs should be removed from around inlet and outlet structures. Removal should be biannual.

c. Debris, Trash and Litter Control

Debris, trash, and litter should be removed from the Aquatic Benches immediately upon discovery.

d. Erosion Control

Soil slumpage, erosion of the Aquatic Bench embankment or around inlets or outlets, and cracking should be stabilized and repaired immediately upon identification.

Appendix I: Figures

Figure 1: Site Location Map

ALTERATION OF THIS DRAWING EXCEPT BY A LICENSED ... IS ILLEGAL. ANY ALTERATION BY A PE MUST BE IN-DICATED AND BEAR THE APPROPRIATE SEAL, SIGNATURE AND DATE OF THE PERSON ...

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office:
21 Fox Street
Poughkeepsie, New York 12601
Phone: (845) 454-3980

Capital District Office:
547 River Street
Troy, New York 12180
Phone: (518) 273-0055

Orange County Office:
356 Meadow Avenue
Newburgh, New York 12550
Phone: (845) 567-1133

North Country Office:
100 Glen Street
Glens Falls, New York 12801
Phone: (518) 812-0513

HUDSON VALLEY FEDERAL CREDIT UNION

SITE LOCATION MAP
NYS ROUTE 32 & WILLOW LANE

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
JCR	KP
date 3/27/06	scale 1"=2000'
project no. 10512.02	
sheet no. **FIGURE 1**	

ALL RIGHTS RESERVED. COPY OR REPRODUCTION OF THIS PLAN OR ANY PORTION, THEREOF IS PROHIBITED WITHOUT THE WRITTEN PERMISSION OF THE DESIGN ENGINEER, SURVEYOR, OR ARCHITECT.

Drawing Name: S:\1\10500-10599\10512.02\ENG\DWG\FIG-1 SWPPP_10512-02.dwg Date Printed: Aug 17, 2006, 1:22pm

10512.0

Figure 2: Soils Map

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office:
21 Fox Street
Poughkeepsie, New York 12601
Phone (845) 454-3980

Capital District Office:
547 River Street
Troy, New York 12180
Phone: (518) 273-0055

Orange County Office:
356 Meadow Avenue
Newburgh, New York 12550
Phone: (845) 567-1133

North Country Office:
100 Glen Street
Glens Falls, New York 12801
Phone: (518) 812-0513

HUDSON VALLEY FEDERAL CREDIT UNION

SOILS MAP
NYS ROUTE 32 & WILLOW LANE

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
JCR	KP
date	scale
3/27/06	N.T.S.
project no.	
10512.02	
sheet no.	
FIGURE 2	

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Drawing Name: S:\1\10500-10599\10512.02\ENG\DWG\FIG-2 SWPPP soil_10512-02.dwg Date Printed: Aug 17, 2006, 3:18pm

512.02

Figure 3: Pre-Development Watershed Delineation Map (Pocket)

Figure 4: Post-Development Watershed Delineation Map (Pocket)

Appendix J: Pre-Development Watershed Conditions Modeling

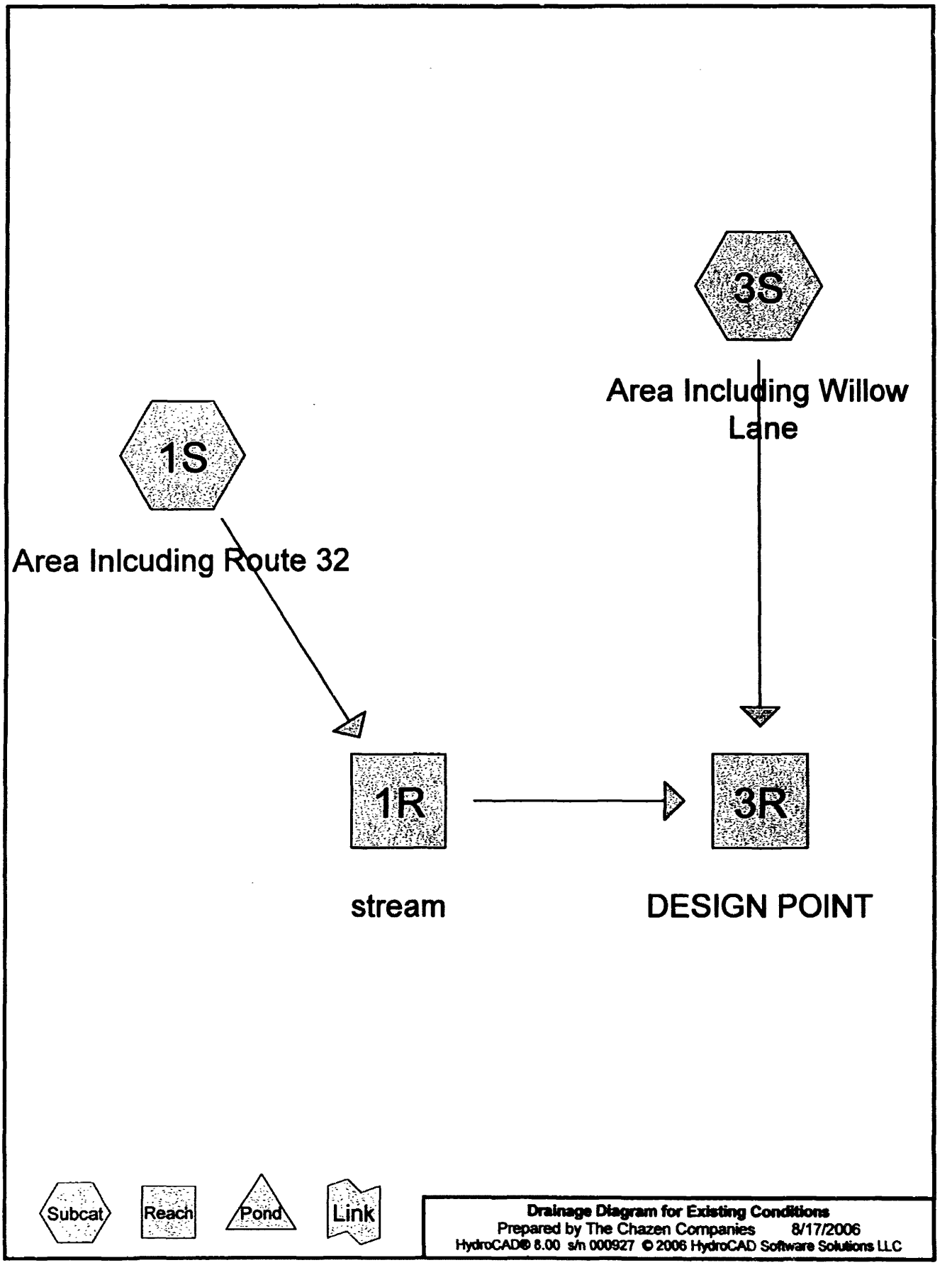
TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

Pre-Development Conditions
1 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006


3S
Area Including Willow Lane
1S
Area Inlcuding Route 32
1R
stream
3R
DESIGN POINT
Subcat
Reach
Pond
Link
Drainage Diagram for Existing Conditions
Prepared by The Chazen Companies 8/17/2006
HydroCAD® 8.00 s/n 000927 © 2006 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcats)
0.941	70	Woods, Good, HSG C (1S,3S)
1.101	74	>75% Grass cover, Good, HSG C (1S,3S)
0.182	98	Pavement (3S)
0.359	98	Pavement and Gravel (1S)
2.583		

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS
ich routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

S: Area Inlcuding Route 32 Runoff Area=35,085 sf Runoff Depth>1.43"
Flow Length=451' Tc=4.0 min CN=84 Runoff=1.42 cfs 0.096 af

S: Area Including Willow Lane Runoff Area=77,435 sf Runoff Depth>0.89"
Flow Length=603' Tc=9.1 min CN=75 Runoff=1.55 cfs 0.132 af

n Avg. Depth=0.20' Max Vel=3.30 fps Inflow=1.42 cfs 0.096 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=1.36 cfs 0.096 af

SN POINT Inflow=2.80 cfs 0.228 af
Outflow=2.80 cfs 0.228 af

otal Runoff Area = 2.583 ac Runoff Volume = 0.229 af Average Runoff Depth = 1.06"
79.06% Pervious Area = 2.042 ac 20.94% Impervious Area = 0.541 ac

Subcatchment 1S: Area Inlcuding Route 32

Runoff = 1.42 cfs @ 12.06 hrs, Volume= 0.096 af, Depth> 1.43"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-YR Rainfall=2.90"

Area (sf)	CN	Description
15,623	98	Pavement and Gravel
5,365	70	Woods, Good, HSG C
14,097	74	>75% Grass cover, Good, HSG C
35,085	84	Weighted Average
19,462		Pervious Area
15,623		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	243	0.0330	3.69		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	52	0.0192	0.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	45	0.0670	1.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	11	0.2270	2.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.0	451	Total			

Subcatchment 3S: Area Including Willow Lane

Runoff = 1.55 cfs @ 12.14 hrs, Volume= 0.132 af, Depth> 0.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-YR Rainfall=2.90"

Area (sf)	CN	Description
7,936	98	Pavement
35,634	70	Woods, Good, HSG C
33,865	74	>75% Grass cover, Good, HSG C
77,435	75	Weighted Average
69,499		Pervious Area
7,936		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	93	0.0215	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	7	0.0369	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.5	203	0.0369	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	63	0.0476	1.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	41	0.1280	2.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	45	0.0556	1.65		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	151	0.0430	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	603	Total			

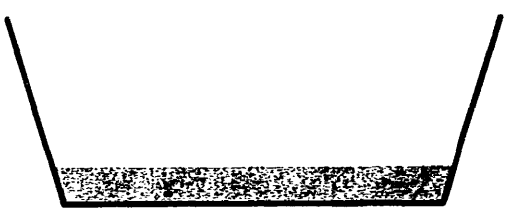
Reach 1R: stream

Inflow Area = 0.805 ac, Inflow Depth > 1.43" for 1-YR event
Inflow = 1.42 cfs @ 12.06 hrs, Volume= 0.096 af
Outflow = 1.36 cfs @ 12.09 hrs, Volume= 0.096 af, Atten= 4%, Lag= 1.6 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.30 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.94 fps, Avg. Travel Time= 6.5 min

Peak Storage= 150 cf @ 12.09 hrs, Average Depth at Peak Storage= 0.20'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'



Reach 3R: DESIGN POINT

Inflow Area = 2.583 ac, Inflow Depth > 1.06" for 1-YR event
Inflow = 2.80 cfs @ 12.11 hrs, Volume= 0.228 af
Outflow = 2.80 cfs @ 12.11 hrs, Volume= 0.228 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Pre-Development Conditions
5 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Area Inlcuding Route 32 Runoff Area=35,085 sf Runoff Depth>2.82"
Flow Length=451' Tc=4.0 min CN=84 Runoff=2.78 cfs 0.189 af

Subcatchment 3S: Area Including Willow Lane Runoff Area=77,435 sf Runoff Depth>2.05"
Flow Length=603' Tc=9.1 min CN=75 Runoff=3.74 cfs 0.303 af

Reach 1R: stream Avg. Depth=0.31' Max Vel=4.17 fps Inflow=2.78 cfs 0.189 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=2.68 cfs 0.189 af

Reach 3R: DESIGN POINT Inflow=6.22 cfs 0.492 af
Outflow=6.22 cfs 0.492 af

Total Runoff Area = 2.583 ac Runoff Volume = 0.492 af Average Runoff Depth = 2.29"
79.06% Pervious Area = 2.042 ac 20.94% Impervious Area = 0.541 ac

Subcatchment 1S: Area Inlcuding Route 32

Runoff = 2.78 cfs @ 12.06 hrs, Volume= 0.189 af, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
15,623	98	Pavement and Gravel
5,365	70	Woods, Good, HSG C
14,097	74	>75% Grass cover, Good, HSG C
35,085	84	Weighted Average
19,462		Pervious Area
15,623		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	243	0.0330	3.69		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	52	0.0192	0.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	45	0.0670	1.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	11	0.2270	2.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.0	451	Total			

Subcatchment 3S: Area Including Willow Lane

Runoff = 3.74 cfs @ 12.14 hrs, Volume= 0.303 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
7,936	98	Pavement
35,634	70	Woods, Good, HSG C
33,865	74	>75% Grass cover, Good, HSG C
77,435	75	Weighted Average
69,499		Pervious Area
7,936		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	93	0.0215	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	7	0.0369	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.5	203	0.0369	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	63	0.0476	1.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	41	0.1280	2.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	45	0.0556	1.65		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	151	0.0430	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	603	Total			

Reach 1R: stream

Inflow Area = 0.805 ac, Inflow Depth > 2.82" for 5-yr event
Inflow = 2.78 cfs @ 12.06 hrs, Volume= 0.189 af
Outflow = 2.68 cfs @ 12.08 hrs, Volume= 0.189 af, Atten= 4%, Lag= 1.3 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.17 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 5.4 min

Peak Storage= 233 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'

Reach 3R: DESIGN POINT

Inflow Area = 2.583 ac, Inflow Depth > 2.29" for 5-yr event
Inflow = 6.22 cfs @ 12.11 hrs, Volume= 0.492 af
Outflow = 6.22 cfs @ 12.11 hrs, Volume= 0.492 af, Atten= 0%, Lag= 0.0 min

tor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Pre-Development Conditions
10 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Area Inlcuding Route 32 Runoff Area=35,085 sf Runoff Depth>3.73"
Flow Length=451' Tc=4.0 min CN=84 Runoff=3.66 cfs 0.250 af

Subcatchment 3S: Area Including Willow Lane Runoff Area=77,435 sf Runoff Depth>2.86"
Flow Length=603' Tc=9.1 min CN=75 Runoff=5.26 cfs 0.423 af

Reach 1R: stream Avg. Depth=0.36' Max Vel=4.56 fps Inflow=3.66 cfs 0.250 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=3.52 cfs 0.250 af

Reach 3R: DESIGN POINT Inflow=8.52 cfs 0.673 af
Outflow=8.52 cfs 0.673 af

Total Runoff Area = 2.583 ac Runoff Volume = 0.673 af Average Runoff Depth = 3.13"
79.06% Pervious Area = 2.042 ac 20.94% Impervious Area = 0.541 ac

Subcatchment 1S: Area Inlcuding Route 32

Runoff = 3.66 cfs @ 12.06 hrs, Volume= 0.250 af, Depth> 3.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=5.50"

Area (sf)	CN	Description
15,623	98	Pavement and Gravel
5,365	70	Woods, Good, HSG C
14,097	74	>75% Grass cover, Good, HSG C
35,085	84	Weighted Average
19,462		Pervious Area
15,623		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	243	0.0330	3.69		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	52	0.0192	0.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	45	0.0670	1.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	11	0.2270	2.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.0	451	Total			

Subcatchment 3S: Area Including Willow Lane

Runoff = 5.26 cfs @ 12.13 hrs, Volume= 0.423 af, Depth> 2.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=5.50"

Area (sf)	CN	Description
7,936	98	Pavement
35,634	70	Woods, Good, HSG C
33,865	74	>75% Grass cover, Good, HSG C
77,435	75	Weighted Average
69,499		Pervious Area
7,936		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	93	0.0215	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	7	0.0369	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.5	203	0.0369	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	63	0.0476	1.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	41	0.1280	2.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	45	0.0556	1.65		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	151	0.0430	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	603	Total			

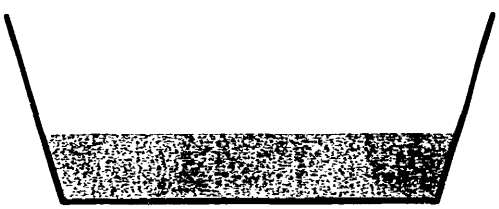
Reach 1R: stream

Inflow Area = 0.805 ac, Inflow Depth > 3.73" for 10-YR event
Inflow = 3.66 cfs @ 12.06 hrs, Volume= 0.250 af
Outflow = 3.52 cfs @ 12.08 hrs, Volume= 0.250 af, Atten= 4%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.56 fps, Min. Travel Time= 1.3 min
Avg. Velocity = 1.23 fps, Avg. Travel Time= 4.9 min

Peak Storage= 280 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.36'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'



Reach 3R: DESIGN POINT

Inflow Area = 2.583 ac, Inflow Depth > 3.13" for 10-YR event
Inflow = 8.52 cfs @ 12.11 hrs, Volume= 0.673 af
Outflow = 8.52 cfs @ 12.11 hrs, Volume= 0.673 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Pre-Development Conditions
25 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Area Inlcuding Route 32 Runoff Area=35,085 sf Runoff Depth>4.66"
Flow Length=451' Tc=4.0 min CN=84 Runoff=4.54 cfs 0.313 af

Subcatchment 3S: Area Including Willow Lane Runoff Area=77,435 sf Runoff Depth>3.71"
Flow Length=603' Tc=9.1 min CN=75 Runoff=6.83 cfs 0.549 af

Reach 1R: stream Avg. Depth=0.42' Max Vel=4.89 fps Inflow=4.54 cfs 0.313 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=4.37 cfs 0.313 af

Reach 3R: DESIGN POINT Inflow=10.87 cfs 0.862 af
Outflow=10.87 cfs 0.862 af

Total Runoff Area = 2.583 ac Runoff Volume = 0.862 af Average Runoff Depth = 4.01"
79.06% Pervious Area = 2.042 ac 20.94% Impervious Area = 0.541 ac

Subcatchment 1S: Area Inlcuding Route 32

Runoff = 4.54 cfs @ 12.06 hrs, Volume= 0.313 af, Depth> 4.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=6.50"

Area (sf)	CN	Description
15,623	98	Pavement and Gravel
5,365	70	Woods, Good, HSG C
14,097	74	>75% Grass cover, Good, HSG C
35,085	84	Weighted Average
19,462		Pervious Area
15,623		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	243	0.0330	3.69		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	52	0.0192	0.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	45	0.0670	1.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	11	0.2270	2.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.0	451	Total			

Subcatchment 3S: Area Including Willow Lane

Runoff = 6.83 cfs @ 12.13 hrs, Volume= 0.549 af, Depth> 3.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=6.50"

Area (sf)	CN	Description
7,936	98	Pavement
35,634	70	Woods, Good, HSG C
33,865	74	>75% Grass cover, Good, HSG C
77,435	75	Weighted Average
69,499		Pervious Area
7,936		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	93	0.0215	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	7	0.0369	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.5	203	0.0369	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	63	0.0476	1.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	41	0.1280	2.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	45	0.0556	1.65		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	151	0.0430	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	603	Total			

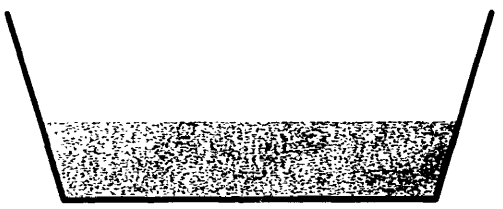
Reach 1R: stream

Inflow Area = 0.805 ac, Inflow Depth > 4.66" for 25-YR event
Inflow = 4.54 cfs @ 12.06 hrs, Volume= 0.313 af
Outflow = 4.37 cfs @ 12.08 hrs, Volume= 0.313 af, Atten= 4%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.89 fps, Min. Travel Time= 1.2 min
Avg. Velocity = 1.31 fps, Avg. Travel Time= 4.6 min

Peak Storage= 324 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'



Reach 3R: DESIGN POINT

Inflow Area = 2.583 ac, Inflow Depth > 4.00" for 25-YR event
Inflow = 10.87 cfs @ 12.11 hrs, Volume= 0.862 af
Outflow = 10.87 cfs @ 12.11 hrs, Volume= 0.862 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Pre-Development Conditions
100 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Area Inlcuding Route 32 Runoff Area=35,085 sf Runoff Depth>6.09"
Flow Length=451' Tc=4.0 min CN=84 Runoff=5.85 cfs 0.409 af

Subcatchment 3S: Area Including Willow Lane Runoff Area=77,435 sf Runoff Depth>5.03"
Flow Length=603' Tc=9.1 min CN=75 Runoff=9.24 cfs 0.746 af

Reach 1R: stream Avg. Depth=0.49' Max Vel=5.29 fps Inflow=5.85 cfs 0.409 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=5.65 cfs 0.408 af

Reach 3R: DESIGN POINT Inflow=14.46 cfs 1.154 af
Outflow=14.46 cfs 1.154 af

Total Runoff Area = 2.583 ac Runoff Volume = 1.155 af Average Runoff Depth = 5.36"
79.06% Pervious Area = 2.042 ac 20.94% Impervious Area = 0.541 ac

Subcatchment 1S: Area Inlcuding Route 32

Runoff = 5.85 cfs @ 12.06 hrs, Volume= 0.409 af, Depth> 6.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YR Rainfall=8.00"

Area (sf)	CN	Description
15,623	98	Pavement and Gravel
5,365	70	Woods, Good, HSG C
14,097	74	>75% Grass cover, Good, HSG C
35,085	84	Weighted Average
19,462		Pervious Area
15,623		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	243	0.0330	3.69		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	52	0.0192	0.97		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	45	0.0670	1.29		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.1	11	0.2270	2.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.0	451	Total			

Subcatchment 3S: Area Including Willow Lane

Runoff = 9.24 cfs @ 12.13 hrs, Volume= 0.746 af, Depth> 5.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YR Rainfall=8.00"

Area (sf)	CN	Description
7,936	98	Pavement
35,634	70	Woods, Good, HSG C
33,865	74	>75% Grass cover, Good, HSG C
77,435	75	Weighted Average
69,499		Pervious Area
7,936		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	93	0.0215	1.46		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	7	0.0369	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.5	203	0.0369	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	63	0.0476	1.09		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	41	0.1280	2.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	45	0.0556	1.65		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	151	0.0430	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	603	Total			

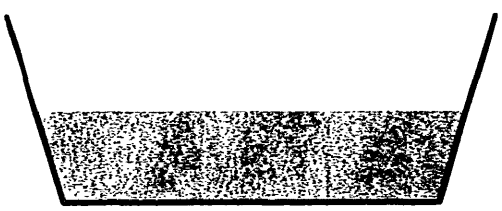
Reach 1R: stream

Inflow Area = 0.805 ac, Inflow Depth > 6.09" for 100-YR event
Inflow = 5.85 cfs @ 12.06 hrs, Volume= 0.409 af
Outflow = 5.65 cfs @ 12.08 hrs, Volume= 0.408 af, Atten= 3%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.29 fps, Min. Travel Time= 1.1 min
Avg. Velocity = 1.42 fps, Avg. Travel Time= 4.3 min

Peak Storage= 386 cf @ 12.08 hrs, Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'



Reach 3R: DESIGN POINT

Inflow Area = 2.583 ac, Inflow Depth > 5.36" for 100-YR event
Inflow = 14.46 cfs @ 12.11 hrs, Volume= 1.154 af
Outflow = 14.46 cfs @ 12.11 hrs, Volume= 1.154 af, Atten= 0%, Lag= 0.0 min

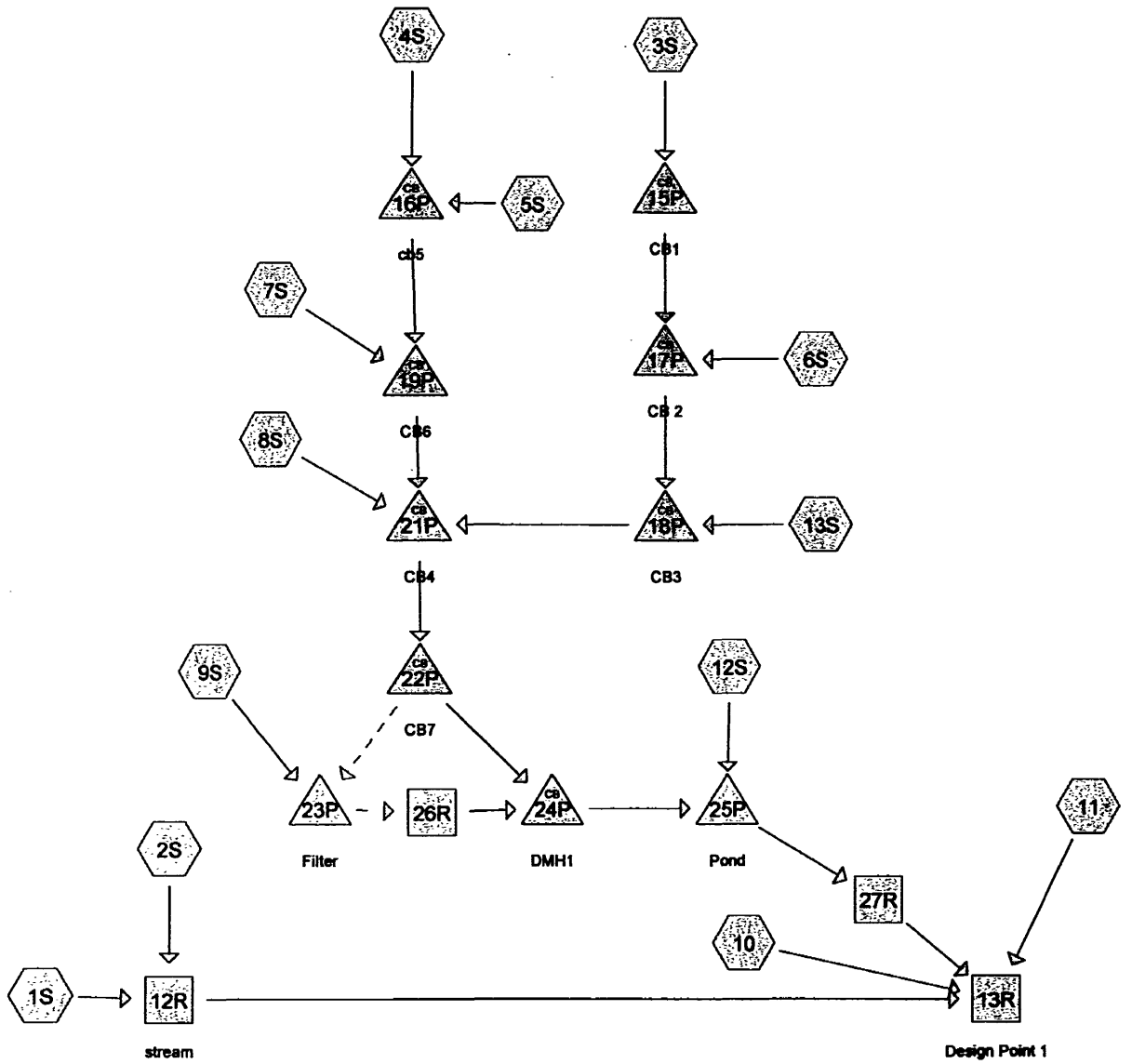
Routing by Dyn-Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

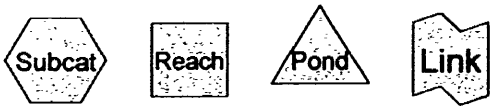
Appendix K: Post-Development Watershed Conditions Modeling

Post-Development Conditions
1 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006





Drainage Diagram for Proposed Conditions
Prepared by The Chazen Companies 8/17/2006
HydroCAD® 8.00 s/n 000927 © 2006 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcats)
0.125	70	Woods, Good, HSG C (1S,10,11)
1.212	74	>75% Grass cover, Good, HSG C (1S,2S,3S,4S,6S,7S,8S,9S,10,11,12S,13S)
1.246	98	Paved parking & roofs (1S,3S,5S,6S,7S,8S,11,13S)
2.583		

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=13,103 sf Runoff Depth=1.89"
Flow Length=436' Tc=3.3 min CN=90 Runoff=0.73 cfs 0.047 af

Subcatchment 2S: Runoff Area=1,178 sf Runoff Depth=0.85"
Flow Length=324' Tc=6.7 min CN=74 Runoff=0.02 cfs 0.002 af

Subcatchment 3S: Runoff Area=17,901 sf Runoff Depth=1.73"
Flow Length=201' Tc=6.6 min CN=88 Runoff=0.82 cfs 0.059 af

Subcatchment 4S: Runoff Area=854 sf Runoff Depth=0.85"
Flow Length=75' Slope=0.0140 '/' Tc=8.6 min CN=74 Runoff=0.02 cfs 0.001 af

Subcatchment 5S: Runoff Area=7,815 sf Runoff Depth=2.67"
Tc=0.0 min CN=98 Runoff=0.61 cfs 0.040 af

Subcatchment 6S: Runoff Area=3,004 sf Runoff Depth=2.45"
Flow Length=95' Slope=0.0314 '/' Tc=0.9 min CN=96 Runoff=0.22 cfs 0.014 af

Subcatchment 7S: Runoff Area=7,292 sf Runoff Depth=2.25"
Flow Length=169' Tc=4.2 min CN=94 Runoff=0.45 cfs 0.031 af

Subcatchment 8S: Runoff Area=14,921 sf Runoff Depth=2.07"
Flow Length=160' Tc=4.2 min CN=92 Runoff=0.87 cfs 0.059 af

Subcatchment 9S: Runoff Area=3,057 sf Runoff Depth=0.85"
Flow Length=28' Tc=1.7 min CN=74 Runoff=0.08 cfs 0.005 af

Subcatchment 10: Runoff Area=5,819 sf Runoff Depth=0.80"
Flow Length=255' Tc=5.7 min CN=73 Runoff=0.11 cfs 0.009 af

Subcatchment 11: Runoff Area=19,052 sf Runoff Depth=0.95"
Flow Length=516' Tc=6.0 min CN=76 Runoff=0.46 cfs 0.035 af

Subcatchment 12S: Runoff Area=13,010 sf Runoff Depth=0.85"
Flow Length=100' Tc=4.8 min CN=74 Runoff=0.29 cfs 0.021 af

Subcatchment 13S: Runoff Area=5,521 sf Runoff Depth=2.45"
Flow Length=150' Tc=3.8 min CN=96 Runoff=0.37 cfs 0.026 af

Reach 12R: stream Avg. Depth=0.13' Max Vel=2.61 fps Inflow=0.75 cfs 0.049 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=0.71 cfs 0.049 af

Reach 13R: Design Point 1 Inflow=1.51 cfs 0.350 af
Outflow=1.51 cfs 0.350 af

Reach 26R: Avg. Depth=0.10' Max Vel=1.77 fps Inflow=0.05 cfs 0.105 af
D=6.0" n=0.013 L=29.0' S=0.0100 '/' Capacity=0.56 cfs Outflow=0.05 cfs 0.105 af

Reach 27R: Avg. Depth=0.15' Max Vel=2.94 fps Inflow=0.31 cfs 0.257 af
D=24.0" n=0.013 L=15.0' S=0.0153 '/' Capacity=28.01 cfs Outflow=0.31 cfs 0.257 af

Pond 15P: CB1 Peak Elev=211.82' Inflow=0.82 cfs 0.059 af
15.0" x 108.0' Culvert Outflow=0.82 cfs 0.059 af

Pond 16P: cb5 Peak Elev=212.46' Inflow=0.62 cfs 0.041 af
15.0" x 63.0' Culvert Outflow=0.62 cfs 0.041 af

Pond 17P: CB 2 Peak Elev=211.19' Inflow=0.94 cfs 0.073 af
15.0" x 97.5' Culvert Outflow=0.94 cfs 0.073 af

Pond 18P: CB3 Peak Elev=210.45' Inflow=1.29 cfs 0.099 af
18.0" x 115.5' Culvert Outflow=1.29 cfs 0.099 af

Pond 19P: CB6 Peak Elev=211.48' Inflow=0.95 cfs 0.073 af
15.0" x 62.5' Culvert Outflow=0.95 cfs 0.073 af

Pond 21P: CB4 Peak Elev=209.85' Inflow=3.01 cfs 0.231 af
24.0" x 17.0' Culvert Outflow=3.01 cfs 0.231 af

Pond 22P: CB7 Peak Elev=209.65' Inflow=3.01 cfs 0.231 af
Primary=2.61 cfs 0.131 af Secondary=0.41 cfs 0.100 af Outflow=3.01 cfs 0.231 af

Pond 23P: Filter Peak Elev=209.07' Storage=2,274 cf Inflow=0.48 cfs 0.105 af
Outflow=0.05 cfs 0.105 af

Pond 24P: DMH1 Peak Elev=202.38' Inflow=2.65 cfs 0.236 af
24.0" x 87.0' Culvert Outflow=2.65 cfs 0.236 af

Pond 25P: Pond Peak Elev=198.29' Storage=3,590 cf Inflow=2.92 cfs 0.257 af
Outflow=0.31 cfs 0.257 af

Total Runoff Area = 2.583 ac Runoff Volume = 0.350 af Average Runoff Depth = 1.62"
51.76% Pervious Area = 1.337 ac 48.24% Impervious Area = 1.246 ac

Subcatchment 1S:

Runoff = 0.73 cfs @ 12.05 hrs, Volume= 0.047 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
2,338	74	>75% Grass cover, Good, HSG C
9,234	98	Paved parking & roofs
1,531	70	Woods, Good, HSG C
13,103	90	Weighted Average
3,869		Pervious Area
9,234		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	262	0.0295	3.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	41	0.0548	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	33	0.1515	1.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.3	436	Total			

Subcatchment 2S:

Runoff = 0.02 cfs @ 12.11 hrs, Volume= 0.002 af, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
1,178	74	>75% Grass cover, Good, HSG C
1,178		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	81	0.0407	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	243	0.0238	5.78	18.15	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
6.7	324	Total			

Subcatchment 3S:

Runoff = 0.82 cfs @ 12.10 hrs, Volume= 0.059 af, Depth= 1.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
10,280	98	Paved parking & roofs
7,621	74	>75% Grass cover, Good, HSG C
17,901	88	Weighted Average
7,621		Pervious Area
10,280		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	51	0.0215	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
4.5	42	0.0215	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.8	7	0.0526	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.3	31	0.0526	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	70	0.0370	3.90		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.6	201	Total			

Subcatchment 4S:

Runoff = 0.02 cfs @ 12.13 hrs, Volume= 0.001 af, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
854	74	>75% Grass cover, Good, HSG C
854		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	75	0.0140	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"

Subcatchment 5S:

Runoff = 0.61 cfs @ 12.00 hrs, Volume= 0.040 af, Depth= 2.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
7,815	98	Paved parking & roofs
7,815		Impervious Area

Subcatchment 6S:

Runoff = 0.22 cfs @ 12.01 hrs, Volume= 0.014 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
2,734	98	Paved parking & roofs
270	74	>75% Grass cover, Good, HSG C
3,004	96	Weighted Average
270		Pervious Area
2,734		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	95	0.0314	1.71		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

Subcatchment 7S:

Runoff = 0.45 cfs @ 12.06 hrs, Volume= 0.031 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
6,015	98	Paved parking & roofs
1,277	74	>75% Grass cover, Good, HSG C
7,292	94	Weighted Average
1,277		Pervious Area
6,015		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	41	0.0536	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	59	0.0223	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0223	3.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.2	169	Total			

Subcatchment 8S:

Runoff = 0.87 cfs @ 12.06 hrs, Volume= 0.059 af, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
11,150	98	Paved parking & roofs
3,771	74	>75% Grass cover, Good, HSG C
14,921	92	Weighted Average
3,771		Pervious Area
11,150		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	34	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	66	0.0293	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	43	0.0293	3.47		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	17	0.0212	5.45	17.13	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
4.2	160	Total			

Subcatchment 9S:

Runoff = 0.08 cfs @ 12.03 hrs, Volume= 0.005 af, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
3,057	74	>75% Grass cover, Good, HSG C
3,057		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	15	0.1000	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	13	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.7	28	Total			

Subcatchment 10:

Runoff = 0.11 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 0.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
4,512	74	>75% Grass cover, Good, HSG C
1,307	70	Woods, Good, HSG C
5,819	73	Weighted Average
5,819		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	96	0.0780	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.4	159	0.0329	7.35	16.90	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 0.3 '/' Top.W=2.60' n= 0.025
5.7	255	Total			

Subcatchment 11:

Runoff = 0.46 cfs @ 12.10 hrs, Volume= 0.035 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
14,422	74	>75% Grass cover, Good, HSG C
2,019	98	Paved parking & roofs
2,611	70	Woods, Good, HSG C
19,052	76	Weighted Average
17,033		Pervious Area
2,019		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	98	0.0255	1.58		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	2	0.0475	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	59	0.0475	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	98	0.0714	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	81	0.0493	1.55		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.0645	1.78		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	86	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.0	516	Total			

Subcatchment 12S:

Runoff = 0.29 cfs @ 12.08 hrs, Volume= 0.021 af, Depth= 0.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
13,010	74	>75% Grass cover, Good, HSG C
13,010		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	31	0.1774	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
3.3	69	0.1304	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
4.8	100	Total			

Subcatchment 13S:

Runoff = 0.37 cfs @ 12.05 hrs, Volume= 0.026 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-yr Rainfall=2.90"

Area (sf)	CN	Description
5,041	98	Paved parking & roofs
480	74	>75% Grass cover, Good, HSG C
5,521	96	Weighted Average

480	Pervious Area	
5,041	Impervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	45	0.0230	1.30		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	45	0.0113	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	50	0.0113	2.16		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	150	Total			

Reach 12R: stream

Inflow Area = 0.328 ac, Inflow Depth = 1.81" for 1-yr event
Inflow = 0.75 cfs @ 12.05 hrs, Volume= 0.049 af
Outflow = 0.71 cfs @ 12.07 hrs, Volume= 0.049 af, Atten= 6%, Lag= 1.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 2.61 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 0.69 fps, Avg. Travel Time= 8.8 min

Peak Storage= 99 cf @ 12.07 hrs, Average Depth at Peak Storage= 0.13'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'

Reach 13R: Design Point 1

Inflow Area = 2.513 ac, Inflow Depth = 1.67" for 1-yr event
Inflow = 1.51 cfs @ 12.09 hrs, Volume= 0.350 af
Outflow = 1.51 cfs @ 12.09 hrs, Volume= 0.350 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

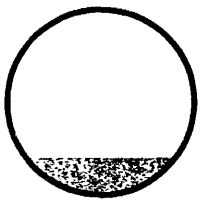
Reach 26R:

Inflow = 0.05 cfs @ 13.15 hrs, Volume= 0.105 af
Outflow = 0.05 cfs @ 13.15 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 1.77 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.46 fps, Avg. Travel Time= 0.3 min

Peak Storage= 1 cf @ 13.15 hrs, Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 0.56 cfs

6.0" Diameter Pipe, n= 0.013
Length= 29.0' Slope= 0.0100 '/'
Inlet Invert= 203.50', Outlet Invert= 203.21'



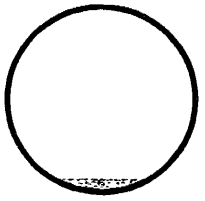
Reach 27R:

Inflow Area = 1.614 ac, Inflow Depth > 1.91" for 1-yr event
Inflow = 0.31 cfs @ 12.97 hrs, Volume= 0.257 af
Outflow = 0.31 cfs @ 12.97 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 2.94 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.34 fps, Avg. Travel Time= 0.2 min

Peak Storage= 2 cf @ 12.97 hrs, Average Depth at Peak Storage= 0.15'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 28.01 cfs

24.0" Diameter Pipe, n= 0.013
Length= 15.0' Slope= 0.0153 '/'
Inlet Invert= 196.23', Outlet Invert= 196.00'



Pond 15P: CB1

Inflow Area =	0.411 ac,	Inflow Depth =	1.73"	for	1-yr event
Inflow =	0.82 cfs @	12.10 hrs,	Volume=	0.059 af	
Outflow =	0.82 cfs @	12.10 hrs,	Volume=	0.059 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.82 cfs @	12.10 hrs,	Volume=	0.059 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.82' @ 12.09 hrs
Flood Elev= 214.91'

Device	Routing	Invert	Outlet Devices
#1	Primary	211.31'	**15.0" x 108.0' long Culvert** Ke= 0.900 Outlet Invert= 210.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.81 cfs @ 12.10 hrs HW=211.82' TW=211.19' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.81 cfs @ 2.59 fps)

Pond 16P: cb5

Inflow Area =	0.199 ac,	Inflow Depth =	2.49"	for	1-yr event
Inflow =	0.62 cfs @	12.00 hrs,	Volume=	0.041 af	
Outflow =	0.62 cfs @	12.00 hrs,	Volume=	0.041 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.62 cfs @	12.00 hrs,	Volume=	0.041 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.46' @ 12.00 hrs
Flood Elev= 215.04'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.04'	**15.0" x 63.0' long Culvert** Ke= 0.900 Outlet Invert= 211.06' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.62 cfs @ 12.00 hrs HW=212.46' TW=211.48' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.62 cfs @ 1.73 fps)

Pond 17P: CB 2

Inflow Area =	0.480 ac,	Inflow Depth =	1.83"	for	1-yr event
Inflow =	0.94 cfs @	12.08 hrs,	Volume=	0.073 af	
Outflow =	0.94 cfs @	12.08 hrs,	Volume=	0.073 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.94 cfs @	12.08 hrs,	Volume=	0.073 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.19' @ 12.08 hrs
Flood Elev= 215.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.67'	**15.0" x 97.5' long Culvert** Ke= 0.900

Outlet Invert= 210.07' S= 0.0062 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.94 cfs @ 12.08 hrs HW=211.19' TW=210.44' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.94 cfs @ 1.94 fps)

Pond 18P: CB3

Inflow Area =	0.607 ac,	Inflow Depth =	1.96"	for	1-yr event
Inflow =	1.29 cfs @	12.07 hrs,	Volume=	0.099 af	
Outflow =	1.29 cfs @	12.07 hrs,	Volume=	0.099 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.29 cfs @	12.07 hrs,	Volume=	0.099 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.45' @ 12.07 hrs
Flood Elev= 213.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	209.82'	**18.0" x 115.5' long Culvert** Ke= 0.900 Outlet Invert= 209.24' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.29 cfs @ 12.07 hrs HW=210.45' TW=209.83' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.29 cfs @ 2.74 fps)

Pond 19P: CB6

Inflow Area =	0.366 ac,	Inflow Depth =	2.38"	for	1-yr event
Inflow =	0.95 cfs @	12.01 hrs,	Volume=	0.073 af	
Outflow =	0.95 cfs @	12.01 hrs,	Volume=	0.073 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.95 cfs @	12.01 hrs,	Volume=	0.073 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.48' @ 12.01 hrs
Flood Elev= 214.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.96'	**15.0" x 62.5' long Culvert** Ke= 0.900 Outlet Invert= 209.65' S= 0.0210 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.94 cfs @ 12.01 hrs HW=211.48' TW=209.76' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.94 cfs @ 1.94 fps)

Pond 21P: CB4

Inflow Area =	1.316 ac,	Inflow Depth =	2.11"	for	1-yr event
Inflow =	3.01 cfs @	12.06 hrs,	Volume=	0.231 af	
Outflow =	3.01 cfs @	12.06 hrs,	Volume=	0.231 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.01 cfs @	12.06 hrs,	Volume=	0.231 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.85' @ 12.06 hrs
Flood Elev= 213.31'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.74'	**24.0" x 17.0' long Culvert** Ke= 0.900 Outlet Invert= 208.65' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.01 cfs @ 12.06 hrs HW=209.85' TW=209.65' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.01 cfs @ 2.44 fps)

Pond 22P: CB7

Inflow Area =	1.316 ac,	Inflow Depth = 2.11"	for 1-yr event		
Inflow =	3.01 cfs @	12.06 hrs,	Volume=	0.231 af	
Outflow =	3.01 cfs @	12.06 hrs,	Volume=	0.231 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.61 cfs @	12.06 hrs,	Volume=	0.131 af	
Secondary =	0.41 cfs @	12.06 hrs,	Volume=	0.100 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.65' @ 12.06 hrs
Flood Elev= 212.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.88'	**24.0" x 45.0' long Culvert** Ke= 0.900 Outlet Invert= 201.71' S= 0.1593 '/' Cc= 0.900 n= 0.013
#2	Secondary	208.55'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=2.60 cfs @ 12.06 hrs HW=209.65' TW=202.38' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.60 cfs @ 2.35 fps)

Secondary OutFlow Max=0.40 cfs @ 12.06 hrs HW=209.65' TW=208.56' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Orifice Controls 0.40 cfs @ 4.64 fps)

Pond 23P: Filter

Inflow Area =	0.070 ac,	Inflow Depth = 17.87"	for 1-yr event		
Inflow =	0.48 cfs @	12.04 hrs,	Volume=	0.105 af	
Outflow =	0.05 cfs @	13.15 hrs,	Volume=	0.105 af,	Atten= 90%, Lag= 66.5 min
Secondary =	0.05 cfs @	13.15 hrs,	Volume=	0.105 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.07' @ 13.15 hrs Surf.Area= 1,236 sf Storage= 2,274 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 561.8 min (1,372.0 - 810.2)

Volume	Invert	Avail.Storage	Storage Description
#1	206.00'	5,421 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
206.00	313	0	0
207.00	564	439	439
208.00	860	712	1,151
209.00	1,207	1,034	2,184
210.00	1,607	1,407	3,591
211.00	2,052	1,830	5,421

Device	Routing	Invert	Outlet Devices
#1	Secondary	0.00'	**1.750 in/hr Exfiltration over Surface area**

Secondary OutFlow Max=0.05 cfs @ 13.15 hrs HW=209.07' TW=203.60' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Pond 24P: DMH1

Inflow Area = 1.316 ac, Inflow Depth = 2.15" for 1-yr event
Inflow = 2.65 cfs @ 12.06 hrs, Volume= 0.236 af
Outflow = 2.65 cfs @ 12.06 hrs, Volume= 0.236 af, Atten= 0%, Lag= 0.0 min
Primary = 2.65 cfs @ 12.06 hrs, Volume= 0.236 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 202.38' @ 12.06 hrs
Flood Elev= 212.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	201.61'	**24.0" x 87.0' long Culvert** Ke= 0.900 Outlet Invert= 198.50' S= 0.0357 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.64 cfs @ 12.06 hrs HW=202.38' TW=197.55' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.64 cfs @ 2.36 fps)

Pond 25P: Pond

Inflow Area = 1.614 ac, Inflow Depth = 1.91" for 1-yr event
Inflow = 2.92 cfs @ 12.06 hrs, Volume= 0.257 af
Outflow = 0.31 cfs @ 12.97 hrs, Volume= 0.257 af, Atten= 90%, Lag= 54.7 min
Primary = 0.31 cfs @ 12.97 hrs, Volume= 0.257 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 198.29' @ 12.97 hrs Surf.Area= 2,751 sf Storage= 3,590 cf
Flood Elev= 201.00' Surf.Area= 5,427 sf Storage= 14,559 cf

Plug-Flow detention time= 136.3 min calculated for 0.257 af (100% of inflow)
Center-of-Mass det. time= 135.5 min (1,163.1 - 1,027.5)

Volume	Invert	Avail.Storage	Storage Description
#1	196.50'	14,559 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
196.50	1,319	0	0
197.00	1,670	747	747
198.00	2,481	2,076	2,823
199.00	3,403	2,942	5,765
200.00	4,379	3,891	9,656
201.00	5,427	4,903	14,559

Device	Routing	Invert	Outlet Devices
#1	Primary	196.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	198.30'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.7' Crest Height

Primary OutFlow Max=0.31 cfs @ 12.97 hrs HW=198.29' TW=196.38' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Orifice Controls 0.31 cfs @ 6.22 fps)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Post-Development Conditions
5 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=13,103 sf Runoff Depth=3.40"
Flow Length=436' Tc=3.3 min CN=90 Runoff=1.28 cfs 0.085 af

Subcatchment 2S: Runoff Area=1,178 sf Runoff Depth=1.97"
Flow Length=324' Tc=6.7 min CN=74 Runoff=0.06 cfs 0.004 af

Subcatchment 3S: Runoff Area=17,901 sf Runoff Depth=3.20"
Flow Length=201' Tc=6.6 min CN=88 Runoff=1.48 cfs 0.109 af

Subcatchment 4S: Runoff Area=854 sf Runoff Depth=1.97"
Flow Length=75' Slope=0.0140 '/' Tc=8.6 min CN=74 Runoff=0.04 cfs 0.003 af

Subcatchment 5S: Runoff Area=7,815 sf Runoff Depth=4.26"
Tc=0.0 min CN=98 Runoff=0.96 cfs 0.064 af

Subcatchment 6S: Runoff Area=3,004 sf Runoff Depth=4.04"
Flow Length=95' Slope=0.0314 '/' Tc=0.9 min CN=96 Runoff=0.36 cfs 0.023 af

Subcatchment 7S: Runoff Area=7,292 sf Runoff Depth=3.82"
Flow Length=169' Tc=4.2 min CN=94 Runoff=0.75 cfs 0.053 af

Subcatchment 8S: Runoff Area=14,921 sf Runoff Depth=3.60"
Flow Length=160' Tc=4.2 min CN=92 Runoff=1.47 cfs 0.103 af

Subcatchment 9S: Runoff Area=3,057 sf Runoff Depth=1.97"
Flow Length=28' Tc=1.7 min CN=74 Runoff=0.19 cfs 0.012 af

Subcatchment 10: Runoff Area=5,819 sf Runoff Depth=1.90"
Flow Length=255' Tc=5.7 min CN=73 Runoff=0.30 cfs 0.021 af

Subcatchment 11: Runoff Area=19,052 sf Runoff Depth=2.13"
Flow Length=516' Tc=6.0 min CN=76 Runoff=1.09 cfs 0.078 af

Subcatchment 12S: Runoff Area=13,010 sf Runoff Depth=1.97"
Flow Length=100' Tc=4.8 min CN=74 Runoff=0.71 cfs 0.049 af

Subcatchment 13S: Runoff Area=5,521 sf Runoff Depth=4.04"
Flow Length=150' Tc=3.8 min CN=96 Runoff=0.59 cfs 0.043 af

Reach 12R: stream Avg. Depth=0.19' Max Vel=3.23 fps Inflow=1.33 cfs 0.090 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=1.28 cfs 0.090 af

Reach 13R: Design Point 1 Inflow=4.11 cfs 0.647 af
Outflow=4.11 cfs 0.647 af

Reach 26R: Avg. Depth=0.11' Max Vel=1.83 fps Inflow=0.06 cfs 0.116 af
D=6.0" n=0.013 L=29.0' S=0.0100 '/' Capacity=0.56 cfs Outflow=0.06 cfs 0.116 af

Reach 27R: Avg. Depth=0.40' Max Vel=5.49 fps Inflow=2.46 cfs 0.459 af
D=24.0" n=0.013 L=15.0' S=0.0153 '/' Capacity=28.01 cfs Outflow=2.46 cfs 0.459 af

Pond 15P: CB1 Peak Elev=212.03' Inflow=1.48 cfs 0.109 af
15.0" x 108.0' Culvert Outflow=1.48 cfs 0.109 af

Pond 16P: cb5 Peak Elev=212.57' Inflow=0.98 cfs 0.067 af
15.0" x 63.0' Culvert Outflow=0.98 cfs 0.067 af

Pond 17P: CB 2 Peak Elev=211.42' Inflow=1.68 cfs 0.133 af
15.0" x 97.5' Culvert Outflow=1.68 cfs 0.133 af

Pond 18P: CB3 Peak Elev=210.74' Inflow=2.24 cfs 0.175 af
18.0" x 115.5' Culvert Outflow=2.24 cfs 0.175 af

Pond 19P: CB6 Peak Elev=211.64' Inflow=1.52 cfs 0.120 af
15.0" x 62.5' Culvert Outflow=1.52 cfs 0.120 af

Pond 21P: CB4 Peak Elev=210.23' Inflow=5.09 cfs 0.398 af
24.0" x 17.0' Culvert Outflow=5.09 cfs 0.398 af

Pond 22P: CB7 Peak Elev=209.95' Inflow=5.09 cfs 0.398 af
Primary=4.76 cfs 0.294 af Secondary=0.33 cfs 0.104 af Outflow=5.09 cfs 0.398 af

Pond 23P: Filter Peak Elev=209.49' Storage=2,823 cf Inflow=0.52 cfs 0.116 af
Outflow=0.06 cfs 0.116 af

Pond 24P: DMH1 Peak Elev=202.69' Inflow=4.82 cfs 0.410 af
24.0" x 87.0' Culvert Outflow=4.82 cfs 0.410 af

Pond 25P: Pond Peak Elev=198.88' Storage=5,379 cf Inflow=5.51 cfs 0.459 af
Outflow=2.46 cfs 0.459 af

Total Runoff Area = 2.583 ac Runoff Volume = 0.647 af Average Runoff Depth = 3.01"
51.76% Pervious Area = 1.337 ac 48.24% Impervious Area = 1.246 ac

Subcatchment 1S:

Runoff = 1.28 cfs @ 12.05 hrs, Volume= 0.085 af, Depth= 3.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
2,338	74	>75% Grass cover, Good, HSG C
9,234	98	Paved parking & roofs
1,531	70	Woods, Good, HSG C
13,103	90	Weighted Average
3,869		Pervious Area
9,234		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	262	0.0295	3.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	41	0.0548	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	33	0.1515	1.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.3	436	Total			

Subcatchment 2S:

Runoff = 0.06 cfs @ 12.10 hrs, Volume= 0.004 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
1,178	74	>75% Grass cover, Good, HSG C
1,178		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	81	0.0407	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	243	0.0238	5.78	18.15	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
6.7	324	Total			

Subcatchment 3S:

1.48 cfs @ 12.09 hrs, Volume= 0.109 af, Depth= 3.20"

ΓR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
yr Rainfall=4.50"

CN	Description
98	Paved parking & roofs
74	>75% Grass cover, Good, HSG C
88	Weighted Average
	Pervious Area
	Impervious Area

ı)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
)	0.0215	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
;	0.0215	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
'	0.0526	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
)	0.0526	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
)	0.0370	3.90		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
)	Total			

Subcatchment 4S:

0.04 cfs @ 12.13 hrs, Volume= 0.003 af, Depth= 1.97"

ΓR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
yr Rainfall=4.50"

CN	Description
74	>75% Grass cover, Good, HSG C
	Pervious Area

ı)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
;	0.0140	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"

Subcatchment 5S:

Runoff = 0.96 cfs @ 12.00 hrs, Volume= 0.064 af, Depth= 4.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
7,815	98	Paved parking & roofs
7,815		Impervious Area

Subcatchment 6S:

Runoff = 0.36 cfs @ 12.01 hrs, Volume= 0.023 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
2,734	98	Paved parking & roofs
270	74	>75% Grass cover, Good, HSG C
3,004	96	Weighted Average
270		Pervious Area
2,734		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	95	0.0314	1.71		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

Subcatchment 7S:

Runoff = 0.75 cfs @ 12.06 hrs, Volume= 0.053 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
6,015	98	Paved parking & roofs
1,277	74	>75% Grass cover, Good, HSG C
7,292	94	Weighted Average
1,277		Pervious Area
6,015		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	41	0.0536	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	59	0.0223	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0223	3.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.2	169	Total			

Subcatchment 8S:

Runoff = 1.47 cfs @ 12.06 hrs, Volume= 0.103 af, Depth= 3.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
11,150	98	Paved parking & roofs
3,771	74	>75% Grass cover, Good, HSG C
14,921	92	Weighted Average
3,771		Pervious Area
11,150		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	34	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	66	0.0293	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	43	0.0293	3.47		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	17	0.0212	5.45	17.13	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
4.2	160	Total			

Subcatchment 9S:

Runoff = 0.19 cfs @ 12.03 hrs, Volume= 0.012 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
3,057	74	>75% Grass cover, Good, HSG C
3,057		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	15	0.1000	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	13	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.7	28	Total			

Subcatchment 10:

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.021 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
4,512	74	>75% Grass cover, Good, HSG C
1,307	70	Woods, Good, HSG C
5,819	73	Weighted Average
5,819		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	96	0.0780	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.4	159	0.0329	7.35	16.90	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 0.3 '/' Top.W=2.60' n= 0.025
5.7	255	Total			

Subcatchment 11:

Runoff = 1.09 cfs @ 12.09 hrs, Volume= 0.078 af, Depth= 2.13"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
14,422	74	>75% Grass cover, Good, HSG C
2,019	98	Paved parking & roofs
2,611	70	Woods, Good, HSG C
19,052	76	Weighted Average
17,033		Pervious Area
2,019		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	98	0.0255	1.58		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	2	0.0475	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	59	0.0475	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	98	0.0714	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	81	0.0493	1.55		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.0645	1.78		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	86	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.0	516	Total			

Subcatchment 12S:

Runoff = 0.71 cfs @ 12.07 hrs, Volume= 0.049 af, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
13,010	74	>75% Grass cover, Good, HSG C
13,010		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	31	0.1774	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
3.3	69	0.1304	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
4.8	100	Total			

Subcatchment 13S:

Runoff = 0.59 cfs @ 12.05 hrs, Volume= 0.043 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 5-yr Rainfall=4.50"

Area (sf)	CN	Description
5,041	98	Paved parking & roofs
480	74	>75% Grass cover, Good, HSG C
5,521	96	Weighted Average

480	Pervious Area
5,041	Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	45	0.0230	1.30		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	45	0.0113	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	50	0.0113	2.16		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	150	Total			

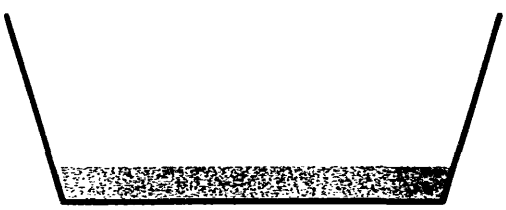
Reach 12R: stream

Inflow Area = 0.328 ac, Inflow Depth = 3.28" for 5-yr event
Inflow = 1.33 cfs @ 12.05 hrs, Volume= 0.090 af
Outflow = 1.28 cfs @ 12.07 hrs, Volume= 0.090 af, Atten= 4%, Lag= 1.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 3.23 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.81 fps, Avg. Travel Time= 7.5 min

Peak Storage= 144 cf @ 12.07 hrs, Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'



Reach 13R: Design Point 1

Inflow Area = 2.513 ac, Inflow Depth = 3.09" for 5-yr event
Inflow = 4.11 cfs @ 12.13 hrs, Volume= 0.647 af
Outflow = 4.11 cfs @ 12.13 hrs, Volume= 0.647 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

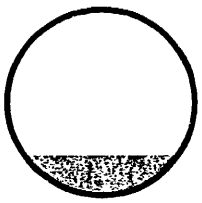
Reach 26R:

Inflow = 0.06 cfs @ 12.36 hrs, Volume= 0.116 af
Outflow = 0.06 cfs @ 12.36 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 1.83 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.50 fps, Avg. Travel Time= 0.3 min

Peak Storage= 1 cf @ 12.36 hrs, Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 0.56 cfs

6.0" Diameter Pipe, n= 0.013
Length= 29.0' Slope= 0.0100 '/'
Inlet Invert= 203.50', Outlet Invert= 203.21'



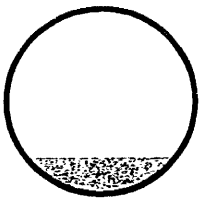
Reach 27R:

Inflow Area = 1.614 ac, Inflow Depth = 3.41" for 5-yr event
Inflow = 2.46 cfs @ 12.26 hrs, Volume= 0.459 af
Outflow = 2.46 cfs @ 12.26 hrs, Volume= 0.459 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 5.49 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.45 fps, Avg. Travel Time= 0.2 min

Peak Storage= 7 cf @ 12.26 hrs, Average Depth at Peak Storage= 0.40'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 28.01 cfs

24.0" Diameter Pipe, n= 0.013
Length= 15.0' Slope= 0.0153 '/'
Inlet Invert= 196.23', Outlet Invert= 196.00'



Pond 15P: CB1

Inflow Area = 0.411 ac, Inflow Depth = 3.20" for 5-yr event
Inflow = 1.48 cfs @ 12.09 hrs, Volume= 0.109 af
Outflow = 1.48 cfs @ 12.09 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
Primary = 1.48 cfs @ 12.09 hrs, Volume= 0.109 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.03' @ 12.09 hrs
Flood Elev= 214.91'

Device	Routing	Invert	Outlet Devices
#1	Primary	211.31'	**15.0" x 108.0' long Culvert** Ke= 0.900 Outlet Invert= 210.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.48 cfs @ 12.09 hrs HW=212.03' TW=211.41' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.48 cfs @ 2.90 fps)

Pond 16P: cb5

Inflow Area = 0.199 ac, Inflow Depth = 4.04" for 5-yr event
Inflow = 0.98 cfs @ 12.00 hrs, Volume= 0.067 af
Outflow = 0.98 cfs @ 12.00 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.00 hrs, Volume= 0.067 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.57' @ 12.00 hrs
Flood Elev= 215.04'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.04'	**15.0" x 63.0' long Culvert** Ke= 0.900 Outlet Invert= 211.06' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.98 cfs @ 12.00 hrs HW=212.57' TW=211.64' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.98 cfs @ 1.96 fps)

Pond 17P: CB 2

Inflow Area = 0.480 ac, Inflow Depth = 3.32" for 5-yr event
Inflow = 1.68 cfs @ 12.08 hrs, Volume= 0.133 af
Outflow = 1.68 cfs @ 12.08 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min
Primary = 1.68 cfs @ 12.08 hrs, Volume= 0.133 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.42' @ 12.08 hrs
Flood Elev= 215.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.67'	**15.0" x 97.5' long Culvert** Ke= 0.900

Outlet Invert= 210.07' S= 0.0062 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.69 cfs @ 12.08 hrs HW=211.42' TW=210.73' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.69 cfs @ 3.17 fps)

Pond 18P: CB3

Inflow Area =	0.607 ac,	Inflow Depth =	3.47"	for 5-yr event	
Inflow =	2.24 cfs @	12.07 hrs,	Volume=	0.175 af	
Outflow =	2.24 cfs @	12.07 hrs,	Volume=	0.175 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.24 cfs @	12.07 hrs,	Volume=	0.175 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.74' @ 12.07 hrs
Flood Elev= 213.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	209.82'	**18.0" x 115.5' long Culvert** Ke= 0.900 Outlet Invert= 209.24' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.25 cfs @ 12.07 hrs HW=210.74' TW=210.22' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.25 cfs @ 2.84 fps)

Pond 19P: CB6

Inflow Area =	0.366 ac,	Inflow Depth =	3.94"	for 5-yr event	
Inflow =	1.52 cfs @	12.01 hrs,	Volume=	0.120 af	
Outflow =	1.52 cfs @	12.01 hrs,	Volume=	0.120 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.52 cfs @	12.01 hrs,	Volume=	0.120 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.64' @ 12.01 hrs
Flood Elev= 214.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.96'	**15.0" x 62.5' long Culvert** Ke= 0.900 Outlet Invert= 209.65' S= 0.0210 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.52 cfs @ 12.01 hrs HW=211.64' TW=210.12' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.52 cfs @ 2.22 fps)

Pond 21P: CB4

Inflow Area =	1.316 ac,	Inflow Depth =	3.63"	for 5-yr event	
Inflow =	5.09 cfs @	12.06 hrs,	Volume=	0.398 af	
Outflow =	5.09 cfs @	12.06 hrs,	Volume=	0.398 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.09 cfs @	12.06 hrs,	Volume=	0.398 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.23' @ 12.06 hrs
Flood Elev= 213.31'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.74'	**24.0" x 17.0' long Culvert** Ke= 0.900 Outlet Invert= 208.65' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.08 cfs @ 12.06 hrs HW=210.23' TW=209.95' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.08 cfs @ 2.02 fps)

Pond 22P: CB7

Inflow Area =	1.316 ac,	Inflow Depth = 3.63"	for 5-yr event		
Inflow =	5.09 cfs @	12.06 hrs,	Volume=	0.398 af	
Outflow =	5.09 cfs @	12.06 hrs,	Volume=	0.398 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.76 cfs @	12.06 hrs,	Volume=	0.294 af	
Secondary =	0.33 cfs @	12.04 hrs,	Volume=	0.104 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.95' @ 12.06 hrs
Flood Elev= 212.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.88'	**24.0" x 45.0' long Culvert** Ke= 0.900 Outlet Invert= 201.71' S= 0.1593 '/' Cc= 0.900 n= 0.013
#2	Secondary	208.55'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=4.76 cfs @ 12.06 hrs HW=209.95' TW=202.69' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.76 cfs @ 2.78 fps)

Secondary OutFlow Max=0.33 cfs @ 12.04 hrs HW=209.94' TW=209.31' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Orifice Controls 0.33 cfs @ 3.82 fps)

Pond 23P: Filter

Inflow Area =	0.070 ac,	Inflow Depth = 19.81"	for 5-yr event		
Inflow =	0.52 cfs @	12.03 hrs,	Volume=	0.116 af	
Outflow =	0.06 cfs @	12.36 hrs,	Volume=	0.116 af,	Atten= 89%, Lag= 19.7 min
Secondary =	0.06 cfs @	12.36 hrs,	Volume=	0.116 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.49' @ 12.36 hrs Surf.Area= 1,403 sf Storage= 2,823 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 586.8 min (1,334.4 - 747.6)

Volume	Invert	Avail.Storage	Storage Description
#1	206.00'	5,421 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
206.00	313	0	0
207.00	564	439	439
208.00	860	712	1,151
209.00	1,207	1,034	2,184
210.00	1,607	1,407	3,591
211.00	2,052	1,830	5,421

Device	Routing	Invert	Outlet Devices
#1	Secondary	0.00'	**1.750 in/hr Exfiltration over Surface area**

Secondary OutFlow Max=0.06 cfs @ 12.36 hrs HW=209.49' TW=203.61' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Pond 24P: DMH1

Inflow Area = 1.316 ac, Inflow Depth = 3.74" for 5-yr event
Inflow = 4.82 cfs @ 12.06 hrs, Volume= 0.410 af
Outflow = 4.82 cfs @ 12.06 hrs, Volume= 0.410 af, Atten= 0%, Lag= 0.0 min
Primary = 4.82 cfs @ 12.06 hrs, Volume= 0.410 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 202.69' @ 12.06 hrs
Flood Elev= 212.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	201.61'	**24.0" x 87.0' long Culvert** Ke= 0.900 Outlet Invert= 198.50' S= 0.0357 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.81 cfs @ 12.06 hrs HW=202.69' TW=198.46' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.81 cfs @ 2.79 fps)

Pond 25P: Pond

Inflow Area = 1.614 ac, Inflow Depth = 3.41" for 5-yr event
Inflow = 5.51 cfs @ 12.06 hrs, Volume= 0.459 af
Outflow = 2.46 cfs @ 12.26 hrs, Volume= 0.459 af, Atten= 55%, Lag= 11.9 min
Primary = 2.46 cfs @ 12.26 hrs, Volume= 0.459 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 198.88' @ 12.26 hrs Surf.Area= 3,297 sf Storage= 5,379 cf
Flood Elev= 201.00' Surf.Area= 5,427 sf Storage= 14,559 cf

Plug-Flow detention time= 109.8 min calculated for 0.459 af (100% of inflow)
Center-of-Mass det. time= 109.2 min (1,044.0 - 934.9)

Volume	Invert	Avail.Storage	Storage Description
#1	196.50'	14,559 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
196.50	1,319	0	0
197.00	1,670	747	747
198.00	2,481	2,076	2,823
199.00	3,403	2,942	5,765
200.00	4,379	3,891	9,656
201.00	5,427	4,903	14,559

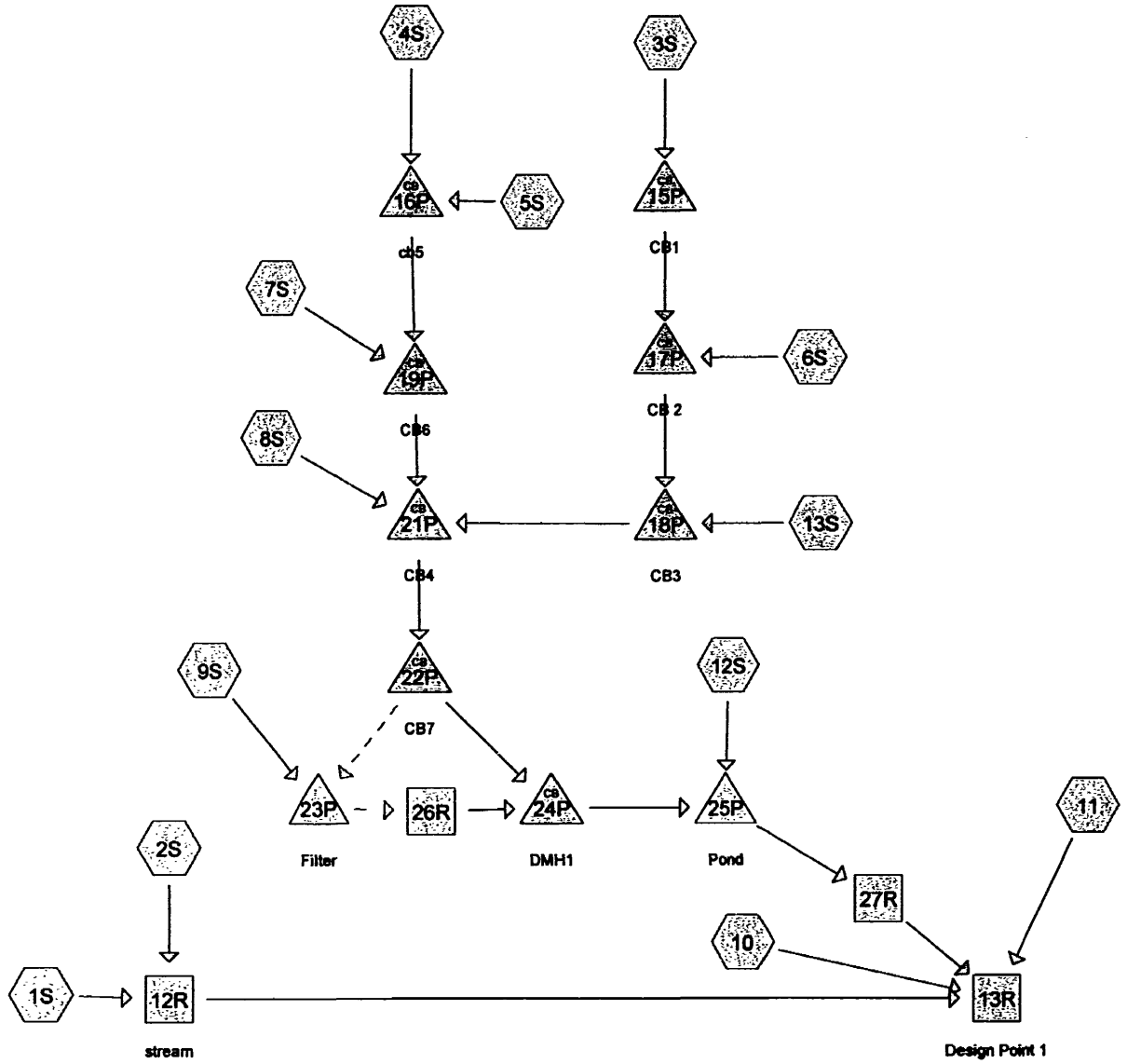
Device	Routing	Invert	Outlet Devices
#1	Primary	196.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	198.30'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.7' Crest Height

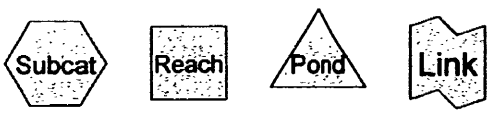
Primary OutFlow Max=2.46 cfs @ 12.26 hrs HW=198.88' TW=196.63' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.23 fps)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.11 cfs @ 2.61 fps)

Post-Development Conditions
1 year 24 hour Storm Event
Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006





Drainage Diagram for Proposed Conditions
Prepared by The Chazen Companies 8/17/2006
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Area Listing (all nodes)

Area (acres)	CN	Description (subcats)
0.125	70	Woods, Good, HSG C (1S,10,11)
1.212	74	>75% Grass cover, Good, HSG C (1S,2S,3S,4S,6S,7S,8S,9S,10,11,12S,13S)
1.246	98	Paved parking & roofs (1S,3S,5S,6S,7S,8S,11,13S)
2.583		

Post-Development Conditions
10 year 24 hour Storm Event
Model Computations

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=13,103 sf Runoff Depth=4.36"
Flow Length=436' Tc=3.3 min CN=90 Runoff=1.62 cfs 0.109 af

Subcatchment 2S: Runoff Area=1,178 sf Runoff Depth=2.77"
Flow Length=324' Tc=6.7 min CN=74 Runoff=0.09 cfs 0.006 af

Subcatchment 3S: Runoff Area=17,901 sf Runoff Depth=4.15"
Flow Length=201' Tc=6.6 min CN=88 Runoff=1.90 cfs 0.142 af

Subcatchment 4S: Runoff Area=854 sf Runoff Depth=2.77"
Flow Length=75' Slope=0.0140 '/' Tc=8.6 min CN=74 Runoff=0.06 cfs 0.005 af

Subcatchment 5S: Runoff Area=7,815 sf Runoff Depth=5.26"
Tc=0.0 min CN=98 Runoff=1.18 cfs 0.079 af

Subcatchment 6S: Runoff Area=3,004 sf Runoff Depth=5.03"
Flow Length=95' Slope=0.0314 '/' Tc=0.9 min CN=96 Runoff=0.44 cfs 0.029 af

Subcatchment 7S: Runoff Area=7,292 sf Runoff Depth=4.80"
Flow Length=169' Tc=4.2 min CN=94 Runoff=0.93 cfs 0.067 af

Subcatchment 8S: Runoff Area=14,921 sf Runoff Depth=4.58"
Flow Length=160' Tc=4.2 min CN=92 Runoff=1.85 cfs 0.131 af

Subcatchment 9S: Runoff Area=3,057 sf Runoff Depth=2.77"
Flow Length=28' Tc=1.7 min CN=74 Runoff=0.27 cfs 0.016 af

Subcatchment 10: Runoff Area=5,819 sf Runoff Depth=2.68"
Flow Length=255' Tc=5.7 min CN=73 Runoff=0.42 cfs 0.030 af

Subcatchment 11: Runoff Area=19,052 sf Runoff Depth=2.95"
Flow Length=516' Tc=6.0 min CN=76 Runoff=1.52 cfs 0.108 af

Subcatchment 12S: Runoff Area=13,010 sf Runoff Depth=2.77"
Flow Length=100' Tc=4.8 min CN=74 Runoff=1.01 cfs 0.069 af

Subcatchment 13S: Runoff Area=5,521 sf Runoff Depth=5.03"
Flow Length=150' Tc=3.8 min CN=96 Runoff=0.73 cfs 0.053 af

Reach 12R: stream Avg. Depth=0.22' Max Vel=3.53 fps Inflow=1.70 cfs 0.116 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=1.63 cfs 0.116 af

Reach 13R: Design Point 1 Inflow=7.02 cfs 0.843 af
Outflow=7.02 cfs 0.843 af

Reach 26R: Avg. Depth=0.11' Max Vel=1.86 fps Inflow=0.06 cfs 0.121 af
D=6.0" n=0.013 L=29.0' S=0.0100 '/' Capacity=0.56 cfs Outflow=0.06 cfs 0.121 af

Reach 27R: Avg. Depth=0.52' Max Vel=6.39 fps Inflow=4.15 cfs 0.590 af
D=24.0" n=0.013 L=15.0' S=0.0153 '/' Capacity=28.01 cfs Outflow=4.15 cfs 0.590 af

Pond 15P: CB1 Peak Elev=212.17' Inflow=1.90 cfs 0.142 af
15.0" x 108.0' Culvert Outflow=1.90 cfs 0.142 af

Pond 16P: cb5 Peak Elev=212.64' Inflow=1.21 cfs 0.083 af
15.0" x 63.0' Culvert Outflow=1.21 cfs 0.083 af

Pond 17P: CB 2 Peak Elev=211.57' Inflow=2.15 cfs 0.171 af
15.0" x 97.5' Culvert Outflow=2.15 cfs 0.171 af

Pond 18P: CB3 Peak Elev=210.93' Inflow=2.84 cfs 0.224 af
18.0" x 115.5' Culvert Outflow=2.84 cfs 0.224 af

Pond 19P: CB6 Peak Elev=211.73' Inflow=1.88 cfs 0.150 af
15.0" x 62.5' Culvert Outflow=1.88 cfs 0.150 af

Pond 21P: CB4 Peak Elev=210.46' Inflow=6.39 cfs 0.505 af
24.0" x 17.0' Culvert Outflow=6.39 cfs 0.505 af

Pond 22P: CB7 Peak Elev=210.11' Inflow=6.39 cfs 0.505 af
Primary=6.06 cfs 0.400 af Secondary=0.33 cfs 0.105 af Outflow=6.39 cfs 0.505 af

Pond 23P: Filter Peak Elev=209.65' Storage=3,056 cf Inflow=0.59 cfs 0.121 af
Outflow=0.06 cfs 0.121 af

Pond 24P: DMH1 Peak Elev=202.85' Inflow=6.12 cfs 0.521 af
24.0" x 87.0' Culvert Outflow=6.12 cfs 0.521 af

Pond 25P: Pond Peak Elev=199.18' Storage=6,382 cf Inflow=7.11 cfs 0.590 af
Outflow=4.15 cfs 0.590 af

Total Runoff Area = 2.583 ac Runoff Volume = 0.843 af Average Runoff Depth = 3.92"
51.76% Pervious Area = 1.337 ac 48.24% Impervious Area = 1.246 ac

Subcatchment 1S:

Runoff = 1.62 cfs @ 12.05 hrs, Volume= 0.109 af, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
2,338	74	>75% Grass cover, Good, HSG C
9,234	98	Paved parking & roofs
1,531	70	Woods, Good, HSG C
13,103	90	Weighted Average
3,869		Pervious Area
9,234		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	262	0.0295	3.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	41	0.0548	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	33	0.1515	1.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.3	436	Total			

Subcatchment 2S:

Runoff = 0.09 cfs @ 12.10 hrs, Volume= 0.006 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
1,178	74	>75% Grass cover, Good, HSG C
1,178		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	81	0.0407	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	243	0.0238	5.78	18.15	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
6.7	324	Total			

Subcatchment 3S:

Runoff = 1.90 cfs @ 12.09 hrs, Volume= 0.142 af, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
10,280	98	Paved parking & roofs
7,621	74	>75% Grass cover, Good, HSG C
17,901	88	Weighted Average
7,621		Pervious Area
10,280		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	51	0.0215	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
4.5	42	0.0215	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.8	7	0.0526	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.3	31	0.0526	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	70	0.0370	3.90		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.6	201	Total			

Subcatchment 4S:

Runoff = 0.06 cfs @ 12.12 hrs, Volume= 0.005 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
854	74	>75% Grass cover, Good, HSG C
854		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	75	0.0140	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"

Subcatchment 5S:

Runoff = 1.18 cfs @ 12.00 hrs, Volume= 0.079 af, Depth= 5.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
7,815	98	Paved parking & roofs
7,815		Impervious Area

Subcatchment 6S:

Runoff = 0.44 cfs @ 12.01 hrs, Volume= 0.029 af, Depth= 5.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
2,734	98	Paved parking & roofs
270	74	>75% Grass cover, Good, HSG C
3,004	96	Weighted Average
270		Pervious Area
2,734		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	95	0.0314	1.71		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

Subcatchment 7S:

Runoff = 0.93 cfs @ 12.06 hrs, Volume= 0.067 af, Depth= 4.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
6,015	98	Paved parking & roofs
1,277	74	>75% Grass cover, Good, HSG C
7,292	94	Weighted Average
1,277		Pervious Area
6,015		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	41	0.0536	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	59	0.0223	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0223	3.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.2	169	Total			

Subcatchment 8S:

Runoff = 1.85 cfs @ 12.06 hrs, Volume= 0.131 af, Depth= 4.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
11,150	98	Paved parking & roofs
3,771	74	>75% Grass cover, Good, HSG C
14,921	92	Weighted Average
3,771		Pervious Area
11,150		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	34	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	66	0.0293	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	43	0.0293	3.47		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	17	0.0212	5.45	17.13	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
4.2	160	Total			

Subcatchment 9S:

Runoff = 0.27 cfs @ 12.03 hrs, Volume= 0.016 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
3,057	74	>75% Grass cover, Good, HSG C
3,057		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	15	0.1000	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	13	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.7	28	Total			

Subcatchment 10:

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.030 af, Depth= 2.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
4,512	74	>75% Grass cover, Good, HSG C
1,307	70	Woods, Good, HSG C
5,819	73	Weighted Average
5,819		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	96	0.0780	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.4	159	0.0329	7.35	16.90	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 0.3 '/' Top.W=2.60' n= 0.025
5.7	255	Total			

Subcatchment 11:

Runoff = 1.52 cfs @ 12.09 hrs, Volume= 0.108 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
14,422	74	>75% Grass cover, Good, HSG C
2,019	98	Paved parking & roofs
2,611	70	Woods, Good, HSG C
19,052	76	Weighted Average
17,033		Pervious Area
2,019		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	98	0.0255	1.58		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	2	0.0475	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	59	0.0475	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	98	0.0714	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	81	0.0493	1.55		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.0645	1.78		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	86	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.0	516	Total			

Subcatchment 12S:

Runoff = 1.01 cfs @ 12.07 hrs, Volume= 0.069 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
13,010	74	>75% Grass cover, Good, HSG C
13,010		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	31	0.1774	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
3.3	69	0.1304	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
4.8	100	Total			

Subcatchment 13S:

Runoff = 0.73 cfs @ 12.05 hrs, Volume= 0.053 af, Depth= 5.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=5.50"

Area (sf)	CN	Description
5,041	98	Paved parking & roofs
480	74	>75% Grass cover, Good, HSG C
5,521	96	Weighted Average

480	Pervious Area	
5,041	Impervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	45	0.0230	1.30		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	45	0.0113	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	50	0.0113	2.16		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	150	Total			

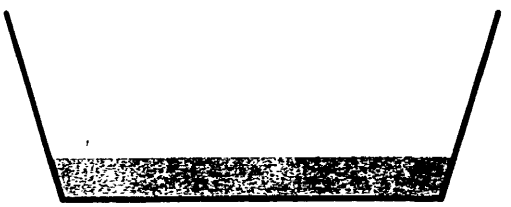
Reach 12R: stream

Inflow Area = 0.328 ac, Inflow Depth = 4.23" for 10-yr event
Inflow = 1.70 cfs @ 12.05 hrs, Volume= 0.116 af
Outflow = 1.63 cfs @ 12.07 hrs, Volume= 0.116 af, Atten= 4%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 3.53 fps, Min. Travel Time= 1.7 min
Avg. Velocity = 0.87 fps, Avg. Travel Time= 7.0 min

Peak Storage= 169 cf @ 12.07 hrs, Average Depth at Peak Storage= 0.22'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'



Reach 13R: Design Point 1

Inflow Area = 2.513 ac, Inflow Depth = 4.02" for 10-yr event
Inflow = 7.02 cfs @ 12.11 hrs, Volume= 0.843 af
Outflow = 7.02 cfs @ 12.11 hrs, Volume= 0.843 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

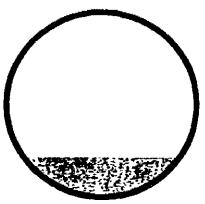
Reach 26R:

Inflow = 0.06 cfs @ 12.42 hrs, Volume= 0.121 af
Outflow = 0.06 cfs @ 12.42 hrs, Volume= 0.121 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 1.86 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.52 fps, Avg. Travel Time= 0.3 min

Peak Storage= 1 cf @ 12.42 hrs, Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 0.56 cfs

6.0" Diameter Pipe, n= 0.013
Length= 29.0' Slope= 0.0100 '/'
Inlet Invert= 203.50', Outlet Invert= 203.21'



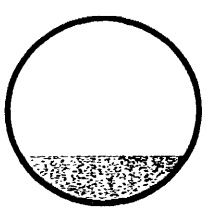
Reach 27R:

Inflow Area = 1.614 ac, Inflow Depth = 4.38" for 10-yr event
Inflow = 4.15 cfs @ 12.18 hrs, Volume= 0.590 af
Outflow = 4.15 cfs @ 12.18 hrs, Volume= 0.590 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 6.39 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.51 fps, Avg. Travel Time= 0.2 min

Peak Storage= 10 cf @ 12.18 hrs, Average Depth at Peak Storage= 0.52'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 28.01 cfs

24.0" Diameter Pipe, n= 0.013
Length= 15.0' Slope= 0.0153 '/'
Inlet Invert= 196.23', Outlet Invert= 196.00'



Pond 15P: CB1

Inflow Area =	0.411 ac,	Inflow Depth =	4.15"	for	10-yr event	
Inflow =	1.90 cfs @	12.09 hrs,	Volume=		0.142 af	
Outflow =	1.90 cfs @	12.09 hrs,	Volume=		0.142 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.90 cfs @	12.09 hrs,	Volume=		0.142 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.17' @ 12.09 hrs
Flood Elev= 214.91'

Device	Routing	Invert	Outlet Devices
#1	Primary	211.31'	**15.0" x 108.0' long Culvert** Ke= 0.900 Outlet Invert= 210.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.91 cfs @ 12.09 hrs HW=212.17' TW=211.55' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 1.91 cfs @ 3.00 fps)

Pond 16P: cb5

Inflow Area =	0.199 ac,	Inflow Depth =	5.02"	for	10-yr event	
Inflow =	1.21 cfs @	12.00 hrs,	Volume=		0.083 af	
Outflow =	1.21 cfs @	12.00 hrs,	Volume=		0.083 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.21 cfs @	12.00 hrs,	Volume=		0.083 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.64' @ 12.00 hrs
Flood Elev= 215.04'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.04'	**15.0" x 63.0' long Culvert** Ke= 0.900 Outlet Invert= 211.06' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.21 cfs @ 12.00 hrs HW=212.64' TW=211.73' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.21 cfs @ 2.08 fps)

Pond 17P: CB 2

Inflow Area =	0.480 ac,	Inflow Depth =	4.27"	for	10-yr event	
Inflow =	2.15 cfs @	12.08 hrs,	Volume=		0.171 af	
Outflow =	2.15 cfs @	12.08 hrs,	Volume=		0.171 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.15 cfs @	12.08 hrs,	Volume=		0.171 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.57' @ 12.08 hrs
Flood Elev= 215.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.67'	**15.0" x 97.5' long Culvert** Ke= 0.900

Outlet Invert= 210.07' S= 0.0062 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.16 cfs @ 12.08 hrs HW=211.56' TW=210.91' (Dynamic Tailwater)
└1=**Culvert** (Outlet Controls 2.16 cfs @ 3.22 fps)

Pond 18P: CB3

Inflow Area =	0.607 ac,	Inflow Depth =	4.43"	for	10-yr event
Inflow =	2.84 cfs @	12.07 hrs,	Volume=	0.224 af	
Outflow =	2.84 cfs @	12.07 hrs,	Volume=	0.224 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.84 cfs @	12.07 hrs,	Volume=	0.224 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.93' @ 12.07 hrs
Flood Elev= 213.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	209.82'	**18.0" x 115.5' long Culvert** Ke= 0.900 Outlet Invert= 209.24' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.86 cfs @ 12.07 hrs HW=210.92' TW=210.44' (Dynamic Tailwater)
└1=**Culvert** (Outlet Controls 2.86 cfs @ 2.86 fps)

Pond 19P: CB6

Inflow Area =	0.366 ac,	Inflow Depth =	4.92"	for	10-yr event
Inflow =	1.88 cfs @	12.01 hrs,	Volume=	0.150 af	
Outflow =	1.88 cfs @	12.01 hrs,	Volume=	0.150 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.88 cfs @	12.01 hrs,	Volume=	0.150 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.73' @ 12.01 hrs
Flood Elev= 214.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.96'	**15.0" x 62.5' long Culvert** Ke= 0.900 Outlet Invert= 209.65' S= 0.0210 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.88 cfs @ 12.01 hrs HW=211.73' TW=210.31' (Dynamic Tailwater)
└1=**Culvert** (Inlet Controls 1.88 cfs @ 2.36 fps)

Pond 21P: CB4

Inflow Area =	1.316 ac,	Inflow Depth =	4.61"	for	10-yr event
Inflow =	6.39 cfs @	12.06 hrs,	Volume=	0.505 af	
Outflow =	6.39 cfs @	12.06 hrs,	Volume=	0.505 af,	Atten= 0%, Lag= 0.0 min
Primary =	6.39 cfs @	12.06 hrs,	Volume=	0.505 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.46' @ 12.06 hrs
Flood Elev= 213.31'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.74'	**24.0" x 17.0' long Culvert** Ke= 0.900 Outlet Invert= 208.65' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=6.38 cfs @ 12.06 hrs HW=210.45' TW=210.11' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 6.38 cfs @ 2.23 fps)

Pond 22P: CB7

Inflow Area =	1.316 ac,	Inflow Depth =	4.61"	for	10-yr event
Inflow =	6.39 cfs @	12.06 hrs,	Volume=	0.505 af	
Outflow =	6.39 cfs @	12.06 hrs,	Volume=	0.505 af,	Atten= 0%, Lag= 0.0 min
Primary =	6.06 cfs @	12.06 hrs,	Volume=	0.400 af	
Secondary =	0.33 cfs @	12.05 hrs,	Volume=	0.105 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.11' @ 12.06 hrs
Flood Elev= 212.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.88'	**24.0" x 45.0' long Culvert** Ke= 0.900 Outlet Invert= 201.71' S= 0.1593 '/' Cc= 0.900 n= 0.013
#2	Secondary	208.55'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=6.06 cfs @ 12.06 hrs HW=210.11' TW=202.85' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 6.06 cfs @ 2.98 fps)

Secondary OutFlow Max=0.33 cfs @ 12.05 hrs HW=210.10' TW=209.49' (Dynamic Tailwater)
└**2=Orifice/Grate** (Orifice Controls 0.33 cfs @ 3.78 fps)

Pond 23P: Filter

Inflow Area =	0.070 ac,	Inflow Depth =	20.71"	for	10-yr event
Inflow =	0.59 cfs @	12.03 hrs,	Volume=	0.121 af	
Outflow =	0.06 cfs @	12.42 hrs,	Volume=	0.121 af,	Atten= 90%, Lag= 23.2 min
Secondary =	0.06 cfs @	12.42 hrs,	Volume=	0.121 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.65' @ 12.42 hrs Surf.Area= 1,468 sf Storage= 3,056 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 603.1 min (1,309.8 - 706.7)

Volume	Invert	Avail.Storage	Storage Description
#1	206.00'	5,421 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
206.00	313	0	0
207.00	564	439	439
208.00	860	712	1,151
209.00	1,207	1,034	2,184
210.00	1,607	1,407	3,591
211.00	2,052	1,830	5,421

Device	Routing	Invert	Outlet Devices
#1	Secondary	0.00'	**1.750 in/hr Exfiltration over Surface area**

Secondary OutFlow Max=0.06 cfs @ 12.42 hrs HW=209.65' TW=203.61' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Pond 24P: DMH1

Inflow Area = 1.316 ac, Inflow Depth = 4.75" for 10-yr event
Inflow = 6.12 cfs @ 12.06 hrs, Volume= 0.521 af
Outflow = 6.12 cfs @ 12.06 hrs, Volume= 0.521 af, Atten= 0%, Lag= 0.0 min
Primary = 6.12 cfs @ 12.06 hrs, Volume= 0.521 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 202.85' @ 12.06 hrs
Flood Elev= 212.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	201.61'	**24.0" x 87.0' long Culvert** Ke= 0.900 Outlet Invert= 198.50' S= 0.0357 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=6.11 cfs @ 12.06 hrs HW=202.85' TW=198.92' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.11 cfs @ 2.99 fps)

Pond 25P: Pond

Inflow Area = 1.614 ac, Inflow Depth = 4.39" for 10-yr event
Inflow = 7.11 cfs @ 12.06 hrs, Volume= 0.590 af
Outflow = 4.15 cfs @ 12.18 hrs, Volume= 0.590 af, Atten= 42%, Lag= 6.9 min
Primary = 4.15 cfs @ 12.18 hrs, Volume= 0.590 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 199.18' @ 12.18 hrs Surf.Area= 3,576 sf Storage= 6,382 cf
Flood Elev= 201.00' Surf.Area= 5,427 sf Storage= 14,559 cf

Plug-Flow detention time= 98.9 min calculated for 0.590 af (100% of inflow)
Center-of-Mass det. time= 98.4 min (1,003.7 - 905.3)

Volume	Invert	Avail.Storage	Storage Description
#1	196.50'	14,559 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
196.50	1,319	0	0
197.00	1,670	747	747
198.00	2,481	2,076	2,823
199.00	3,403	2,942	5,765
200.00	4,379	3,891	9,656
201.00	5,427	4,903	14,559

Device	Routing	Invert	Outlet Devices
#1	Primary	196.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	198.30'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.7' Crest Height

Primary OutFlow Max=4.15 cfs @ 12.18 hrs HW=199.18' TW=196.75' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Orifice Controls 0.37 cfs @ 7.50 fps)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.78 cfs @ 3.25 fps)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
206.00	313	0	0
207.00	564	439	439
208.00	860	712	1,151
209.00	1,207	1,034	2,184
210.00	1,607	1,407	3,591
211.00	2,052	1,830	5,421

Device	Routing	Invert	Outlet Devices
#1	Secondary	0.00'	**1.750 in/hr Exfiltration over Surface area**

Secondary OutFlow Max=0.06 cfs @ 12.46 hrs HW=209.78' TW=203.61' (Dynamic Tailwater)
└**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Pond 24P: DMH1

Inflow Area = 1.316 ac, Inflow Depth = 5.78" for 25-yr event
Inflow = 7.40 cfs @ 12.06 hrs, Volume= 0.633 af
Outflow = 7.40 cfs @ 12.06 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min
Primary = 7.40 cfs @ 12.06 hrs, Volume= 0.633 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 203.00' @ 12.06 hrs
Flood Elev= 212.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	201.61'	**24.0" x 87.0' long Culvert** Ke= 0.900 Outlet Invert= 198.50' S= 0.0357 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.39 cfs @ 12.06 hrs HW=203.00' TW=199.21' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 7.39 cfs @ 3.17 fps)

Pond 25P: Pond

Inflow Area = 1.614 ac, Inflow Depth = 5.38" for 25-yr event
Inflow = 8.70 cfs @ 12.06 hrs, Volume= 0.723 af
Outflow = 5.70 cfs @ 12.15 hrs, Volume= 0.723 af, Atten= 35%, Lag= 5.6 min
Primary = 5.70 cfs @ 12.15 hrs, Volume= 0.723 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 199.42' @ 12.15 hrs Surf.Area= 3,809 sf Storage= 7,266 cf
Flood Elev= 201.00' Surf.Area= 5,427 sf Storage= 14,559 cf

Plug-Flow detention time= 91.2 min calculated for 0.723 af (100% of inflow)
Center-of-Mass det. time= 90.9 min (975.7 - 884.7)

Volume	Invert	Avail.Storage	Storage Description
#1	196.50'	14,559 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
196.50	1,319	0	0
197.00	1,670	747	747
198.00	2,481	2,076	2,823
199.00	3,403	2,942	5,765
200.00	4,379	3,891	9,656
201.00	5,427	4,903	14,559

Device	Routing	Invert	Outlet Devices
#1	Primary	196.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	198.30'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.7' Crest Height

Primary OutFlow Max=5.70 cfs @ 12.15 hrs HW=199.42' TW=196.84' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Orifice Controls 0.38 cfs @ 7.73 fps)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 5.32 cfs @ 3.73 fps)

Post-Development Conditions 25 year 24 hour Storm Event Model Computations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=13,103 sf Runoff Depth=5.33"
Flow Length=436' Tc=3.3 min CN=90 Runoff=1.96 cfs 0.134 af

Subcatchment 2S: Runoff Area=1,178 sf Runoff Depth=3.61"
Flow Length=324' Tc=6.7 min CN=74 Runoff=0.11 cfs 0.008 af

Subcatchment 3S: Runoff Area=17,901 sf Runoff Depth=5.11"
Flow Length=201' Tc=6.6 min CN=88 Runoff=2.32 cfs 0.175 af

Subcatchment 4S: Runoff Area=854 sf Runoff Depth=3.61"
Flow Length=75' Slope=0.0140 '/' Tc=8.6 min CN=74 Runoff=0.08 cfs 0.006 af

Subcatchment 5S: Runoff Area=7,815 sf Runoff Depth=6.26"
Tc=0.0 min CN=98 Runoff=1.39 cfs 0.094 af

Subcatchment 6S: Runoff Area=3,004 sf Runoff Depth=6.03"
Flow Length=95' Slope=0.0314 '/' Tc=0.9 min CN=96 Runoff=0.52 cfs 0.035 af

Subcatchment 7S: Runoff Area=7,292 sf Runoff Depth=5.79"
Flow Length=169' Tc=4.2 min CN=94 Runoff=1.11 cfs 0.081 af

Subcatchment 8S: Runoff Area=14,921 sf Runoff Depth=5.56"
Flow Length=160' Tc=4.2 min CN=92 Runoff=2.22 cfs 0.159 af

Subcatchment 9S: Runoff Area=3,057 sf Runoff Depth=3.61"
Flow Length=28' Tc=1.7 min CN=74 Runoff=0.35 cfs 0.021 af

Subcatchment 10: Runoff Area=5,819 sf Runoff Depth=3.51"
Flow Length=255' Tc=5.7 min CN=73 Runoff=0.56 cfs 0.039 af

Subcatchment 11: Runoff Area=19,052 sf Runoff Depth=3.82"
Flow Length=516' Tc=6.0 min CN=76 Runoff=1.96 cfs 0.139 af

Subcatchment 12S: Runoff Area=13,010 sf Runoff Depth=3.61"
Flow Length=100' Tc=4.8 min CN=74 Runoff=1.32 cfs 0.090 af

Subcatchment 13S: Runoff Area=5,521 sf Runoff Depth=6.03"
Flow Length=150' Tc=3.8 min CN=96 Runoff=0.87 cfs 0.064 af

Reach 12R: stream Avg. Depth=0.25' Max Vel=3.78 fps Inflow=2.06 cfs 0.142 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=1.99 cfs 0.142 af

Reach 13R: Design Point 1 Inflow=9.58 cfs 1.043 af
Outflow=9.58 cfs 1.043 af

Reach 26R: Avg. Depth=0.11' Max Vel=1.88 fps Inflow=0.06 cfs 0.126 af
D=6.0" n=0.013 L=29.0' S=0.0100 '/' Capacity=0.56 cfs Outflow=0.06 cfs 0.126 af

Reach 27R: Avg. Depth=0.61' Max Vel=7.00 fps Inflow=5.70 cfs 0.723 af
D=24.0" n=0.013 L=15.0' S=0.0153 '/' Capacity=28.01 cfs Outflow=5.70 cfs 0.723 af

Pond 15P: CB1 Peak Elev=212.30' Inflow=2.32 cfs 0.175 af
15.0" x 108.0' Culvert Outflow=2.32 cfs 0.175 af

Pond 16P: cb5 Peak Elev=212.70' Inflow=1.43 cfs 0.100 af
15.0" x 63.0' Culvert Outflow=1.43 cfs 0.100 af

Pond 17P: CB 2 Peak Elev=211.72' Inflow=2.62 cfs 0.210 af
15.0" x 97.5' Culvert Outflow=2.62 cfs 0.210 af

Pond 18P: CB3 Peak Elev=211.12' Inflow=3.43 cfs 0.273 af
18.0" x 115.5' Culvert Outflow=3.43 cfs 0.273 af

Pond 19P: CB6 Peak Elev=211.82' Inflow=2.24 cfs 0.180 af
15.0" x 62.5' Culvert Outflow=2.24 cfs 0.180 af

Pond 21P: CB4 Peak Elev=210.68' Inflow=7.68 cfs 0.612 af
24.0" x 17.0' Culvert Outflow=7.68 cfs 0.612 af

Pond 22P: CB7 Peak Elev=210.27' Inflow=7.68 cfs 0.612 af
Primary=7.34 cfs 0.508 af Secondary=0.34 cfs 0.105 af Outflow=7.68 cfs 0.612 af

Pond 23P: Filter Peak Elev=209.78' Storage=3,241 cf Inflow=0.68 cfs 0.126 af
Outflow=0.06 cfs 0.126 af

Pond 24P: DMH1 Peak Elev=203.00' Inflow=7.40 cfs 0.633 af
24.0" x 87.0' Culvert Outflow=7.40 cfs 0.633 af

Pond 25P: Pond Peak Elev=199.42' Storage=7,266 cf Inflow=8.70 cfs 0.723 af
Outflow=5.70 cfs 0.723 af

Total Runoff Area = 2.583 ac Runoff Volume = 1.043 af Average Runoff Depth = 4.85"
51.76% Pervious Area = 1.337 ac 48.24% Impervious Area = 1.246 ac

Subcatchment 1S:

Runoff = 1.96 cfs @ 12.05 hrs, Volume= 0.134 af, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
2,338	74	>75% Grass cover, Good, HSG C
9,234	98	Paved parking & roofs
1,531	70	Woods, Good, HSG C
13,103	90	Weighted Average
3,869		Pervious Area
9,234		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	262	0.0295	3.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	41	0.0548	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	33	0.1515	1.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.3	436	Total			

Subcatchment 2S:

Runoff = 0.11 cfs @ 12.10 hrs, Volume= 0.008 af, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
1,178	74	>75% Grass cover, Good, HSG C
1,178		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	81	0.0407	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	243	0.0238	5.78	18.15	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
6.7	324	Total			

Subcatchment 3S:

Runoff = 2.32 cfs @ 12.09 hrs, Volume= 0.175 af, Depth= 5.11"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
10,280	98	Paved parking & roofs
7,621	74	>75% Grass cover, Good, HSG C
17,901	88	Weighted Average
7,621		Pervious Area
10,280		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	51	0.0215	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
4.5	42	0.0215	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.8	7	0.0526	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.3	31	0.0526	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	70	0.0370	3.90		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.6	201	Total			

Subcatchment 4S:

Runoff = 0.08 cfs @ 12.12 hrs, Volume= 0.006 af, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
854	74	>75% Grass cover, Good, HSG C
854		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	75	0.0140	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"

Subcatchment 5S:

Runoff = 1.39 cfs @ 12.00 hrs, Volume= 0.094 af, Depth= 6.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
7,815	98	Paved parking & roofs
7,815		Impervious Area

Subcatchment 6S:

Runoff = 0.52 cfs @ 12.01 hrs, Volume= 0.035 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
2,734	98	Paved parking & roofs
270	74	>75% Grass cover, Good, HSG C
3,004	96	Weighted Average
270		Pervious Area
2,734		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	95	0.0314	1.71		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

Subcatchment 7S:

Runoff = 1.11 cfs @ 12.06 hrs, Volume= 0.081 af, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
6,015	98	Paved parking & roofs
1,277	74	>75% Grass cover, Good, HSG C
7,292	94	Weighted Average
1,277		Pervious Area
6,015		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	41	0.0536	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	59	0.0223	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0223	3.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.2	169	Total			

Subcatchment 8S:

Runoff = 2.22 cfs @ 12.06 hrs, Volume= 0.159 af, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
11,150	98	Paved parking & roofs
3,771	74	>75% Grass cover, Good, HSG C
14,921	92	Weighted Average
3,771		Pervious Area
11,150		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	34	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	66	0.0293	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	43	0.0293	3.47		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	17	0.0212	5.45	17.13	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
4.2	160	Total			

Subcatchment 9S:

Runoff = 0.35 cfs @ 12.03 hrs, Volume= 0.021 af, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
3,057	74	>75% Grass cover, Good, HSG C
3,057		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	15	0.1000	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	13	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.7	28	Total			

Subcatchment 10:

Runoff = 0.56 cfs @ 12.08 hrs, Volume= 0.039 af, Depth= 3.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
4,512	74	>75% Grass cover, Good, HSG C
1,307	70	Woods, Good, HSG C
5,819	73	Weighted Average
5,819		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	96	0.0780	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.4	159	0.0329	7.35	16.90	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 0.3 '/' Top.W=2.60' n= 0.025
5.7	255	Total			

Subcatchment 11:

Runoff = 1.96 cfs @ 12.09 hrs, Volume= 0.139 af, Depth= 3.82"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
14,422	74	>75% Grass cover, Good, HSG C
2,019	98	Paved parking & roofs
2,611	70	Woods, Good, HSG C
19,052	76	Weighted Average
17,033		Pervious Area
2,019		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	98	0.0255	1.58		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	2	0.0475	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	59	0.0475	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	98	0.0714	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	81	0.0493	1.55		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.0645	1.78		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	86	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.0	516	Total			

Subcatchment 12S:

Runoff = 1.32 cfs @ 12.07 hrs, Volume= 0.090 af, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
13,010	74	>75% Grass cover, Good, HSG C
13,010		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	31	0.1774	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
3.3	69	0.1304	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
4.8	100	Total			

Subcatchment 13S:

Runoff = 0.87 cfs @ 12.05 hrs, Volume= 0.064 af, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.50"

Area (sf)	CN	Description
5,041	98	Paved parking & roofs
480	74	>75% Grass cover, Good, HSG C
5,521	96	Weighted Average

480	Pervious Area	
5,041	Impervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	45	0.0230	1.30		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	45	0.0113	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	50	0.0113	2.16		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	150	Total			

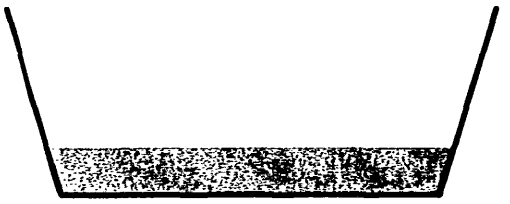
Reach 12R: stream

Inflow Area = 0.328 ac, Inflow Depth = 5.19" for 25-yr event
Inflow = 2.06 cfs @ 12.05 hrs, Volume= 0.142 af
Outflow = 1.99 cfs @ 12.07 hrs, Volume= 0.142 af, Atten= 3%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 3.78 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.92 fps, Avg. Travel Time= 6.6 min

Peak Storage= 192 cf @ 12.07 hrs, Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'



Reach 13R: Design Point 1

Inflow Area = 2.513 ac, Inflow Depth = 4.98" for 25-yr event
Inflow = 9.58 cfs @ 12.10 hrs, Volume= 1.043 af
Outflow = 9.58 cfs @ 12.10 hrs, Volume= 1.043 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

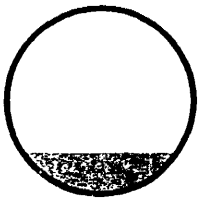
Reach 26R:

Inflow = 0.06 cfs @ 12.46 hrs, Volume= 0.126 af
Outflow = 0.06 cfs @ 12.47 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 1.88 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.54 fps, Avg. Travel Time= 0.3 min

Peak Storage= 1 cf @ 12.47 hrs, Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 0.56 cfs

6.0" Diameter Pipe, n= 0.013
Length= 29.0' Slope= 0.0100 '/'
Inlet Invert= 203.50', Outlet Invert= 203.21'



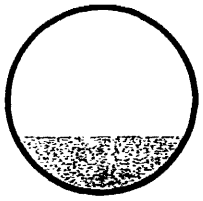
Reach 27R:

Inflow Area = 1.614 ac, Inflow Depth = 5.38" for 25-yr event
Inflow = 5.70 cfs @ 12.15 hrs, Volume= 0.723 af
Outflow = 5.70 cfs @ 12.15 hrs, Volume= 0.723 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 7.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.55 fps, Avg. Travel Time= 0.2 min

Peak Storage= 12 cf @ 12.15 hrs, Average Depth at Peak Storage= 0.61'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 28.01 cfs

24.0" Diameter Pipe, n= 0.013
Length= 15.0' Slope= 0.0153 '/'
Inlet Invert= 196.23', Outlet Invert= 196.00'



Pond 15P: CB1

Inflow Area =	0.411 ac,	Inflow Depth =	5.11"	for	25-yr event	
Inflow =	2.32 cfs @	12.09 hrs,	Volume=		0.175 af	
Outflow =	2.32 cfs @	12.09 hrs,	Volume=		0.175 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.32 cfs @	12.09 hrs,	Volume=		0.175 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.30' @ 12.09 hrs
Flood Elev= 214.91'

Device	Routing	Invert	Outlet Devices
#1	Primary	211.31'	**15.0" x 108.0' long Culvert** Ke= 0.900 Outlet Invert= 210.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.33 cfs @ 12.09 hrs HW=212.30' TW=211.71' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.33 cfs @ 3.06 fps)

Pond 16P: cb5

Inflow Area =	0.199 ac,	Inflow Depth =	6.00"	for	25-yr event	
Inflow =	1.43 cfs @	12.00 hrs,	Volume=		0.100 af	
Outflow =	1.43 cfs @	12.00 hrs,	Volume=		0.100 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.43 cfs @	12.00 hrs,	Volume=		0.100 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.70' @ 12.00 hrs
Flood Elev= 215.04'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.04'	**15.0" x 63.0' long Culvert** Ke= 0.900 Outlet Invert= 211.06' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.43 cfs @ 12.00 hrs HW=212.70' TW=211.82' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.43 cfs @ 2.18 fps)

Pond 17P: CB 2

Inflow Area =	0.480 ac,	Inflow Depth =	5.24"	for	25-yr event	
Inflow =	2.62 cfs @	12.08 hrs,	Volume=		0.210 af	
Outflow =	2.62 cfs @	12.08 hrs,	Volume=		0.210 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.62 cfs @	12.08 hrs,	Volume=		0.210 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.72' @ 12.08 hrs
Flood Elev= 215.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.67'	**15.0" x 97.5' long Culvert** Ke= 0.900

Outlet Invert= 210.07' S= 0.0062 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.63 cfs @ 12.08 hrs HW=211.72' TW=211.10' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.63 cfs @ 3.23 fps)

Pond 18P: CB3

Inflow Area =	0.607 ac,	Inflow Depth =	5.40"	for	25-yr event
Inflow =	3.43 cfs @	12.07 hrs,	Volume=	0.273 af	
Outflow =	3.43 cfs @	12.07 hrs,	Volume=	0.273 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.43 cfs @	12.07 hrs,	Volume=	0.273 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.12' @ 12.07 hrs
Flood Elev= 213.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	209.82'	**18.0" x 115.5' long Culvert** Ke= 0.900 Outlet Invert= 209.24' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=3.47 cfs @ 12.07 hrs HW=211.12' TW=210.66' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.47 cfs @ 2.85 fps)

Pond 19P: CB6

Inflow Area =	0.366 ac,	Inflow Depth =	5.91"	for	25-yr event
Inflow =	2.24 cfs @	12.01 hrs,	Volume=	0.180 af	
Outflow =	2.24 cfs @	12.01 hrs,	Volume=	0.180 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.24 cfs @	12.01 hrs,	Volume=	0.180 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.82' @ 12.01 hrs
Flood Elev= 214.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.96'	**15.0" x 62.5' long Culvert** Ke= 0.900 Outlet Invert= 209.65' S= 0.0210 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.24 cfs @ 12.01 hrs HW=211.82' TW=210.50' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.24 cfs @ 2.49 fps)

Pond 21P: CB4

Inflow Area =	1.316 ac,	Inflow Depth =	5.58"	for	25-yr event
Inflow =	7.68 cfs @	12.06 hrs,	Volume=	0.612 af	
Outflow =	7.68 cfs @	12.06 hrs,	Volume=	0.612 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.68 cfs @	12.06 hrs,	Volume=	0.612 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.68' @ 12.06 hrs
Flood Elev= 213.31'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.74'	**24.0" x 17.0' long Culvert** Ke= 0.900 Outlet Invert= 208.65' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.67 cfs @ 12.06 hrs HW=210.68' TW=210.26' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 7.67 cfs @ 2.46 fps)

Pond 22P: CB7

Inflow Area =	1.316 ac,	Inflow Depth = 5.58"	for 25-yr event		
Inflow =	7.68 cfs @	12.06 hrs,	Volume=	0.612 af	
Outflow =	7.68 cfs @	12.06 hrs,	Volume=	0.612 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.34 cfs @	12.06 hrs,	Volume=	0.508 af	
Secondary =	0.34 cfs @	12.05 hrs,	Volume=	0.105 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.27' @ 12.06 hrs
Flood Elev= 212.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.88'	**24.0" x 45.0' long Culvert** Ke= 0.900 Outlet Invert= 201.71' S= 0.1593 '/' Cc= 0.900 n= 0.013
#2	Secondary	208.55'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=7.34 cfs @ 12.06 hrs HW=210.26' TW=203.00' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 7.34 cfs @ 3.16 fps)

Secondary OutFlow Max=0.34 cfs @ 12.05 hrs HW=210.25' TW=209.59' (Dynamic Tailwater)
└**2=Orifice/Grate** (Orifice Controls 0.34 cfs @ 3.91 fps)

Pond 23P: Filter

Inflow Area =	0.070 ac,	Inflow Depth = 21.51"	for 25-yr event		
Inflow =	0.68 cfs @	12.03 hrs,	Volume=	0.126 af	
Outflow =	0.06 cfs @	12.46 hrs,	Volume=	0.126 af,	Atten= 91%, Lag= 26.0 min
Secondary =	0.06 cfs @	12.46 hrs,	Volume=	0.126 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.78' @ 12.46 hrs Surf.Area= 1,517 sf Storage= 3,241 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 618.3 min (1,289.6 - 671.3)

Volume	Invert	Avail.Storage	Storage Description
#1	206.00'	5,421 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Post-Development Conditions
100 year 24 hour Storm Event
Model Computations

The Chazen Companies
August 17, 2006

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=13,103 sf Runoff Depth=6.81"
Flow Length=436' Tc=3.3 min CN=90 Runoff=2.47 cfs 0.171 af

Subcatchment 2S: Runoff Area=1,178 sf Runoff Depth=4.93"
Flow Length=324' Tc=6.7 min CN=74 Runoff=0.15 cfs 0.011 af

Subcatchment 3S: Runoff Area=17,901 sf Runoff Depth=6.57"
Flow Length=201' Tc=6.6 min CN=88 Runoff=2.94 cfs 0.225 af

Subcatchment 4S: Runoff Area=854 sf Runoff Depth=4.93"
Flow Length=75' Slope=0.0140 '/' Tc=8.6 min CN=74 Runoff=0.10 cfs 0.008 af

Subcatchment 5S: Runoff Area=7,815 sf Runoff Depth=7.76"
Tc=0.0 min CN=98 Runoff=1.72 cfs 0.116 af

Subcatchment 6S: Runoff Area=3,004 sf Runoff Depth=7.52"
Flow Length=95' Slope=0.0314 '/' Tc=0.9 min CN=96 Runoff=0.64 cfs 0.043 af

Subcatchment 7S: Runoff Area=7,292 sf Runoff Depth=7.28"
Flow Length=169' Tc=4.2 min CN=94 Runoff=1.38 cfs 0.102 af

Subcatchment 8S: Runoff Area=14,921 sf Runoff Depth=7.04"
Flow Length=160' Tc=4.2 min CN=92 Runoff=2.77 cfs 0.201 af

Subcatchment 9S: Runoff Area=3,057 sf Runoff Depth=4.93"
Flow Length=28' Tc=1.7 min CN=74 Runoff=0.47 cfs 0.029 af

Subcatchment 10: Runoff Area=5,819 sf Runoff Depth=4.81"
Flow Length=255' Tc=5.7 min CN=73 Runoff=0.76 cfs 0.054 af

Subcatchment 11: Runoff Area=19,052 sf Runoff Depth=5.16"
Flow Length=516' Tc=6.0 min CN=76 Runoff=2.63 cfs 0.188 af

Subcatchment 12S: Runoff Area=13,010 sf Runoff Depth=4.93"
Flow Length=100' Tc=4.8 min CN=74 Runoff=1.80 cfs 0.123 af

Subcatchment 13S: Runoff Area=5,521 sf Runoff Depth=7.52"
Flow Length=150' Tc=3.8 min CN=96 Runoff=1.07 cfs 0.079 af

Reach 12R: stream Avg. Depth=0.29' Max Vel=4.10 fps Inflow=2.60 cfs 0.182 af
n=0.025 L=365.0' S=0.0329 '/' Capacity=16.89 cfs Outflow=2.52 cfs 0.182 af

Reach 13R: Design Point 1 Inflow=12.89 cfs 1.349 af
Outflow=12.89 cfs 1.349 af

Reach 26R: Avg. Depth=0.11' Max Vel=1.90 fps Inflow=0.06 cfs 0.132 af
D=6.0" n=0.013 L=29.0' S=0.0100 '/' Capacity=0.56 cfs Outflow=0.06 cfs 0.132 af

Reach 27R: Avg. Depth=0.71' Max Vel=7.59 fps Inflow=7.64 cfs 0.926 af
D=24.0" n=0.013 L=15.0' S=0.0153 '/' Capacity=28.01 cfs Outflow=7.64 cfs 0.926 af

Pond 15P: CB1 Peak Elev=212.57' Inflow=2.94 cfs 0.225 af
15.0" x 108.0' Culvert Outflow=2.94 cfs 0.225 af

Pond 16P: cb5 Peak Elev=212.79' Inflow=1.77 cfs 0.124 af
15.0" x 63.0' Culvert Outflow=1.77 cfs 0.124 af

Pond 17P: CB 2 Peak Elev=212.06' Inflow=3.31 cfs 0.268 af
15.0" x 97.5' Culvert Outflow=3.31 cfs 0.268 af

Pond 18P: CB3 Peak Elev=211.54' Inflow=4.32 cfs 0.348 af
18.0" x 115.5' Culvert Outflow=4.32 cfs 0.348 af

Pond 19P: CB6 Peak Elev=211.95' Inflow=2.77 cfs 0.226 af
15.0" x 62.5' Culvert Outflow=2.77 cfs 0.226 af

Pond 21P: CB4 Peak Elev=211.14' Inflow=9.61 cfs 0.774 af
24.0" x 17.0' Culvert Outflow=9.61 cfs 0.774 af

Pond 22P: CB7 Peak Elev=210.49' Inflow=9.61 cfs 0.774 af
Primary=9.25 cfs 0.671 af Secondary=0.37 cfs 0.103 af Outflow=9.61 cfs 0.774 af

Pond 23P: Filter Peak Elev=209.94' Storage=3,495 cf Inflow=0.83 cfs 0.132 af
Outflow=0.06 cfs 0.132 af

Pond 24P: DMH1 Peak Elev=203.23' Inflow=9.31 cfs 0.803 af
24.0" x 87.0' Culvert Outflow=9.31 cfs 0.803 af

Pond 25P: Pond Peak Elev=199.70' Storage=8,373 cf Inflow=11.08 cfs 0.926 af
Outflow=7.64 cfs 0.926 af

Total Runoff Area = 2.583 ac Runoff Volume = 1.349 af Average Runoff Depth = 6.27"
51.76% Pervious Area = 1.337 ac 48.24% Impervious Area = 1.246 ac

Subcatchment 1S:

Runoff = 2.47 cfs @ 12.05 hrs, Volume= 0.171 af, Depth= 6.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
2,338	74	>75% Grass cover, Good, HSG C
9,234	98	Paved parking & roofs
1,531	70	Woods, Good, HSG C
13,103	90	Weighted Average
3,869		Pervious Area
9,234		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0150	1.28		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	262	0.0295	3.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	41	0.0548	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	33	0.1515	1.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.3	436	Total			

Subcatchment 2S:

Runoff = 0.15 cfs @ 12.10 hrs, Volume= 0.011 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
1,178	74	>75% Grass cover, Good, HSG C
1,178		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	81	0.0407	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	243	0.0238	5.78	18.15	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
6.7	324	Total			

Subcatchment 3S:

Runoff = 2.94 cfs @ 12.09 hrs, Volume= 0.225 af, Depth= 6.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
10,280	98	Paved parking & roofs
7,621	74	>75% Grass cover, Good, HSG C
17,901	88	Weighted Average
7,621		Pervious Area
10,280		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	51	0.0215	1.29		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
4.5	42	0.0215	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.8	7	0.0526	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.3	31	0.0526	1.61		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	70	0.0370	3.90		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
6.6	201	Total			

Subcatchment 4S:

Runoff = 0.10 cfs @ 12.12 hrs, Volume= 0.008 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
854	74	>75% Grass cover, Good, HSG C
854		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	75	0.0140	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"

Subcatchment 5S:

Runoff = 1.72 cfs @ 12.00 hrs, Volume= 0.116 af, Depth= 7.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
7,815	98	Paved parking & roofs
7,815		Impervious Area

Subcatchment 6S:

Runoff = 0.64 cfs @ 12.01 hrs, Volume= 0.043 af, Depth= 7.52"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
2,734	98	Paved parking & roofs
270	74	>75% Grass cover, Good, HSG C
3,004	96	Weighted Average
270		Pervious Area
2,734		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	95	0.0314	1.71		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"

Subcatchment 7S:

Runoff = 1.38 cfs @ 12.06 hrs, Volume= 0.102 af, Depth= 7.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
6,015	98	Paved parking & roofs
1,277	74	>75% Grass cover, Good, HSG C
7,292	94	Weighted Average
1,277		Pervious Area
6,015		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	41	0.0536	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	59	0.0223	1.35		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0223	3.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.2	169	Total			

Subcatchment 8S:

Runoff = 2.77 cfs @ 12.06 hrs, Volume= 0.201 af, Depth= 7.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
11,150	98	Paved parking & roofs
3,771	74	>75% Grass cover, Good, HSG C
14,921	92	Weighted Average
3,771		Pervious Area
11,150		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	34	0.0350	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.7	66	0.0293	1.54		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	43	0.0293	3.47		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	17	0.0212	5.45	17.13	**Circular Channel (pipe),** Diam= 24.0" Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
4.2	160	Total			

Subcatchment 9S:

Runoff = 0.47 cfs @ 12.03 hrs, Volume= 0.029 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
3,057	74	>75% Grass cover, Good, HSG C
3,057		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	15	0.1000	0.23		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	13	0.3300	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
1.7	28	Total			

Subcatchment 10:

Runoff = 0.76 cfs @ 12.08 hrs, Volume= 0.054 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
4,512	74	>75% Grass cover, Good, HSG C
1,307	70	Woods, Good, HSG C
5,819	73	Weighted Average
5,819		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	96	0.0780	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.4	159	0.0329	7.35	16.90	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 0.3 '/' Top.W=2.60' n= 0.025
5.7	255	Total			

Subcatchment 11:

Runoff = 2.63 cfs @ 12.09 hrs, Volume= 0.188 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
14,422	74	>75% Grass cover, Good, HSG C
2,019	98	Paved parking & roofs
2,611	70	Woods, Good, HSG C
19,052	76	Weighted Average
17,033		Pervious Area
2,019		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	98	0.0255	1.58		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	2	0.0475	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	59	0.0475	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	98	0.0714	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	81	0.0493	1.55		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	61	0.0645	1.78		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	86	0.0580	1.69		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.0	516	Total			

Subcatchment 12S:

Runoff = 1.80 cfs @ 12.07 hrs, Volume= 0.123 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
13,010	74	>75% Grass cover, Good, HSG C
13,010		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	31	0.1774	0.34		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
3.3	69	0.1304	0.35		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
4.8	100	Total			

Subcatchment 13S:

Runoff = 1.07 cfs @ 12.05 hrs, Volume= 0.079 af, Depth= 7.52"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=8.00"

Area (sf)	CN	Description
5,041	98	Paved parking & roofs
480	74	>75% Grass cover, Good, HSG C
5,521	96	Weighted Average

480	Pervious Area	
5,041	Impervious Area	

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	10	0.0100	0.09		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.50"
0.6	45	0.0230	1.30		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	45	0.0113	0.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	50	0.0113	2.16		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	150	Total			

Reach 12R: stream

Inflow Area = 0.328 ac, Inflow Depth = 6.65" for 100-yr event
Inflow = 2.60 cfs @ 12.05 hrs, Volume= 0.182 af
Outflow = 2.52 cfs @ 12.07 hrs, Volume= 0.182 af, Atten= 3%, Lag= 1.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 4.10 fps, Min. Travel Time= 1.5 min
Avg. Velocity = 1.00 fps, Avg. Travel Time= 6.1 min

Peak Storage= 224 cf @ 12.07 hrs, Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.00', Capacity at Bank-Full= 16.89 cfs

2.00' x 1.00' deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.3 '/' Top Width= 2.60'
Length= 365.0' Slope= 0.0329 '/'
Inlet Invert= 206.00', Outlet Invert= 194.00'

Reach 13R: Design Point 1

Inflow Area = 2.513 ac, Inflow Depth = 6.44" for 100-yr event
Inflow = 12.89 cfs @ 12.10 hrs, Volume= 1.349 af
Outflow = 12.89 cfs @ 12.10 hrs, Volume= 1.349 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

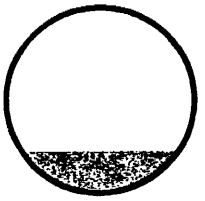
Reach 26R:

Inflow = 0.06 cfs @ 12.51 hrs, Volume= 0.132 af
Outflow = 0.06 cfs @ 12.51 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 1.90 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.56 fps, Avg. Travel Time= 0.3 min

Peak Storage= 1 cf @ 12.51 hrs, Average Depth at Peak Storage= 0.11'
Bank-Full Depth= 0.50', Capacity at Bank-Full= 0.56 cfs

6.0" Diameter Pipe, n= 0.013
Length= 29.0' Slope= 0.0100 '/'
Inlet Invert= 203.50', Outlet Invert= 203.21'



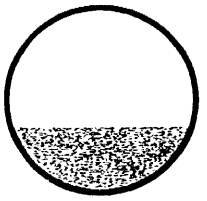
Reach 27R:

Inflow Area = 1.614 ac, Inflow Depth = 6.88" for 100-yr event
Inflow = 7.64 cfs @ 12.15 hrs, Volume= 0.926 af
Outflow = 7.64 cfs @ 12.15 hrs, Volume= 0.926 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Max. Velocity= 7.59 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 0.2 min

Peak Storage= 15 cf @ 12.15 hrs, Average Depth at Peak Storage= 0.71'
Bank-Full Depth= 2.00', Capacity at Bank-Full= 28.01 cfs

24.0" Diameter Pipe, n= 0.013
Length= 15.0' Slope= 0.0153 '/'
Inlet Invert= 196.23', Outlet Invert= 196.00'



Pond 15P: CB1

Inflow Area =	0.411 ac,	Inflow Depth =	6.57"	for	100-yr event
Inflow =	2.94 cfs @	12.09 hrs,	Volume=	0.225 af	
Outflow =	2.94 cfs @	12.09 hrs,	Volume=	0.225 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.94 cfs @	12.09 hrs,	Volume=	0.225 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.57' @ 12.08 hrs
Flood Elev= 214.91'

Device	Routing	Invert	Outlet Devices
#1	Primary	211.31'	**15.0" x 108.0' long Culvert** Ke= 0.900 Outlet Invert= 210.77' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.98 cfs @ 12.09 hrs HW=212.56' TW=212.00' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 2.98 cfs @ 3.03 fps)

Pond 16P: cb5

Inflow Area =	0.199 ac,	Inflow Depth =	7.48"	for	100-yr event
Inflow =	1.77 cfs @	12.00 hrs,	Volume=	0.124 af	
Outflow =	1.77 cfs @	12.00 hrs,	Volume=	0.124 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.77 cfs @	12.00 hrs,	Volume=	0.124 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.79' @ 12.00 hrs
Flood Elev= 215.04'

Device	Routing	Invert	Outlet Devices
#1	Primary	212.04'	**15.0" x 63.0' long Culvert** Ke= 0.900 Outlet Invert= 211.06' S= 0.0156 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.77 cfs @ 12.00 hrs HW=212.79' TW=211.94' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.77 cfs @ 2.32 fps)

Pond 17P: CB 2

Inflow Area =	0.480 ac,	Inflow Depth =	6.71"	for	100-yr event
Inflow =	3.31 cfs @	12.08 hrs,	Volume=	0.268 af	
Outflow =	3.31 cfs @	12.08 hrs,	Volume=	0.268 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.31 cfs @	12.08 hrs,	Volume=	0.268 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 212.06' @ 12.07 hrs
Flood Elev= 215.01'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.67'	**15.0" x 97.5' long Culvert** Ke= 0.900

Outlet Invert= 210.07' S= 0.0062 '/' Cc= 0.900
n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=3.40 cfs @ 12.08 hrs HW=212.04' TW=211.48' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 3.40 cfs @ 3.15 fps)

Pond 18P: CB3

Inflow Area =	0.607 ac,	Inflow Depth =	6.88"	for	100-yr event
Inflow =	4.32 cfs @	12.07 hrs,	Volume=	0.348 af	
Outflow =	4.32 cfs @	12.07 hrs,	Volume=	0.348 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.32 cfs @	12.07 hrs,	Volume=	0.348 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.54' @ 12.06 hrs
Flood Elev= 213.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	209.82'	**18.0" x 115.5' long Culvert** Ke= 0.900 Outlet Invert= 209.24' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=4.40 cfs @ 12.07 hrs HW=211.52' TW=211.09' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 4.40 cfs @ 2.49 fps)

Pond 19P: CB6

Inflow Area =	0.366 ac,	Inflow Depth =	7.39"	for	100-yr event
Inflow =	2.77 cfs @	12.01 hrs,	Volume=	0.226 af	
Outflow =	2.77 cfs @	12.01 hrs,	Volume=	0.226 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.77 cfs @	12.01 hrs,	Volume=	0.226 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.95' @ 12.01 hrs
Flood Elev= 214.56'

Device	Routing	Invert	Outlet Devices
#1	Primary	210.96'	**15.0" x 62.5' long Culvert** Ke= 0.900 Outlet Invert= 209.65' S= 0.0210 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.77 cfs @ 12.01 hrs HW=211.95' TW=210.83' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.77 cfs @ 2.67 fps)

Pond 21P: CB4

Inflow Area =	1.316 ac,	Inflow Depth =	7.06"	for	100-yr event
Inflow =	9.61 cfs @	12.06 hrs,	Volume=	0.774 af	
Outflow =	9.61 cfs @	12.06 hrs,	Volume=	0.774 af,	Atten= 0%, Lag= 0.0 min
Primary =	9.61 cfs @	12.06 hrs,	Volume=	0.774 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 211.14' @ 12.06 hrs
Flood Elev= 213.31'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.74'	**24.0" x 17.0' long Culvert** Ke= 0.900 Outlet Invert= 208.65' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=9.60 cfs @ 12.06 hrs HW=211.14' TW=210.49' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.60 cfs @ 3.05 fps)

Pond 22P: CB7

Inflow Area =	1.316 ac,	Inflow Depth =	7.06"	for	100-yr event
Inflow =	9.61 cfs @	12.06 hrs,	Volume=	0.774 af	
Outflow =	9.61 cfs @	12.06 hrs,	Volume=	0.774 af,	Atten= 0%, Lag= 0.0 min
Primary =	9.25 cfs @	12.06 hrs,	Volume=	0.671 af	
Secondary =	0.37 cfs @	12.05 hrs,	Volume=	0.103 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 210.49' @ 12.06 hrs
Flood Elev= 212.77'

Device	Routing	Invert	Outlet Devices
#1	Primary	208.88'	**24.0" x 45.0' long Culvert** Ke= 0.900 Outlet Invert= 201.71' S= 0.1593 '/' Cc= 0.900 n= 0.013
#2	Secondary	208.55'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=9.24 cfs @ 12.06 hrs HW=210.49' TW=203.23' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.24 cfs @ 3.41 fps)

Secondary OutFlow Max=0.36 cfs @ 12.05 hrs HW=210.48' TW=209.72' (Dynamic Tailwater)
└─**2=Orifice/Grate** (Orifice Controls 0.36 cfs @ 4.18 fps)

Pond 23P: Filter

Inflow Area =	0.070 ac,	Inflow Depth =	22.59"	for	100-yr event
Inflow =	0.83 cfs @	12.03 hrs,	Volume=	0.132 af	
Outflow =	0.06 cfs @	12.51 hrs,	Volume=	0.132 af,	Atten= 92%, Lag= 28.6 min
Secondary =	0.06 cfs @	12.51 hrs,	Volume=	0.132 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 209.94' @ 12.51 hrs Surf.Area= 1,583 sf Storage= 3,495 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 640.4 min (1,265.1 - 624.7)

Volume	Invert	Avail.Storage	Storage Description
#1	206.00'	5,421 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
206.00	313	0	0
207.00	564	439	439
208.00	860	712	1,151
209.00	1,207	1,034	2,184
210.00	1,607	1,407	3,591
211.00	2,052	1,830	5,421

Device	Routing	Invert	Outlet Devices
#1	Secondary	0.00'	**1.750 in/hr Exfiltration over Surface area**

Secondary OutFlow Max=0.06 cfs @ 12.51 hrs HW=209.94' TW=203.61' (Dynamic Tailwater)
└─**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Pond 24P: DMH1

Inflow Area = 1.316 ac, Inflow Depth = 7.33" for 100-yr event
Inflow = 9.31 cfs @ 12.06 hrs, Volume= 0.803 af
Outflow = 9.31 cfs @ 12.06 hrs, Volume= 0.803 af, Atten= 0%, Lag= 0.0 min
Primary = 9.31 cfs @ 12.06 hrs, Volume= 0.803 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 203.23' @ 12.06 hrs
Flood Elev= 212.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	201.61'	**24.0" x 87.0' long Culvert** Ke= 0.900 Outlet Invert= 198.50' S= 0.0357 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=9.30 cfs @ 12.06 hrs HW=203.23' TW=199.50' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.30 cfs @ 3.42 fps)

Pond 25P: Pond

Inflow Area = 1.614 ac, Inflow Depth = 6.88" for 100-yr event
Inflow = 11.08 cfs @ 12.06 hrs, Volume= 0.926 af
Outflow = 7.64 cfs @ 12.15 hrs, Volume= 0.926 af, Atten= 31%, Lag= 5.1 min
Primary = 7.64 cfs @ 12.15 hrs, Volume= 0.926 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 199.70' @ 12.15 hrs Surf.Area= 4,083 sf Storage= 8,373 cf
Flood Elev= 201.00' Surf.Area= 5,427 sf Storage= 14,559 cf

Plug-Flow detention time= 83.5 min calculated for 0.926 af (100% of inflow)
Center-of-Mass det. time= 83.2 min (946.6 - 863.5)

Volume	Invert	Avail.Storage	Storage Description
#1	196.50'	14,559 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
196.50	1,319	0	0
197.00	1,670	747	747
198.00	2,481	2,076	2,823
199.00	3,403	2,942	5,765
200.00	4,379	3,891	9,656
201.00	5,427	4,903	14,559

Device	Routing	Invert	Outlet Devices
#1	Primary	196.50'	**3.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	198.30'	**1.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.7' Crest Height

Primary OutFlow Max=7.64 cfs @ 12.15 hrs HW=199.70' TW=196.94' (Dynamic Tailwater)
└─**1=Orifice/Grate** (Orifice Controls 0.39 cfs @ 7.99 fps)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 7.25 cfs @ 4.25 fps)

Appendix L:
Design Calculations

TCC Job Number: 10512.02

The Chazen Companies
August 17, 2006

STORMWATER FILTERING SYSTEMS

Background: Stormwater filtering systems capture and temporarily store the WQv and pass it through a filter bed of sand, organic matter, or soil.

Surface Sand Filter: Area Draining on-site filter = 1.386 acres

Water Quality Volume

90% Rule: $W_{qv} = \frac{(p)(R_v)(A)}{12}$

90% Rainfall Event Number (See Fig 4.1)	P	[redacted]	inches
Impervious Area Percentage	I	[redacted]	%
0.05+0.009(I)	R_v	0.689	
Drainage Area	A	[redacted]	Ac.
	W_{qv}	0.095	Ac-ft
	W_{qv}	4,159.78	ft^3
	W_{qv}	154.07	yd^3
Dry or wet pretreatment shall be provided prior to filter media equivalent to at least 25% of the computed WQv.	Pv	1,039.94	ft^3

Filter Bed Suface Area Sizing

Option 1: Provide a filter with a water depth (head) of 2 feet

Required filter bed area: $$A_f = \frac{(WQ_v)(d_f)}{[(k)(h_f + d_f)(t_f)]}$$ ft^2

Water Quality Volume	WQ_v	4,159.78	ft^3
Filter Bed Depth (typically a minimum depth of 18")	d_f		ft
Coefficient of Permeability	k		ft/day
Average Height of Water above Filter Bed	h_f		ft
Design Filter Bed Drain Time	t_f		days
Required Filter Bed Area	A_f	305.01	ft^2

Coefficient of Permeability of Filter Media		
Sand	3.5	ft/day
Peat	2.0	ft/day
Leaf Compost	8.7	ft/day
Bioretention Soil	0.5	ft/day

Filter Bed Drain Time	
Sand	1.67 days
Bioretention	2 days

Option 2: Provide a filter with a water depth (head) of 3 feet

Required filter bed area:

$$A_f = \frac{(WQ_v)(d_f)}{[(k)(h_f + d_f)(t_f)]}$$

ft^2

Water Quality Volume	WQ_v	4159.78	ft^3
Filter Bed Depth (typically a minimum depth of 18")	d_f		ft
Coefficient of Permeability	k		ft/day
Average Height of Water above Filter Bed	h_f		ft

Coefficient of Permeability of Filter Media		
Sand	3.5	ft/day
Peat	2.0	ft/day
Leaf Compost	8.7	ft/day
Bioretention Soil	0.5	ft/day

Design Filter Bed Drain Time t_f [redacted] days

Filter Bed Drain Time	
Sand	1.67 days
Bioretention	2 days

Required Filter Bed Area A_f 237.23 ft^2

Note that these options provide the water quality treatment for the proposed site, however they do not provide any controls for the rate of off-site discharges. A Stormwater detention basin is proposed for use for water quantity. Pretreatment is provided in precast pretreatment structure.

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office
Phone: (845) 454-3980

Orange County Office
Phone: (845) 567-1133

547 River Street, Troy, New York 12182
Phone: (518) 235-8050 Fax: (518) 235-8051
Email: albany@chazencompanies.com
www.chazencompanies.com

North Country Office
Phone: (518) 812-0513

July 20, 2006

Gerry Argenio, Jr.
Planning Board Chairman
Town of New Windsor
555 Union Avenue
New Windsor, New York 12553

Re: Hudson Valley Federal Credit Union Site Plan
NYS Route 32 and Willow Lane
Section 42 – Block 1 – Lot 1.1
Job # 10512.02

Dear Mr. Argenio:

At the May 24, 2006 Planning Board meeting we received a letter from the Town's Engineer, containing comments regarding the site plans submitted for the proposed Hudson Valley Federal Credit Union located at the intersection of NYS Route 32 and Willow Lane. Attached, please find three copies of the revised Site Plans for consideration and placement on the next available Planning Board Meeting. In response to the comments contained within the comment letter described above, we offer the following:

Comment 1: The property is split by the C and R-4 zones, with the majority of the property (and all the structures) being in the C zone.

Response 1: We concur.

Comment 2: The "required" bulk requirements shown on the plan are correct for the zone and use. The table should be made complete by revising the table to include actual "provided" values.

Response 2: The table has been revised to include the provided values.

Comment 3: The parking calculation shown on the plan indicates a 5800 s.f. building; the application and EAF indicate 6100 s.f.; the applicant's engineer's submittal letter indicates 6,000 s.f. Which is correct? Once the actual size is confirmed, we can confirm the parking compliance.

Response 3: The size of the building has been revised and indicated on the plans as 5,872 s.f.

Comment 4: One way signs should be provided for the south side drive.

Response 4: One way signs have been added to the plans for the south side drive.

Comment 5: The dumpster enclosure alignment (angle) should be further evaluated.

Response 5: The dumpster enclosure alignment has been revised to provide less of a sharp angle entering the enclosure.

Comment 6: The building setback line depicted on the south (40') should be corrected. (Only one side yard exists).

Response 6: The building setback line has been revised.

Comment 7: Adequacy of the fire service line should be confirmed based on fire flow and sprinkler calculations.

Response 7: Based on the building size the proposed 4-inch fire service line is adequate.

Comment 8: We recommend limited use of 12' storm piping. Generally, we recommend a minimum 15" pipe be utilized.

Response 8: 15" storm piping has been provided.

Comment 9: The landscaping plan depicts proposed plantings in the DOT and Town Road rights-of-way. These should be moved back within the site plan property.

Response 9: The plantings have been revised and relocated within the subject site property.

Comment 10: Potential site lighting glare and headlight issues will be of concern relative to the adjoining residential properties.

Response 10: Stockade fencing has been proposed along the drive thru and driveway to reduce lighting glare issues. Lighting proposed will utilize cut-offs to further reduce lighting glare.

Comment 11: Site Development detail sheet(s) should be added to subsequent submittals.

Response 11: Site Development detail sheets have been included in this submission.

In addition to the comments and responses above the Town Fire Inspector provided comments in a memo to the Planning Board regarding the proposed site plan. In response to the comments contained within the memo, we offer the following:

Comment 1: Fire Lanes are insufficient Appear to only be 22' wide including entrances.

Response 1: The fire lanes proposed are 30' wide along the northeast and northwest portions of the site. The locations of the fire lanes were determined at a previous workshop with the Town Engineer and the Assistant Fire Inspector. The width of the entrance to the site along Willow Lane has been increased to 30' wide. The width of the entrance accessing NYS Route 32 is 24' wide.

Comment 2: Building appears to be approximately 5300 sq.ft. and needs sprinkler system and location of hydrant and Fire Dept. connection.

Response 2: The building is proposed to have a sprinkler system. Per the request of the Assistant Fire Inspector the location of the Fire Department connection on the building will be proposed near the southwest corner of the building.

Comment 3: Is pre-treatment structure on Rte. 32 side above ground? If so, cuts into fire lane again need to be 30' wide.

Response 3: The pre-treatment structure is a below grade structure. The entrance onto Route 32 is proposed as the standard NYSDOT entrance width of 24' wide. Per the request the entrance onto Willow Lane has been increased to a 30' wide entrance.

Your attention to this matter is greatly appreciated and if you have any questions or require additional information, please contact our office at (518) 273-0055.

Sincerely,

Roger E. Keating, P.E.
Project Engineer

Reviewed and Approved by:

Joseph M. Lanaro, PE
Director, Engineering Services
Northern Operations

cc: Mark Edsall, PE, McGoey, Hauser and Edsall Consulting Engineers P.C
Tony Rohrmeier, Hudson Valley Federal Credit Union
Scott Bridie, Turner Construction
File

Town of New Windsor

555 Union Avenue
New Windsor, New York 12553
Telephone: (845) 563-4615
Fax: (845) 563-4693

OFFICE OF THE PLANNING BOARD

31 May 2006

SUBJECT: HUDSON VALLEY FEDERAL CREDIT UNION SITE PLAN
TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK
(NWPB REF. NO. 06-19)

To all Involved Agencies:

The Town of New Windsor Planning Board has had placed before it an application for Site Plan approval of the Hudson Valley Federal Credit Union site plan project, located at the corner of NYS Route 32 and Willow Lane, within the Town. The project involves, in general, the construction of a 6122 s.f. banking branch with related improvements. It is the opinion of the Town of New Windsor Planning Board that the action is an Unlisted Action under SEQRA. This letter is written as a request for Lead Agency Coordination as required under Part 617 of the Environmental Conservation Law.

A letter of response with regard to your interest in the position of Lead Agency, as defined by Part 617, Title 6 of the Environmental Conservation Law and the SEQRA review process, sent to the Planning Board at the above address, attention of Mark J. Edsall, P.E., Planning Board Engineer (contact person), would be most appreciated. Should no other involved agency desire the Lead Agency position; it is the desire of the Town of New Windsor Planning Board to assume such role. Should the Planning Board fail to receive a written response requesting Lead Agency within thirty (30) days, it will be understood that you do not have an interest in the Lead Agency position. Thank you for your attention to this matter. Should you have any questions regarding this notice, please feel free to contact the undersigned at the above number or (845) 563-4615.

Very truly yours,

Mark J. Edsall, P.E., P.P.

Mark J. Edsall, P.E., P.P.
Planning Board Engineer

New York State Parks, Recreation and Historic Preservation
NYS Department of Transportation, Poughkeepsie
George A. Green, Town of New Windsor Supervisor (w/o encl)
Town of New Windsor Town Clerk (w/o encl)
Orange County Department of Planning
Myra Mason, Planning Board Secretary
Planning Board Attorney (w/o encl)
Applicant (w/o encl)

NW06-19-LA Coord 05-31-06.doc

Town of New Windsor

555 Union Avenue
New Windsor, New York 12553
Telephone: (845) 563-4615
Fax: (845) 563-4693

OFFICE OF THE PLANNING BOARD

31 May 2006

New York State Department of Transportation
Permit Inspection Unit Office
112 Dickson Street
Newburgh, New York 12550

ATT: Siby Mary Zachariah-Carbone, Permit Engineer, Orange County East

SUBJECT: HUDSON VALLEY FEDERAL CREDIT UNION
NYS ROUTE 32 AT WILLOW LANE
NEW WINDSOR PLANNING BOARD NO. 06-19

Dear Ms. Zachariah-Carbone:

The Town of New Windsor Planning Board has received an application for site plan approval of a credit union (bank classification) use located on NYS Route 32 within the Town. The Planning Board has determined that the applicant will be required to obtain a Highway Work Permit from your Department.

We are forwarding herewith a copy of the plan submitted with the application for your review and comment. We request that you notify the Planning Board of any concerns regarding this application, which should be considered by the Board during their review of the project.

It is not the intent that these plans be considered the plans required for the Permit application, as these will be the responsibility of the applicant following site plan approval from the Town.

We look forward to your input regarding this application before the Board.

Very truly yours,

TOWN OF NEW WINDSOR PLANNING BOARD

Mark J. Edsall, P.E., P.P.

Mark J. Edsall, P.E., P.P.
Planning Board Engineer

MJE/st
NW06-19-DOT ref 05-31-06

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 11/30/2007

LISTING OF PLANNING BOARD**ACTIONS**

STAGE: STATUS [Open, Withd]
A [Disap, Appr]

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE-- MEETING-PURPOSE----------ACTION-TAKEN--------

11/07/2007 PLANS STAMPED APPROVED

02/28/2007 P.B. APPEARANCE -PUBLIC HEAR LA:CL PH REVISE RET
. CHECK HOW MUCH ROOM THERE IS FOR FIRE TRUCKS AT CANOPY -
. NEED ELEVATIONS OF REAR AND SIDE OF BUILDING - BUILDING TO
. BE SPRINKLERED - CORRECT TWO TAPS IN STREET WITH CAMO - SEND
. LETTER TO D.O.T. IN POUGHKEEPSIE ASKING FOR THEIR REVIEW
. NEED COPY OF DEED RESTRICTIONS BEING LIFTED

05/24/2006 P.B. APPEARANCE LA LTR;OCP - DOT
. ADDRESS MARK'S COMMENTS - NEED SWPPP (BEFORE PH) - WILL
. INCORPORATE A MONUMENT TO SEAN MCQUIRE ON SITE - NO SPLIT
. RAIL FENCE - LIGHTING AROUND ATM AREA TO BE SCREENED -
. ADDRESS FIRE INSPECTOR'S COMMENTS - SCHED PH

05/17/2006 WORK SHOP SUBMIT

Town of New Windsor

555 Union Avenue
New Windsor, New York 12553
Telephone: (845) 563-4615
Fax: (845) 563-4689

OFFICE OF THE PLANNING BOARD

October 23, 2007

The Chazen Companies
547 River Street
Troy, NY 12180

ATTN: ROGER KEATING, P.E.

SUBJECT: P.B. #06-19 (YOUR PROJECT #10512.02) HVFCU - RT. 32

Dear Roger:

Please find attached printouts of fees due for subject project.

Please contact your client, the applicant, and ask that payment be submitted in separate checks, payable to the Town of New Windsor, as follows:

Check #1 – Approval Fee.....$	125.00
Check #2 – Amount over escrow posted.....$	2,271.52
Check #3 - 2% of cost est. ($212,133.25) inspect fee.....$	4,243.00

I am attaching a copy of an e-mail from Mark Edsall asking for a couple of changes to the plans. Once these changes are made, please forward 10 sets of the revised plans (folded) with the above checks and I will have the plans stamped approved.

If you have any questions in this regard, please contact my office.

Very truly yours,

Myra L. Mason, Secretary To The
NEW WINDSOR PLANNING BOARD

MLM

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 11/06/2007

LISTING OF PLANNING BOARD **FEES**
APPROVAL

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	DESCRIPTION---------	TRANS	--AMT-CHG	-AMT-PAID	--BAL-DUE
10/23/2007	APPROVAL FEE	CHG	125.00		
11/05/2007	REC CK. #4451403008	PAID		125.00	
		TOTAL:	125.00	125.00	0.00

Town of New Windsor
555 Union Avenue
New Windsor, NY 12553
(845) 563-4611

RECEIPT
#855-2007

11/08/2007

Hudson Valley Federal Credit Union PB #06-19

Received $ 125.00 for Planning Board Fees, on 11/08/2007. Thank you for stopping by the Town Clerk's office.

As always, it is our pleasure to serve you.

Deborah Green
Town Clerk

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 11/06/2007

LISTING OF PLANNING BOARD **FEES**
4% FEE

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	DESCRIPTION---------	TRANS	--AMT-CHG	-AMT-PAID	--BAL-DUE
10/23/2007	2% OF COST EST. 212,133.2	CHG	4243.00		
11/05/2007	REC. CK. #4451403006	PAID		4243.00	
		TOTAL:	4243.00	4243.00	0.00

Inspection Fee

J Lennegan 11-8-07

THIS DOCUMENT HAS AN ARTIFICIAL WATERMARK PRINTED ON THE BACK. THE FRONT OF THE DOCUMENT HAS A MICRO PRINT SIGNATURE LINE. ABSENCE OF THESE FEATURES WILL INDICATE A COPY.

2219

Hudson Valley Federal Credit Union
159 BARRYEGAT RD. POUGHKEEPSIE, NY 12601 800-468-3011
463-3011

P.B. #06-19 Inspection fee

4451403006
ACCOUNTS PAYABLE

69-35
519

Ref: 2%COST-INSPECT

DATE 29 OCT 07

PAY

TOWN OF NEW WINDSOR *****

TO THE ORDER OF PAY

FOUR THOUSAND TWO HUNDRED AND FORTY THREE DOLLARS ONLY

$4,243.00

TOWN OF NEW WINDSOR
555 UNION AVENUE
NEW WINDSOR NY 12553

PRESIDENT/CEO

AUTHORIZED SIGNATURE

PAYABLE THROUGH
BB&T
CHARLESTON, WV

⑆051900353⑆00445 14030060⑈

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 11/06/2007

LISTING OF PLANNING BOARD **FEES**
ESCROW

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	DESCRIPTION---------	TRANS	--AMT-CHG	-AMT-PAID	--BAL-DUE
05/19/2006	REC. CK. #4687922784	PAID		750.00	
05/24/2006	P.B. ATTY. FEE	CHG	35.00		
05/24/2006	P.B. MINUTES	CHG	63.00		
02/23/2007	PUB. HEAR NOTICE	CHG	14.32		
02/28/2007	P.B. ATTY FEE (CORDISCO)	CHG	775.00		
02/28/2007	P.B. MINUTES	CHG	168.00		
07/25/2007	P.B. MINUTES	CHG	77.00		
10/23/2007	P.B. ENGINEER FEE	CHG	1889.20		
11/05/2007	REC. CK. #4451403007	PAID		2271.52	
		TOTAL:	3021.52	3021.52	0.00

J Turner 11-9-07

THIS DOCUMENT HAS AN ARTIFICIAL WATERMARK PRINTED ON THE BACK. THE FRONT OF THE DOCUMENT HAS A MICRO-PRINT SIGNATURE LINE. ABSENCE OF THESE FEATURES WILL INDICATE A COPY

2219

Hudson Valley Federal Credit Union
149 BARNEGAT RD POUGHKEEPSIE NY 12601 800 468 3011
463-3011

P.B. #06-19 ESCROW

4451403007
ACCOUNTS PAYABLE

69-35
519

Ref: AMT OVR ESCROW

DATE 29 OCT 07

PAY

TOWN OF NEW WINDSOR *****

TO THE ORDER OF PAY

TWO THOUSAND TWO HUNDRED AND SEVENTY ONE DOLLARS 52 CENTS

$2,271.52

TOWN OF NEW WINDSOR
555 UNION AVENUE
NEW WINDSOR NY 12553

PRESIDENT/CEO

AUTHORIZED SIGNATURE

PAYABLE THROUGH
EB&T
CHARLESTON, WV

⑆051900353⑆00445 ⑈4030078⑈

Client Ledger
ALL DATES

Date / Entry #	Received From/Paid To / Explanation	Chq# / Rec#	Rcpts	General Disbs	Fees	Bld Inv#	Trust Activity Acc	Rcpts	Disbs	Balance
12132	TOWN OF NEW WINDSOR									
6085912	HUDSON VALLEY FEDERAL CREDIT UNION - PROPOSED									Resp Lawyer: JRL
Feb 11/2007 51868	Lawyer: DRC 0.30 Hrs X 325.00 REVIEW DRAFT SITE PLAN PB# 06-19				97.50	2888				
Feb 11/2007 51869	Lawyer: DRC 0.10 Hrs X 325.00 REVIEW M EDSALL'S COMMENTS PB# 06-19				32.50	2888				
Feb 28/2007 55425	Lawyer: DRC 0.50 Hrs X 250.00 ATTEND PLANNING BOARD MEETING PB# 06-19				125.00	2888				
Jul 24/2007 83442	Lawyer: DRC 0.20 Hrs X 325.00 REVIEW M EDSALL'S COMMENTS PB# 06-19				65.00	4371				
Jul 24/2007 83443	Lawyer: DRC 0.30 Hrs X 325.00 REVIEW REVISED PLANS PB# 06-19				97.50	4371				
Jul 25/2007 84136	Lawyer: DRC 0.20 Hrs X 325.00 ATTEND PLANNING BOARD MEETING PB# 06-19				65.00	4371				
Aug 3/2007 86234	Lawyer: DRC 0.50 Hrs X 325.00 PREPARE RESOLUTIONS ADOPTING A NEGATIVE DECLARATION AND GRANTING SITE PLAN APPROVAL PB# 06-19				162.50	4645				
Aug 8/2007 86825	Lawyer: DRC 0.40 Hrs X 325.00 PREPARE NEGATIVE DECLARATION PB# 06-19				130.00	4645				

	UNBILLED				BILLED				BALANCES	
TOTALS	CHE	+ RECOV	+ FEES	= TOTAL	DISBS	+ FEES	+ TAX	- RECEIPTS	= A/R	TRUST
PERIOD	0.00	0.00	0.00	0.00	0.00	775.00	0.00	0.00	775.00	0.00

REPORT SELECTIONS - Client Ledger

Layout Template	Default
Requested by	Rose Thoma
Finished	Tuesday, October 23, 2007 at 09:53:08 AM
Ver	8.20c
Matters	6085912
Clients	All
Major Clients	All
Client Intro Lawyer	All
Matter Intro Lawyer	All
Responsible Lawyer	All
Assigned Lawyer	All
Type of Law	All
Select From	Active, Inactive Matters
Matters Sort by	Default
New Page for Each Lawyer	No
New Page for Each Matter	No
No Activity Date	Dec 31/2199
Firm Totals Only	No
Totals Only	No
Entries Shown - Billed Only	No
Entries Shown - Disbursements	Yes
Entries Shown - Receipts	Yes
Entries Shown - Time or Fees	Yes
Entries Shown - Trust	Yes
Incl. Matters with Retainer Bal	No
Incl. Matters with Neg Unbld Disb	No
Trust Account	All
Working Lawyer	All
Include Corrected Entries	No
Show Check # on Paid Payables	No
Show Client Address	No
Consolidate Payments	No
Show Trust Summary by Account	No
Printed from	Register

JOB: 87-56

NEW WINDSOR PLANNING BOARD (Chargeable to Applicant) CLIENT: NEWWIN - TOWN OF NEW WINDSO

TASK: 6- 19

FOR ALL WORK ON FILE:

TASK-NO	REC	--DATE--	TRAN	EMPL	ACT	DESCRIPTION---------	RATE	HRS.	TIME	EXP.	BILLED	BALANCE
									DOLLARS			
6-19	376432					FD/CR 07-1120 FD 05/09/07		285.60				
6-19	351101	07/24/07	TIME	MJE	MR	HVCU WILLOW/32 S/P	119.00	1.00	119.00			
6-19	350013	07/25/07	TIME	MJE	MM	HVFCU WILLOW COND A?	119.00	0.10	11.90			
6-19	351078	07/25/07	TIME	MJE	MM	HVFCU S/P WILLOW/32	119.00	0.40	47.60			
6-19	351086	07/25/07	TIME	MJE	PM	HVFCU W/GA	119.00	0.20	23.80			
6-19	352925	08/07/07	TIME	MJE	MC	KRATING:32 WILLOW	119.00	0.30	35.70			
									238.00			
6-19	353497	08/15/07				BILL 07-2170					-238.00	
											-238.00	
6-19	377942					FD/CR 07-2170 FD 08/27/07		238.00				
6-19	378653	10/09/07	TIME	MJE	MC	HVFCU Rt32 Closeout	119.00	0.70	83.30			
6-19	378654	10/09/07	TIME	MJE	MC	emcs/MM & Chazen	119.00	0.20	23.80			
							TASK TOTAL		1889.20	0.00	-1782.10	107.10
							GRAND TOTAL		1889.20	0.00	-1782.10	107.10

CHRONOLOGICAL JOB STATUS REPORT

JOB: 87-56

NEW WINDSOR PLANNING BOARD (Chargeable to Applicant) CLIENT: NEWWIN - TOWN OF NEW WINDSO

TASK: 6- 19

FOR ALL WORK ON FILE:

TASK-NO	REC	--DATE--	TRAN	EMPL	ACT	DESCRIPTION---------	RATE	HRS.	TIME	EXP.	DOLLARS BILLED	BALANCE
6-19	287096	04/05/06	TIME	MJE	WS	HVFCU-32/WILLOW S/P	115.00	0.50	57.50			
6-19	289529	04/26/06	TIME	MJE	MC	CHAZEN:HVFCU 32/WILL	115.00	0.30	34.50			
6-19	290802	05/02/06	TIME	MJE	MC	HVFCU 32/WILLOW	115.00	0.30	34.50			
6-19	293410	05/22/06	TIME	MJE	MR	HVFCU S/P	115.00	0.80	92.00			
6-19	293412	05/23/06	TIME	MJE	PM	MTG GAZEBM:COMMENTS	115.00	0.30	34.50			
6-19	293414	05/23/06	TIME	MJE	AA	OCDP REFERRAL	115.00	0.40	46.00			
6-19	293788	05/31/06	TIME	MJE	AA	HVFCU DOT REF	115.00	0.40	46.00			
6-19	293789	05/31/06	TIME	MJE	AA	HVFCU L/A	115.00	0.40	46.00			
6-19	295527	06/15/06	TIME	PJH	MR	FEDERAL CU/NEWBURGH	115.00	2.00	230.00			
6-19	295529	06/16/06	TIME	PJH	MR	FEDERAL CU/NEWBURGH	115.00	0.50	57.50			
6-19	295880	06/21/06	TIME	MJE	WS	HVFCU 32/WILLOW	115.00	0.40	46.00			
									724.50			
6-19	296507	06/27/06				BILL 06-1524					-724.50	
											-724.50	
6-19	373207					PD/CR 06-1524 PD 07/21/06		724.50				
6-19	300704	08/02/06	TIME	MJE	WS	HVFCU	115.00	0.40	46.00			
6-19	305515	09/05/06	TIME	BMM	MR	HVFCU SWPPP RVW	99.00	1.50	148.50			
									194.50			
6-19	310349	10/25/06				BILL 06-2640					-194.50	
											-194.50	
6-19	374588					PD/CR 06-2640 PD 11/09/06		194.50				
6-19	312776	11/08/06	TIME	MJE	CR	MM:HVFCU RT 32	115.00	0.20	23.00			
6-19	315334	11/27/06	TIME	PJH	MR	CREDIT UNION DRAINAGE	115.00	1.00	115.00			
6-19	317827	12/21/06	TIME	MJE	MC	HVFCU W/MM	115.00	0.20	23.00			
									161.00			
6-19	317166	12/22/06				BILL 06-3206					-138.00	
											-138.00	
6-19	375186					PD/CR 06-3206 PD 01/09/07		138.00				
6-19	324399	02/08/07	TIME	MJE	MR	HVFCU FILE RVW/SWPPP	119.00	0.70	83.30			
6-19	324375	02/09/07	TIME	MJE	MR	HVFCU RT 32 S/P	119.00	0.80	95.20			
6-19	327535	02/26/07	TIME	MJE	PM	HVFCU W/GA	119.00	0.20	23.80			
6-19	327547	02/28/07	TIME	MJE	MM	HVFCU S/P	119.00	0.60	71.40			
									273.70			
6-19	324822	02/20/07				BILL 07-584					-201.50	
											-201.50	
6-19	375772					PD/CR 07-584 PD 03/07/07		201.50				
6-19	327896	03/07/07	TIME	MJE	MC	HVFCU DOT LTR	119.00	0.40	47.60			
6-19	333073	04/04/07	TIME	MJE	MC	F/U:HVFCU DOT REF	119.00	0.30	35.70			
6-19	333078	04/04/07	TIME	MJE	WS	HVFCU S/P N/S	119.00	0.40	47.60			
6-19	333085	04/04/07	TIME	MJE	PM	HVFCU LANDSCAPE	119.00	0.20	23.80			
6-19	333087	04/04/07	TIME	MJE	MC	EMC ROGER K:HVFCU	119.00	0.30	35.70			
									190.40			
6-19	334914	04/24/07				BILL 07-1120					-285.60	
											-285.60	

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 10/23/2007

LISTING OF PLANNING BOARD **FEES**
4% FEE

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	DESCRIPTION---------	TRANS	--AMT-CHG	-AMT-PAID	--BAL-DUE
10/23/2007	2% OF COST EST. 212,133.2	CHG	4243.00		
			---	---	---
		TOTAL:	4243.00	0.00	4243.00

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 10/23/2007

LISTING OF PLANNING BOARD **FEES**
ESCROW

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	DESCRIPTION---------	TRANS	--AMT-CHG	-AMT-PAID	--BAL-DUE
05/19/2006	REC. CK. #4687922784	PAID		750.00	
05/24/2006	P.B. ATTY. FEE	CHG	35.00		
05/24/2006	P.B. MINUTES	CHG	63.00		
02/23/2007	PUB. HEAR NOTICE	CHG	14.32		
02/28/2007	P.B. ATTY FEE (CORDISCO)	CHG	775.00		
02/28/2007	P.B. MINUTES	CHG	168.00		
07/25/2007	P.B. MINUTES	CHG	77.00		
10/23/2007	P.B. ENGINEER FEE	CHG	1889.20		
		TOTAL:	3021.52	750.00	2271.52

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 10/23/2007

LISTING OF PLANNING BOARD **FEES**
APPROVAL

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	DESCRIPTION---------	TRANS	--AMT-CHG	-AMT-PAID	--BAL-DUE
10/23/2007	APPROVAL FEE	CHG	125.00		
			---	---	---
		TOTAL:	125.00	0.00	125.00

RESOLUTION ADOPTING A NEGATIVE DECLARATION FOR A SITE PLAN APPLICATION

Hudson Valley Federal Credit Union Proposed Branch
PB # 06-19

WHEREAS, an application was made to the Planning Board of the Town of New Windsor for approval of a site plan by Hudson Valley Federal Credit Union (the "applicant") for a project described as "Hudson Valley Federal Credit Union Site Plan";

WHEREAS, the subject site consists of 2.3 acres of land and comprised of one tax map parcel in the Town of New Windsor identified on the tax map as section 42, block 1, and lot 1.1 (SBL 42-1-1.1), located at the intersection on NYS Route 32 and Willow Lane; and

WHEREAS, the action involves a request for a site plan approval for a bank branch office; and

WHEREAS, the applicant has submitted a fully executed short form Environmental Assessment Form ("EAF") pursuant to the New York State Environmental Quality Review Act ("SEQRA"); and

WHEREAS, the Planning Board conducted a coordinated SEQRA review for this project; and

WHEREAS, the Planning Board declared its intent to become the Lead Agency with respect to the Proposed Action and circulated a Notice of Intent to be Lead Agency to other involved and interested agencies; and

WHEREAS, having received no objection to the proposed Lead Agency designation within thirty (30) days after circulation of the Notice of Intent, the Planning Board was automatically designated the Lead Agency for environmental review of the Proposed Action; and

WHEREAS, during the course of the Planning Board's review of the Applicant's proposed site plan layout, the Planning Board received and considered correspondence from the public as well as the Town's consultants; and

WHEREAS, a duly advertised public hearing on the application for site plan approval was held on February 28, 2007 at which time all those wishing to be heard were given the opportunity to heard; and

WHEREAS, on February 28, 2007 the public hearing on the application for site plan approval was closed; and

WHEREAS, the application and related materials were submitted to the Orange County Planning Department ("OCDP") for its review pursuant to the requirements of the General Municipal Law § 239-m, and OCDP responded recommending conditional approval with a comment to reduce parking if possible; and

WHEREAS, the Planning Board has carefully considered all of the comments raised by the public, the Board's consultants, and other interested agencies, organizations and officials, including those presented at numerous meetings of the Board as well as those submitted separately in writing; and

WHEREAS, the applicant has submitted a proposed site plan consisting of 17 sheets, prepared by Chazen Engineering & Land Surveying Co., P.C. dated March 17, 2006 and last revised on Seeptember 25, 2006; and

WHEREAS, the Planning Board has determined that the Proposed Action minimizes or avoids significant environmental impacts and, therefore, the accompanying Negative Declaration is hereby adopted as part of the approval of site plan.

NOW, THEREFORE, be it resolved as follows:

1. The Planning Board is lead agency for an uncoordinated review of this action;

2. This is an Unlisted Action for SEQRA purposes;

3. The EAF submitted by the applicant has been fully reviewed and considered by the Planning Board;

4. Having reviewed with due care and diligence the EAF submitted by the applicant, the application herein and all pertinent documentation and testimony received at the public hearing, it is determined that the proposed action will not have, nor does it include, the potential for significant adverse environmental impacts;

5. The Planning Board hereby adopts the SEQRA "Negative Declaration" annexed hereto.

Upon motion made by Member Mr Van Leeuwen, seconded by Member Mr Schlesinger, the foregoing resolution was adopted as follows:

Member, Daniel Gallagher	Aye	Nay	Abstain	Absent
Member, Howard Brown	Aye	Nay	Abstain	Absent
Member, Neil Schlesinger	Aye	Nay	Abstain	Absent
Member, Henry Vanleeuwen	Aye	Nay	Abstain	Absent
Chairman, Genaro Argenio	Aye	Nay	Abstain	Absent

- - -

Alternate, Henry Schieble	Aye	Nay	Abstain	Absent

Dated: August 8, 2007
New Windsor, New York

Genaro Argenio, Chairman

Filed in the Office of the Town Clerk on this 9th day of August, 2007.

Deborah Green
Town Clerk

TOWN OF NEW WINDSOR PLANNING BOARD
COUNTY OF ORANGE

NEGATIVE DECLARATION

Hudson Valley Federal Credit Union Site Plan
PB # 06-19
(S-B-L: 42-1-1.1)

PLEASE TAKE NOTICE that, according to the provisions of Article 8 of the Environmental Conservation Law and the New York Code of Rules and Regulations Part 617, the Town of New Windsor Planning Board has adopted a Negative Declaration for the project named below. The Planning Board is serving as Lead Agency for this Unlisted Action, for a coordinated review of this Unlisted Action.

Name of Project: Hudson Valley Federal Credit Union Site Plan
Action Type: Unlisted Action; Coordinated Review
Location: Town of New Windsor, County of Orange
Location: NYS Route 32 and Willow Lane
Tax Map Parcel: Section 42, Block 1, Lot 1.1

Summary of Action:

The action involves a request for a commercial site plan approval for a 2.3 acre parcel located in the Town of New Windsor. The parcel is presently vacant.

Reasons Supporting the Negative Declaration:

Based on its consideration of the available information, the Planning Board finds there would be no significant adverse environmental effects associated with granting site plan approval for a self storage structure and related improvements. With respect to traffic patterns, traffic safety and emergency access, the proposed lots will have access to NYS Route 32. With respect to water and sewer resources, the lots will be served by public water and sewer. With respect to grading and land disturbance, a stormwater pollution prevention plan has been developed in conjunction with the proposed site plan for the site. The site does not constitute significant habitat area for flora or fauna. The proposed site plan is considered to comply with all currently existing zoning requirements and municipal plans for the Town of New Windsor, and is consistent with the community character. Neither solid waste generation, energy consumption, nor public service demands would be significant or excessive in connection with this proposed site plan. No other potentially significant harmful environmental impacts are identified.

Date of Adoption of Negative Declaration: August 8, 2006
Agency Address: Town of New Windsor Planning Board
Town Hall – 555 Union Avenue
New Windsor, New York 12553
Tel. (845) 563-4615
Contact Person: Genaro Argenio, Planning Board Chairman

RESOLUTION GRANTING SITE PLAN APPROVAL

Hudson Valley Federal Credit Union Proposed Branch
PB # 06-19

WHEREAS, an application was made to the Planning Board of the Town of New Windsor for approval of a site plan by Hudson Valley Federal Credit Union (the "applicant") for a project described as "Hudson Valley Federal Credit Union Site Plan";

WHEREAS, the subject site consists of 2.3 acres of land and comprised of one tax map parcel in the Town of New Windsor identified on the tax map as section 42, block 1, and lot 1.1 (SBL 42-1-1.1), located at the intersection on NYS Route 32 and Willow Lane; and

WHEREAS, the action involves a request for a site plan approval for a bank branch office; and

WHEREAS, the applicant has submitted a fully executed short form Environmental Assessment Form ("EAF") pursuant to the New York State Environmental Quality Review Act ("SEQRA"); and

WHEREAS, the Planning Board conducted a coordinated SEQRA review for this project; and

WHEREAS, during the course of the Planning Board's review of the Applicant's proposed site plan layout, the Planning Board received and considered correspondence from the public as well as the Town's consultants; and

WHEREAS, a duly advertised public hearing on the application for site plan approval was held on February 28, 2007 at which time all those wishing to be heard were given the opportunity to heard; and

WHEREAS, on February 28, 2007 the public hearing on the application for site plan approval was closed; and

WHEREAS, the application and related materials were submitted to the Orange County Planning Department ("OCDP") for its review pursuant to the requirements of the General Municipal Law § 239-m, and OCDP responded recommending local determination with a comment to reduce parking if possible; and

WHEREAS, the Planning Board has carefully considered all of the comments raised by the public, the Board's consultants, and other interested agencies, organizations and officials,

including those presented at numerous meetings of the Board as well as those submitted separately in writing; and

WHEREAS, the applicant has submitted a proposed site plan consisting of 17 sheets, prepared by Chazen Engineering & Land Surveying Co., P.C. dated March 17, 2006 and last revised on Seeptember 25, 2006; and

WHEREAS, the Planning Board has heretofore determined that the Proposed Action minimizes or avoids significant environmental impacts and, adopted a Negative Declaration as part of the approval of site plan.

NOW, THEREFORE, the Planning Board finds that the applicant has satisfied the requirements of Town Code § 300-86 and approves the site plan subject to the following terms and conditions:

1. The applicant shall pay all outstanding fees due the Town in connection with this application;

2. The applicant shall make any required revisions to the site plan to the satisfaction of the Planning Board Engineer and Planning Board Attorney;

3. The applicant shall secure all necessary permits, approvals and authorizations required from any other agency, if required;

4. The applicant shall submit proof of satisfaction of the foregoing conditions and submit a plat for signature within six months of the date of this resolution.

Upon motion made by Member Mr. VanLeeuwen, seconded by Member Mr. Schlesinger, the foregoing resolution was adopted as follows:

Member, Daniel Gallagher	Aye	Nay	Abstain	Absent
Member, Howard Brown	Aye	Nay	Abstain	Absent
Member, Neil Schlesinger	Aye	Nay	Abstain	Absent
Member, Henry Vanleeuwen	Aye	Nay	Abstain	Absent
Chairman, Genaro Argenio	Aye	Nay	Abstain	Absent

- - -

Alternate, Henry Schieble Aye Nay Abstain Absent

Dated: August 8, 2007
New Windsor, New York

Genaro Argenio, Chairman

Filed in the Office of the Town Clerk on this 9th day of August, 2007.

Deborah Green
Town Clerk

Project Name: HVFCU - Route 32 **Municipality:** Town of New Windsor
Planning Board No.: PB-06-19 **Date: August 8, 2007**

PRIVATE IMPROVEMENT AND SITE PLAN UNIT PRICES (Updated March 2006)

Description	Unit	Unit Cost	Qty	Total Cost
Roadway and Parking Lot				
Erosion Control	AC	$ 1,800.00	2.2	$ 3,960.00
Paving & Base (regular construction)	SY	$ 12.00	1,380	$ 16,560.00
Paving & Base (heavy-duty construction)	SY	$ 16.00	0	$ -
Tack Coat	SY	$ 0.45	0	$ -
Overlay Existing Pavement (1.5")	SY	$ 5.00	0	$ -
Double Surface Treatment	SY	$ 6.00	0	$ -
				$ -
Private Road (traveled way only)	SY	$ 12.00	0	$ -
Private Road (complete – swales etc)	LF	$ 35.00	0	$ -
Topsoil & Seeding	SY	$ 1.25	8,035	$ 10,043.75
Street Signs (Traffic Control)	EA	$ 250.00	0	$ -
Parking Space Striping	EA	$ 9.00	54	$ 486.00
Parking & Lane Striping	LF	$ 0.50	112	$ 56.00
Painted Striped Island	EA	$ 35.00	1	$ 35.00
Site Plan Stop Bar	EA	$ 15.00	3	$ 45.00
Handicapped Sign & Striping	EA	$ 200.00	6	$ 1,200.00
Traffic Control Sign	EA	$ 200.00	9	$ 1,800.00
Painted Traffic Control Arrows	EA	$ 10.00	14	$ 140.00
Concrete Curbing	LF	$ 18.00	1,615	$ 29,070.00
Concrete Sidewalk	SY	$ 38.00	150	$ 5,700.00
Timber Curbing	LF	$ 12.00	0	$ -
Curb (Precast) Bumpers	EA	$ 15.00	4	$ 60.00
Shale Parking (Overflow) Area	SY	$ 8.00	0	$ -
Guiderail	LF	$ 40.00	0	$ -
Drainage				
Catch Basin	EA	$ 2,700.00	9	$ 24,300.00
Connection to Existing Catch Basin	EA	$ 500.00	0	$ -
Stormwater Pipe (6")	LF	$ 10.00	152	$ 1,520.00
Stormwater Pipe (12")	LF	$ 20.00	17	$ 340.00
Stormwater Pipe (15")	LF	$ 30.00	325	$ 9,750.00
Stormwater Pipe (18")	LF	$ 40.00	109	$ 4,340.00
Stormwater Pipe (24")	LF	$ 45.00	199	$ 8,932.50
Stormwater Pipe (30")	LF	$ 50.00	0	$ -
Stormwater Pipe (36")	LF	$ 55.00	0	$ -
Stormwater Pipe (48")	LF	$ 65.00	0	$ -

End Section	EA	$	350.00	4	$ 1,400.00
Concrete Headwall	EA	$	4,000.00	0	$ -
Rip Rap Drainage Channel	LF	$	8.00	45	$ 360.00
Non-lined Drainage Channel	LF	$	3.50	0	$ -
Stormwater Vault	EA	$	10,000.00	1	$ 10,000.00
Utilities					
Type K Copper Water Service	LF	$	10.00	50	$ 500.00
Watermain (4")	LF	$	30.00	180	$ 5,400.00
Gate Valve (4")	EA	$	600.00	0	$ -
Tapping Sleeve and Valve (4")	EA	$	1,400.00	1	$ 1,400.00
Watermain (8")	LF	$	50.00	0	$ -
Gate Valve (8")	EA	$	1,000.00	0	$ -
Tapping Sleeve and Valve (8")	EA	$	2,200.00	0	$ -
Watermain (12")	LF	$	65.00	0	$ -
Gate Valve (12")	EA	$	1,750.00	0	$ -
Hydrant Assembly	EA	$	2,700.00	0	$ -
Sewer Lateral (6")	LF	$	25.00	91	$ 2,275.00
Sewer Main (8")	LF	$	35.00	0	$ -
Sewer Main (12")	LF	$	45.00	0	$ -
Sewer Manholes	EA	$	2,300.00	0	$ -
Utility Trench (elec, phone, cable)	LF	$	10.00	1,225	$ 12,250.00
Misc.					
Landscaping Trees	EA	$	180.00	29	$ 5,220.00
Landscaping Shrubs	EA	$	25.00	119	$ 2,975.00
Mulched surface	SY	$	3.00	405	$ 1,215.00
Chain link fence (4' black vinyl coated)	LF	$	12.00	0	$ -
Split Rail Fence	LF	$	8.00	0	$ -
Wood Stockade Fence	LF	$	10.00	295	$ 2,950.00
Short Masonry Landscape Walls	LF	$	10.00	0	$ -
Retaining Walls (modular) 4' height	LF	$	40.00	0	$ -
Retaining Walls (modular)	SF	$	45.00	550	$ 24,750.00
Lamppost	EA	$	1,500.00	10	$ 15,000.00
Building Mtd. Light	EA	$	500.00	0	$ -
Waste Enclosure (small)	EA	$	750.00	0	$ -
Dumpster Enclosure (masonry/concrete)	EA	$	1,500.00	1	$ 1,500.00
Clear and Grub	AC	$	3,000.00	2.2	$ 6,600.00
Other					
Total					**$ 212,133.25**

RESULTS OF P.B. MEETING OF: July 25, 2007

PROJECT: Hud. Valley Fed. Credit Union - Rt. 32 P.B. # 06-19

LEAD AGENCY:

AUTHORIZE COORD. LETTER: Y____ N____
TAKE LEAD AGENCY: Y____ N____

M)___ S)____ VOTE: A____ N____
CARRIED: Y____ N____

NEGATIVE DEC:

M) V S) Schlos VOTE: A 5 N 0
CARRIED: Y ✓ N____

PUBLIC HEARING: WAIVED:____ CLOSED:____ FINAL:____

M) ____ S)____ VOTE: A____ N____ SCHEDULE P.H.: Y____ N____

SEND TO O.C. PLANNING: Y____ RETURN TO WORK SHOP: Y___ N____

SEND TO DEPT. OF TRANS: Y___ REFER TO Z.B.A.: M)___ S)____ VOTE: A____ N____

APPROVAL:

CONCEPTUAL: ____ **PRELIMINARY:**____ **COND. FINAL:**____ **FINAL** ✓

M) V S) Schlos VOTE: A 5 N 0 APPROVED: ✓

NEED NEW PLANS: Y ✓ N____

CONDITIONS – NOTES:

Address Mark's comments:

Need Bond estimate

MEETING DATE: July 25, 2007

July 25, 2007

REGULAR ITEMS

HUDSON VALLEY FEDERAL CREDIT UNION (06-19)

MR. ARGENIO: The next regular item on the agenda is Hudson Valley Federal Credit site on New York 32 and Willow Lane. The application is a proposed 1,600 square foot facility plus 2.3 plus or minus acre parcel. Reviewed 24 May 2006, 14 February 2007 planning board meeting. Mark, only twice? We've seen this quite a few times. Only twice?

MR. EDSALL: Don't forget you had the application over on Route 300 so you got to see Roger a lot for that.

MR. KEATING: I think we were here three times.

MR. EDSALL: Maybe I am missing the third date, but it wasn't many.

MS. MASON: I only have two.

MR. ARGENIO: That is three. Were you here once early with a conceptual plan that I --

MR. EDSALL: We might have had him come in as presubmission.

MR. ARGENIO: Like we've been doing that a lot lately.

MR. KEATING: I thought it was three times, guys, but anyways.

MR. ARGENIO: What's your name, sir?

MR. KEATING: I'm Roger Keating from the Chazen Company.

MR. ARGENIO: Mr. Keating, tell us what you've done and what you've achieved here with this since you've been to us last?

MR. KEATING: Since we were here last there were just a few minor comments that the board

had presented to us. One being the, there was two water main caps along Willow Lane and as the board requested we reduced that to one tap so that we'd have our domestic lines within the site. We worked with Mark on getting those locations finalized and that's what you're seeing.

MR. ARGENIO: Mr. Keating, I'm sorry, let me interrupt you for a second. I was talking to Mr. Van Leeuwan. Did you say that you consolidated those two water mains on Willow Lane?

MR. KEATING: Into one. That was your suggestion, yes.

MR. ARGENIO: Go ahead.

MR. KEATING: So that was one of the minor items that we had from the last meeting. One of the other items that was discussed was getting clarification from D.O.T. Mark had worked out, got us a letter sent out to D.O.T. They did respond back that they agreed to the plan and concept, you know, for the locations of everything that's out there. Also in the discussions last time out I wanted to just get some visual, just idea of what the landscaping was out on the site.

MR. ARGENIO: Excuse me for one second. Mark, since you mentioned D.O.T. just now, Mr. Keating, I just want to go to number three of your items, Mark. D.O.T. referral letter sent 5/31/06. We have conceptual approval from the local permitting office. It is unclear if regional approval is forthcoming at this time. What does that mean? That sounds like a dance to me.

MR. CORDISCO: It's not our dance.

MR. EDSALL: It's not a dance that I would like to partake in. We have had difficulties with D.O.T. following a uniform procedure. We received a letter in late December last year we were advised that all responses or

approvals for planning board activities would come from the regional office. And that permitting would only come from the Newburgh permitting office. Notwithstanding DOT's letter they're not following their own letter. We're now getting some letters from Poughkeepsie, some letters from Newburgh. And I really don't know what to do other than maybe seek the board's authorization or help in telling D.O.T. we'd really like them to follow one procedure so we know what they want.

MR. ARGENIO: What do you want me to do to that end?

MR. EDSALL: If the board so desires I will go ahead and make a call. If I get no progress I'll turn it back to you folks.

MR. ARGENIO: So we do have a letter from DOT somewhere saying this is acceptable?

MR. EDSALL: Correct.

MR. ARGENIO: That's my question.

MR. EDSALL: I will try to get them to clarify.

MR. ARGENIO: Mark, if they're jumbled up in some way, shape or form I don't want this board to get jumbled up or the Town of New Windsor to get jumbled up in any fashion. If they send us a letter saying it's okay, I can't police their house. We shouldn't be obligated to police their house.

MR. EDSALL: And I don't want to jamb up the applicant's application.

MR. ARGENIO: Don't you agree?

MR. SCHLESINGER: Yes.

MR. ARGENIO: Am I right?

MR. VAN LEEUWEN: I think you're right.

MR. EDSALL: We've actually gotten letters that say there's conceptual approval but Poughkeepsie is still looking at it and we'll let you know if they have any ideas.

MR. ARGENIO: Go ahead, Mr. Keating. That's done.

MR. KEATING: And then some of the discussion that was brought up last time it was just to get a visual idea what some of the landscaping was going to be like out there. As Mark indicated last time we've added a significant amount of landscapings to the plan, put together this color, basically it's a screening and landscaping presentation type of plan that allows you to just get the feel of the different type of species that are called out along the properties and throughout the site. It coordinates back to the different types of things.

MR. ARGENIO: Did you put that stockade fence in the back to shield the headlights from those residences back there?

MR. KEATING: Stockade fence up along the drive-through portion of it.

MR. ARGENIO: Did you do that?

MR. KEATING: Absolutely.

MR. ARGENIO: It looks like you have substantial screening there.

MR. KEATING: Yes. All the landscaping that you see here was worked out with the adjacent property owner so that there's, that they agree with the types of species and everything that were called out and that's why you see what we have here now.

MR. VAN LEEUWEN: Can I ask a question?

MR. KEATING: Sure thing.

MR. VAN LEEUWEN: The serious setbacks on this

property.

MR. KEATING: Yes.

MR. VAN LEEUWEN: Where are they located because I can't see it on this map?

MR. SCHLESINGER: SP2.

MR. VAN LEEUWEN: No, it isn't.

MR. SCHLESINGER: SP2. Look in the back you see there's a dotted line.

MR. VAN LEEUWEN: The building is setback away from the --

MR. KEATING: From the building setback line, absolutely, yes.

MR. VAN LEEUWEN: Who are the people you discussed with putting the, your landscaping plan with?

MR. KEATING: There was an agreement reached with the Karpoff's. It was a signed agreement with the property.

MR. VAN LEEUWEN: Okay.

MR. SCHLESINGER: Fire?

MR. ARGENIO: Approved. They actually had quite a few comments, insufficient lanes, sprinkler system and location needs to be located.

MR. SCHLESINGER: Not to second guess them, but wouldn't you think they would want access around the back of the building?

MR. ARGENIO: They do have access.

MR. SCHLESINGER: How much? How wide is the through lane?

MR. VAN LEEUWEN: How wide is the through lane?

MR. KEATING: We actually discussed that with the fire inspectors. We had a couple of workshops obviously with Mark and we've gone over this with the fire two or three times. We've gone into multiple workshops to avoid having to keep coming back in front of you multiple times just getting everything worked out with Mark. Mark can probably talk to the same but.

MR. SCHLESINGER: How did they address that?

MR. KEATING: They felt that there was adequate clearance when we went through that.

MR. SCHLESINGER: Is that a drive-through in the back?

MR. KEATING: Yes, it is.

MR. SCHLESINGER: I don't understand that.

MR. ARGENIO: Wait a second.

MR. BABCOCK: They are not going to, they're not going to go around the back of the building.

MR. SCHLESINGER: I don't want to second guess them.

MR. ARGENIO: There is the answer right there, the one that Mike gave, they are not going to. Now, I've spoken with Barney Badetti a couple of times specifically on, I don't recall the application, but I did speak to Barney Badetti about lane widths. I know what application it was, the one that was adjacent to the Thruway overpass on 94 just west of the tracks over near the --

MR. BABCOCK: The addition next to that building.

MR. ARGENIO: I questioned Barney Badetti on that building. There was 25-foot lanes there and they accepted it. And I questioned him on that. And his response to me was that 25-foot

lanes work. You can maneuver a fire truck through a site with 25-foot lanes. They try to get 30, but they will certainly accept 25.

MR. SCHLESINGER: And we have 25 there.

MR. ARGENIO: No, we don't have fire access in the back of the building.

MR. SCHLESINGER: So we don't care.

MR. EDSALL: Just a clarification, the fire department has created, or the fire inspector's office rather has created a scheduling because of many of the questions that are raised at the workshop. Based on the type of occupancy, the number of stories, IE if it's an office versus a multifamily residential one story, two story, they require either one 30 foot lane or two 30 foot lanes or access completely around the building. This being a bank and being one story they only want access on a side and a front.

MR. KEATING: Yeah. We gave them the two 30 foot lanes and that's what we had worked out.

MR. BABCOCK: The building is also sprinkler.

MR. KEATING: Yes.

MR. EDSALL: So they have created a schedule to help clarify that.

MR. ARGENIO: He's pretty conservative, Barney Badetti.

MR. SCHLESINGER: I don't want to second guess him.

MR. EDSALL: You're going to get plans that have two different size plans and that's the reason because if they have a front and a side they're happy.

MR. SCHLESINGER: Good.

MR. BABCOCK: If the building sprinkler or not

makes a big difference and where they are going with that fire truck, the fire truck is going to one spot in that building and that's it. They hookup to the sprinkler system and that's it.

MR. EDSALL: You will see the fire department connection at the lane they call out.

MR. VAN LEEUWEN: Do they also take into consideration in case there's a second story proposed on this building?

MR. ARGENIO: I'm sure they do.

MR. BABCOCK: Then it all changes. Everything changes. But that wouldn't change in this building quite honestly because of the use and it's a sprinkler building.

MR. ARGENIO: Scott Bright, what do you have tonight on this application?

MR. BRIGHT: Well, we've really diligently tried to address all the issues. The only other issue that you haven't brought up was the monument that we've already --

MR. ARGENIO: That's coming.

MR. BRIGHT: -- that we've worked up and we are just waiting for approval in order to proceed with that.

MR. VAN LEEUWEN: You're not coming here for final approval, are you?

MR. KEATING: Sure.

MR. ARGENIO: Mr. Keating had indicated that he spoke to --

MR. KEATING: Barney's brother actually.

MR. ARGENIO: Barney's brother, and I did speak with Steve Sager about this and he did verify that you were moving along with that whole monument.

MR. KEATING: The intention will be as we get closer to the final construction of the project, this will be one of the last items that would be part of the installation before the dedication of the building and everything. And then talking to the people at the credit union as part of the opening of the branch they'll probably do some sort of ceremony and work with the fire department to try and incorporate that into that process.

MR. VAN LEEUWEN: When did you intend to put a shovel in the ground?

MR. KEATING: Scott, when would you like to put a shovel in the ground? Turner Construction, Scott Bright from Turner Construction is here as well.

MR. BRIGHT: Well, based on our schedule and our timeline and the credit union's desire to try to avoid winter conditions, and temporary heat, we would like to start the project no later than the beginning of September.

MR. ARGENIO: Can you tell me, because I'm just curious from my own personal motivation, what is the fire monument going to be?

MR. KEATING: Scott, I believe we worked out, it was a granite monument correct, some sort of stone granite monument at the base with a flag pole.

MR. BRIGHT: I met with a monument guy actually right in Pine Bush and met with him and asked him what my options are. And pretty much nowadays with the technology we were going to get together with the fire department and that monument manufacturer, unless they have somebody they would personally --

MR. ARGENIO: That's the guy on 302 over there?

MR. BRIGHT: Yes.

MR. ARGENIO: That's nice when the work stays

local.

MR. VAN LEEUWEN: Where are you planning to put this monument?

MR. KEATING: We are going to incorporate it right with the flag pole there.

MR. ARGENIO: Comment number five of Mark's pages we believe the statement issued for concept review only, not for construction should be removed from the plan. You need to do that.

MR. KEATING: Yes.

MR. ARGENIO: We request typical handicapped detail on SD1B be revised to depict that when a standard space adjoins a handicapped space a double line should be installed, one blue, one white, each line 4 inches wide. I added the last part myself.

Do you guys have anything else?

MR. VAN LEEUWEN: Declare negative dec.

MR. ARGENIO: There is procedural issues, certainly. Do I have a motion that we declare a neg dec on the Hudson Valley Credit Union site plan.

MR. SCHLESINGER: Motion made.

MR. ARGENIO: Second?

MR. SCHLESINGER: Second.

MR. ARGENIO: Motion made and seconded that we declare a neg dec on the Hudson Valley Federal Credit Union site plan. No further discussion from the board members I will have a roll call.

ROLL CALL

MR. SCHLESINGER	AYE
MR. BROWN	AYE
MR. GALLAGHER	AYE

MR. VAN LEEUWEN	AYE
MR. ARGENIO	AYE

MR. ARGENIO: Dominic, you're authorized to put that together?

MR. CORDISCO: Certainly.

MR. ARGENIO: Mark, am I missing any other procedural items? I don't believe I have.

MR. EDSALL: No, I believe they are in very good shape and if you do have a conditional approval just those two corrections and the bond estimate and payment of all fees.

MR. VAN LEEUWAN: So moved, Mr. Chairman.

MR. SCHLESINGER: Second.

MR. ARGENIO: Motion made for final approval for Hudson Valley Federal Credit Union site plan subject to what Mark just read in the minutes the bond estimate and the two bullets on the plan number five. If there's no further discussion from the board I will have a roll call.

ROLL CALL

MR. SCHLESINGER	AYE
MR. BROWN	AYE
MR. GALLAGHER	AYE
MR. VAN LEEUWEN	AYE
MR. ARGENIO	AYE

MR. ARGENIO: Thank you very much.

MR. KEATING: Thank you very much.

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.

RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

MAIN OFFICE
33 AIRPORT CENTER DRIVE
SUITE 202
NEW WINDSOR, NEW YORK 12553

(845) 567-3100
FAX: (845) 567-3232
E-MAIL: MHENY@MHEPC.COM

WRITER'S E-MAIL ADDRESS:
MJE@MHEPC.COM

TOWN OF NEW WINDSOR
PLANNING BOARD
REVIEW COMMENTS

PROJECT NAME:	HUDSON VALLEY FEDERAL CREDIT UNION SITE PLAN
PROJECT LOCATION:	NYS ROUTE 32 & WILLOW LANE SECTION 42 – BLOCK 1 – LOT 1.1
PROJECT NUMBER:	06-19
DATE:	25 JULY 2007
DESCRIPTION:	THE APPLICATION PROPOSES A NEW 6100 SF CREDIT UNION FACILITY ON THE 2.3+ ACRE PARCEL. THE PLAN WAS PREVIOUSLY REVIEWED AT THE 24 MAY 2006 AND 14 FEBRUARY 2007 PLANNING BOARD MEETINGS.

1. The property is split by the C and R-4 zones, with the majority of the property (and all the structures) being in the C zone. The "required" bulk requirements shown on the plan are correct for the zone and use. The bulk table values have been corrected and appear reasonable.

2. As noted at the public hearing in February, the plans are complete. All previous comments have been addressed.

3. Procedurally, note the following:

   - DOT referral letter sent 5-31-06. By letter dated 6-8-07 we have conceptual approval from the local permitting office. It is unclear if Regional Office approval is forthcoming at this time.

   - Lead Agency letter circulated 5-31-06. The board assumed Lead Agency on 2-28-07.

   - OC Planning referral sent 5-24-06. Returned "Local Determination" with comment to reduce parking if possible.

   - SWPPP – review complete. Minor corrections requested on final plans.

4. The Planning Board may wish to classify this action as an "unlisted action" under SEQRA, and consider a "negative declaration" of environmental significance, based on the information presented and reviewed. The Board may wish to authorize the preparation of a negative declaration by the Attorney.

5. Some minor corrections that should be included on the final plans:

   - We believe the statement "Issued for Concept Review Only – Not for Construction" should be removed from each plan.

   - We request the typical handicapped detail on SD1B be revised to depict that when a standard space adjoins a handicapped space, a double line should be installed, one blue, one white.

6. The Planning Board should require that a bond estimate be submitted for the key site improvements of this Site Plan in accordance with Chapter 137 of the Town Code. Applicants are advised that a list of acceptable unit prices is available from the Engineer for the Planning Board.

7. The Board may wish to authorize the preparation of an approval resolution for consideration at the next regular meeting.

Respectfully Submitted,

Mark J. Edsall, P.E., P.P.
Planning Board Engineer

MJE/st
NW06-19-14Feb07.doc

HUDSON_VALLEY_FEDERAL_CREDIT_UNION_(06-19)

Mr. Roger Keating and Mr. Scott Bridey appeared before the board for this proposal.

MR. ARGENIO: Scott, are you involved in this as well?

MR. BRIDEY: Yes.

MR. ARGENIO: Application proposes a new 6,100 square foot credit union facility on the 2.3 acre parcel. The plan was reviewed on a concept basis only. For those of you who don't know where this is, this is Willow Lane 32, the old 2 C's where that fireman died quite a few years ago fighting the fire there. Go ahead.

MR. KEATING: Again, Roger Keating from the Chazen Companies here to present the proposed Hudson Valley Federal Credit Union branch at the intersection of New York State Route 32 and Willow Lane. The credit union's proposing a new branch here on the intersection parcel that's currently vacant right now, project sits on approximately 2.3 acres in size and we've had a few workshops before coming to this board with the Town's designated engineer to work through some of the concepts before it made it in front of the board here tonight for our first presentation to you. The proposed branch has been revised slightly from the plans that you have in front of you right now and that it's a slightly smaller than 6,000 square feet, the proposed branch will have three drive-up teller lanes, these will be attached to the building, the branch will also have access points to both Willow Lane and Route 32 and proposed parking for the branch site is 60 spaces which is more than what the Town's requirement is but for this type of facility with the credit union branch same thing as driving in. The project site will be serviced by public water and sewer with a proposed water connection onto Willow Lane, public sewer runs through an easement through the project site and we'll

be proposing to connect to the sewer that's within the project site. Storm water we're disturbing more than an acre of land so we're required to do, have the Phase 2 regulations as per DEC and we're proposing two storm water management areas proposing a sand filter with an overflow into a storm water management basin on the lower portion of the site, we have developed a proposed landscaping plan at this time proposing landscaping to screen the adjacent properties in and around the site and provide landscaping up in the front portions of the property as well for aesthetics. The project will also provide a landscaped wall along the drive-thru lane side portion of the property which abuts the residential side or residential properties. In addition and through the workshop process we have talked with Mark, the Town's engineer, and he's made the suggestion that we should provide some additional screening along the upper portions in and around the drive-thru lanes and we're going, we're considering doing some sort of fencing, Mark had suggested split rail options the Town has liked to see, we're currently looking at those types of options whether it be split rail fence with some sort of mesh that goes over that, I have yet to see that but we'll look into that with Mark. This building elevation I think I have provided copies but I have extras here similar to the other building in what the front building elevation will be like that you've just seen. And just to note there's existing curb cuts that were on the site from when it was the restaurant, there's a very tricky curb cut that's right at the intersection we'll be looking to close that and again move the entrances to the proposed site.

MR. ARGENIO: I see that's good, you pulled the entrances away from the Willow Lane corner which is a good thing. Go ahead.

MR. KEATING: That was the comment that Mark had asked us to address tried to get adequate separation as much

as possible from the intersection of Willow Lane. And then also you had made mention of the firefighter that had lost his life fighting the fire here, the credit union is looking into possibly incorporating some sort of monument with their flag pole.

MR. ARGENIO: You guys are smart, did somebody suggest that to you?

MR. KEATING: I think some people in the Town.

MR. ARGENIO: I was thinking exactly that, figure out something, Henry asked for a flag pole, take the flag pole with the flag pole, I want something, Shawn, does anybody remember?

MR. KEATING: Shawn McGuire.

MR. BRIDEY: Hudson Valley Credit Union Board has already given us the approval to incorporate a monument with the flag pole on the site so we'll get together with the fire department and get that information.

MR. ARGENIO: Correct, I want you to get with the fire department, start with the Vails Gate Fire Department, you find out what they want on that plague, they'll probably want a little brass thing and his name and I want the monument there cause Scott we know about monuments, don't we? So we want--that's a good idea.

MR. KEATING: We'll be working as the project advances, we're here just on our first time with you as we get closer to the final result we'll be working with the fire department just with that, I'll just offer it up to questions to the board.

MR. ARGENIO: There's a couple things I want to say first then open it up. Number one, we'll have a public hearing on this, there's no waiving public hearing, number two, go back to your landscaping plan.

MR. VAN LEEUWEN: Pandora's Box.

MR. ARGENIO: We're going to have a public hearing, this is something where we can take the input and we can accept the input or not accept the input and they have the right to develop their building and as I have always said as did my predecessor we can't say what you can and can't but certainly can say how, take the split rail fence idea and get rid of it, we need something there that's a little bit more than a split rail fence, stockade fence or maybe somebody else has an idea, something that's a little more light insulating of a height that's enough where it will insulate the neighbors from the light pollution.

MR. KEATING: Screening alone is not landscaping alone is not we're looking for a combination of landscaping and some sort of fencing.

MR. ARGENIO: I just want, I don't want you going somewhere where you don't need to go. The next thing the gap in the landscaping that I see there, fill it in, I don't know how, fill it in, figure out how to do it, I'm not an engineer, you are, you figure out how to do it.

MR. KEATING: Actually we did refine this because of the fire district's comments. When we met at our workshop we provided that 30 foot lane on two sides for them which you'll notice there was some comments in here, this plan we have kind of already had an understanding that that comment was coming so we have revised that to provide--

MS. MASON: This is not the same plan as we have?

MR. KEATING: Not exactly because I wanted to demonstrate these fire lanes.

MR. ARGENIO: I'm okay with that just because it's so early, it's the first submission. The last thought that I want to give you is I want you to seriously think about the lighting around the ATM area because I'm quite sure that the people in the residential homes in that area they're going to be concerned about it so you should start thinking about it. With that, I will go to Neil.

MR. SCHLESINGER: I think, Jimmy, I think Jerry's hitting the nail right on the head when we have the public hearing, you know that the neighbors are going to be addressing the area as far as landscaping, lighting and separation of the property, it's an ugly corner the way it is now and, you know, I'd like to think as you've done a good job on both of your plans that you're going to make it very presentable but I think that the objections are going to come from us or from the public on how you're going to isolate your building from them. So give us as many details as possible, you don't want to have to to come back again, the lighting detail, landscaping, fence, whatever it is and just do what you have to do.

MR. VAN LEEUWEN: Are you people aware I heard quite a few years ago there's restrictions on this property?

MR. KEATING: No, not aware of restrictions of what sort?

MR. VAN LEEUWEN: Look at the deed because these people here told me that there's a restriction and I believe 150 feet, I'm not sure of that because I heard it many years ago, check into it guys.

MR. SCHLESINGER: Wouldn't that be in the title?

MR. VAN LEEUWEN: It would be in the title.

MR. KEATING: I don't recall that.

MR. ARGENIO: Well placed advice from a senior member or long time member of the planning board. Danny?

MR. GALLAGHER: Hours of operation, do you know is this same hours as a bank over by Wal-Mart?

MR. BRIDEY: Yeah, their hours of operation are from 8 a.m. in the morning till I believe 6 p.m. in the evening and on Saturday they're open till 3.

MR. VAN LEEUWEN: The only thing I'm worried about is that there's some deed restrictions in here for you guys and you should look into that, that's all I got to say, it's their issue, not mine, but I want to warn you.

MR. KRIEGER: Let me add something as far as that's concerned, if there's a deed restriction this board has no legal power to alter that deed restriction whatsoever so it's not that it's going to prevent it from going forward, but it's something that you want to look into so that you're not wasting your time and money. And secondly, although that deed restriction should appear in the title report the most you would be best served to actually look at the deed to the property because if it's legally binding it's in the deed and because some title examiner didn't pick it up doesn't absolve you from the responsibility of addressing it.

MR. ARGENIO: You'll be getting an invoice in the mail from the comptroller of the Town of New Windsor for that free legal advice. Okay? Thank you. It seems to me that this plan other than Mark's comments is going, this is pretty much what you guys are talking about here certainly we're going to steer it a little bit with some of Mark's comments refining the plan to meet our needs so what I'm saying is the ATM and the drive-thru is not going to flip to the other side of

the building in a later set of plans. Fair for me to assume that?

MR. KEATING: You're correct.

MR. ARGENIO: What I'm getting at is I'd like to talk about scheduling that public hearing that we talked about but first I want to get through a few procedural things. I'll accept a motion that we authorize issuance of the lead agency coordination letter.

MR. VAN LEEUWEN: So moved.

MR. SCHLESINGER: Second it.

MR. ARGENIO: Motion has been made and seconded that the Town of New Windsor Planning board circulate lead agency coordination letter for the Hudson Valley Credit Union on Route 32. If there's no further discussion, roll call.

ROLL CALL

MR. SCHLESINGER AYE
MR. GALLAGHER AYE
MR. VAN LEEUWEN AYE
MR. ARGENIO AYE

MR. ARGENIO: You have Mark's comments, sir?

MR. KEATING: I just got those, yes.

MR. ARGENIO: We're going to need dumpster enclosure, there's comments here and he's pretty clear. You're going to have to be referred to Orange County Planning. Myra, can we take care of that?

MS. MASON: Yes.

MR. ARGENIO: Firemen have a lot to say about this so

you better get with them soon.

MR. KEATING: That's part of the revisions that we have already made to that plan.

MR. ARGENIO: When I say firemen, fire marshal, nothing to do with the memorial.

MR. KEATING: No, with the fire lanes, the entrances and that's we're in the process of addressing those comments.

MR. SCHLESINGER: Just with the dumpster neighbors aren't going to want to hear that at 6 o'clock in the morning so think about where you're going to put it.

MR. ARGENIO: This is going to have to go to the DOT. Myra hopefully will take care of that.

MS. MASON: Yes.

MR. ARGENIO: Having said those things, we have to wait to schedule the public hearing for 30 days but I don't see any reason why we can't authorize a public hearing at this point.

MR. VAN LEEUWEN: Need a motion, I will so move.

MR. SCHLESINGER: Second it.

MR. ARGENIO: Motion has been made and seconded that the New Windsor Planning Board schedule a public hearing for the Hudson Valley Federal Credit Union subsequent to the 30 days expiring on the lead agency coordination letter. If there's no further discussion from the board members, roll call.

ROLL CALL

MR. SCHLESINGER AYE

MR. GALLAGHER AYE
MR. VAN LEEUWEN AYE
MR. ARGENIO AYE

MR. ARGENIO: Do take care of that memorial thing for the fireman, it's important to me and I think you're going to be amazed at the public hearing amount of other people it's important to. Thank you for coming in guys.

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.

RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

MAIN OFFICE
33 AIRPORT CENTER DRIVE
SUITE 202
NEW WINDSOR, NEW YORK 12553

(845) 567-3100
FAX: (845) 567-3232
E-MAIL: MHENY@MHEPC.COM

WRITER'S E-MAIL ADDRESS:
MJE@MHEPC.COM

TOWN OF NEW WINDSOR
PLANNING BOARD
REVIEW COMMENTS

PROJECT NAME:	HUDSON VALLEY FEDERAL CREDIT UNION SITE PLAN
PROJECT LOCATION:	NYS ROUTE 32 & WILLOW LANE SECTION 42 – BLOCK 1 – LOT 1.1
PROJECT NUMBER:	06-19
DATE:	24 MAY 2006
DESCRIPTION:	THE APPLICATION PROPOSES A NEW 6100 SF CREDIT UNION FACILITY ON THE 2.3+ ACRE PARCEL. THE PLAN WAS REVIEWED ON A CONCEPT BASIS ONLY.

1. The property is split by the C and R-4 zones, with the majority of the property (and all the structures) being in the C zone.

   The "required" bulk requirements shown on the plan are correct for the zone and use. The table should be made complete by revising the table to include actual "provided" values.

   The parking calculation shown on the plan indicates a 5800 s.f. building; the application and EAF indicate 6100 s.f.; the applicant's engineer's submittal letter indicates 6,000 s.f. Which is correct? Once the actual size is confirmed, we can confirm the parking compliance.

2. We have performed a concept review of the site plan and have the following initial comments:

   - One way signs should be provided for the south side drive.
   - The dumpster enclosure alignment (angle) should be further evaluated.
   - The building setback line depicted on the south (40') should be corrected. (only one side yard exists).
   - Adequacy of the fire service line should be confirmed based on fire flow and sprinkler calculations.

- We recommend limited use of 12" storm piping. Generally, we recommend a minimum 15" pipe be utilized.

- The landscaping plan depicts proposed plantings in the DOT and Town Road rights-of-way. These should be moved back within the site plan property.

- Potential site lighting glare and headlight issues will be of concern relative to the adjoining residential properties.

- Site Development detail sheet(s) should be added to subsequent submittals.

3. The Planning Board may wish to authorize the issuance of a Lead Agency Coordination letter for the project, to begin the SEQRA review process. The applicant should submit eight (8) sets of drawings (folded) and the environmental form for this purpose.

4. This project is adjacent to NYS Route 32 and, as such, must be referred to the Orange County Planning Department as per New York State General Municipal Law (GML 239).

5. Submittal of this application/plan to the NYSDOT will be necessary.

6. The application involves non-single family development with disturbance greater than one acre, and is subject to the State and Town regulations as they pertain to Stormwater Pollution Prevention Plans (SWPPPs). A full submittal is required.

Respectfully Submitted,

Mark J. Edsall, P.E., P.P.
Planning Board Engineer

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NW06-19-24May06.doc

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 07/25/2007

LISTING OF PLANNING BOARD **AGENCY APPROVALS**

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

	DATE-SENT	AGENCY----------	DATE-RECD	RESPONSE----------
REV1	02/11/2007	MUNICIPAL FIRE	02/28/2007	APPROVED
ORIG	05/19/2006	MUNICIPAL HIGHWAY	05/24/2006	APPROVED
ORIG	05/19/2006	MUNICIPAL WATER	/ /	
ORIG	05/19/2006	MUNICIPAL SEWER	/ /	
ORIG	05/19/2006	MUNICIPAL FIRE	05/24/2006	DISAPPROVED

. FIRE LANES ARE INSUFFICIENT - APPEAR TO BE ONLY 22" WIDE
. INCLUDING ENTRANCES
. BUILDING APPEARS TO BE APPROXIMATELY 5300 SQ. FT. AND NEEDS
. SPRINKLER SYSTEM AND LOCATION OF HYDRANT AND FIRE DEPT.
. CONNECTION.
. IS PRE-TREATMENT STRUCTURE ON RT. 32 SIDE ABOVE GROUND? IF
. SO, CUTS INTO FIRE LANE AGAIN NEED TO BE 30' WIDE.

ORIG	05/19/2006	NYSDOT	/ /	

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 07/25/2007

LISTING OF PLANNING BOARD**ACTIONS**

STAGE: STATUS [Open, Withd]
O [Disap, Appr]

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE-- MEETING-PURPOSE----------ACTION-TAKEN--------

02/28/2007 P.B. APPEARANCE -PUBLIC HEAR LA:CL PH REVISE RET
. CHECK HOW MUCH ROOM THERE IS FOR FIRE TRUCKS AT CANOPY -
. NEED ELEVATIONS OF REAR AND SIDE OF BUILDING - BUILDING TO
. BE SPRINKLERED - CORRECT TWO TAPS IN STREET WITH CAMO - SEND
. LETTER TO D.O.T. IN POUGHKEEPSIE ASKING FOR THEIR REVIEW
. NEED COPY OF DEED RESTRICTIONS BEING LIFTED

05/24/2006 P.B. APPEARANCE LA LTR;OCP - DOT
. ADDRESS MARK'S COMMENTS - NEED SWPPP (BEFORE PH) - WILL
. INCORPORATE A MONUMENT TO SEAN MCQUIRE ON SITE - NO SPLIT
. RAIL FENCE - LIGHTING AROUND ATM AREA TO BE SCREENED -
. ADDRESS FIRE INSPECTOR'S COMMENTS - SCHED PH

05/17/2006 WORK SHOP SUBMIT

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 07/25/2007

LISTING OF PLANNING BOARD SEQRA ACTIONS

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

	DATE-SENT	ACTION----------	DATE-RECD	RESPONSE----------
ORIG	05/19/2006	EAF SUBMITTED	05/19/2006	WITH APPLIC
ORIG	05/19/2006	CIRCULATE TO INVOLVED AGENCIES	/ /	
ORIG	05/19/2006	LEAD AGENCY DECLARED	02/28/2007	TOOK LA
ORIG	05/19/2006	DECLARATION (POS/NEG)	/ /	
ORIG	05/19/2006	SCHEDULE PUBLIC HEARING	05/24/2006	SCHED PH
		. AFTER 30 DAYS FOR LEAD AGENCY LETTER, DOT, AND O.C. PLANNING		
		. REVIEW THEN SCHEDULE PH - ALSO NEED SWPPP		
ORIG	05/19/2006	PUBLIC HEARING HELD	02/28/2007	CLOSED PH
ORIG	05/19/2006	WAIVE PUBLIC HEARING	/ /	
ORIG	05/19/2006	FINAL PUBLIC HEARING	/ /	
ORIG	05/19/2006	PRELIMINARY APPROVAL	/ /	
ORIG	05/19/2006	LEAD AGENCY LETTER SENT	/ /	

ATTN: Mark Edsall

cc: M.E.
D.C.

P.B. #06-19

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
112 DICKSON STREET
NEWBURGH, NY 12550-5324
(845) 562-8368
http://www.nysdot.gov

ROBERT A. DENNISON, III, P. E.
REGIONAL DIRECTOR

ASTRID C. GLYNN
COMMISSIONER

June 8, 2007

Mark J. Edsall, P.E., P.P.
Planning Board Engineer
Town of New Windsor
555 Union Avenue
New Windsor, NY 12553

RE: HUDSON VALLEY FEDERAL CREDIT UNION
Installation of New Commercial Entrance
Route 32 @ Willow Lane, SH # 9033
Town of New Windsor, Orange County

Dear Mr. Edsall:

The Department is in receipt of the preliminary plan for the above referenced project. We have performed a cursory review and find the proposal to be conceptually acceptable. I will be forwarding this plan to our Regional Office for the SEQR process.

After satisfying all the requirements for the SEQR, the owner shall submit a full plan set to this office for final review and approval prior to obtaining a Highway Work Permit. If you have any questions or comments, please call me at the number above. Thank you.

Sincerely,

Siby Mary Zachariah-Carbone
Permit Engineer, Orange County East

Cc: Richard Gaupman, P.E., R.E., Res. 8-4
Glenn Boucher, P.E., Permit Coordinator, R-8 TE&S
William Fitzpatrick, P.E., Chazen Engineering
file

Honorable Donna L. Benson
County Clerk
Orange County
Government Center
Goshen, NY 10924
(845) 291-3862

DATE:02/08/2007
TIME:03:32:35 PM
RECEIPT:691369

CASH

DEED C 03:32:35 PM
FILE:20070014934 BK/PG:12363/0619
DEED SEQ:005712
HUDSON VALLEY FED CREDIT UNION
HUDSON VALLEY FED CREDIT UNION

RECORDING FEE		40.00
TAX		0.00
RP-5217 C		165.00
Deed Filing TP-584		5.00
Sub. Total	210.00	

AMOUNT DUE:	$210.00	
PAID CHECK:	$210.00	
Check #:2529		$210.00

NORTH RIVER
TOTAL PAID: $210.00

REC BY:PETE
Clerk

Have a nice day!

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.
RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

☐ Main Office
33 Airport Center Drive
Suite #202
New Windsor, New York 12553
(845) 567-3100
e-mail: mhenyc@mhepc.com

☐ Regional Office
507 Broad Street
Milford, Pennsylvania 18337
(570) 296-2765
e-mail: mhepa@mhepc.com

Writer's E-mail Address:
mje@mhepc.com

PLANNING BOARD WORK SESSION
RECORD OF APPEARANCE

TOWN / VILLAGE OF: New Windsor **P/B APP. NO.:** 100-3 06 - 19

WORK SESSION DATE: 4 April 2007 **PROJECT:** NEW ___ OLD

REAPPEARANCE AT W/S REQUESTED: No **RESUB. REQ'D:** revised plans

PROJECT NAME: HVFCU Rt 32

REPRESENTATIVES PRESENT: Roger Keating / Scott

MUNICIPAL REPS PRESENT: BLDG INSP. ___ PB ATTY. ___
FIRE INSP. BB PLANNER ___
MHE REP (MJE) (Other) ___ P/B CHMN ___ OTHER ___

ITEMS DISCUSSED:
- ck stormwater done?

RESEND TO DILLMAN

MYRA TELL MIKE/GOV/FRANK
Advise Bldg Permit
App on way in.
OK to start review

- Verify rear hydrant lane clearance is OK for F.D.

STND CHECKLIST:
DRAINAGE ___
DUMPSTER ___
SCREENING ___
LIGHTING (Streetlights) ___
LANDSCAPING ___
BLACKTOP ___
ROADWAYS ___
APPROVAL BOX ___

PROJECT TYPE
SITE PLAN
SPEC PERMIT
L L CHG.
SUBDIVISION
OTHER

PROJECT STATUS:
ZBA Referral: ___ Y X N
Ready For Meeting X Y ___ N
Recommended Mtg Date: Plans roll (in Dick's office)

WorksessionForm.doc 01-07 MJE

MYRA I am sending letter for DOT

Town of New Windsor

555 Union Avenue
New Windsor, New York 12553
Telephone: (845) 563-4615
Fax: (845) 563-4693

OFFICE OF THE PLANNING BOARD

9 March 2007

Mr. Richard Dillmann, P.E., Regional Traffic Engineer
NYS Department of Transportation, Region 8
4 Burnett Boulevard
Poughkeepsie, N.Y. 12603

SUBJECT: HUDSON VALLEY FEDERAL CREDIT UNION
NYS ROUTE 32 AT WILLOW LANE
NEW WINDSOR PLANNING BOARD NO. 06-19

Dear Mr. Dillmann:

On May 31, 2006 I wrote Siby Mary Zachariah-Carbone, Permit Engineer, Orange County East and provided a copy of the plans for the subject project. To date we have not received any response to this referral.

Enclosed herewith please find the latest plans for the subject project. As noted in our prior letter, the project involves an application for site plan approval for a credit union (bank classification) use located on NYS Route 32. The Planning Board has already completed a Public Hearing on the project and it is likely the applicant will seek site plan approval in the near future.

We request that you notify the Planning Board of any concerns regarding this application, which should be considered by the Board during their review of the project. ***It is not the intent that these plans be considered the plans required for the Permit application, as these will be the responsibility of the applicant following site plan approval from the Town.***

We look forward to your input regarding this application before the Board.

Very truly yours,

TOWN OF NEW WINDSOR PLANNING BOARD

Mark J. Edsall, P.E., P.P.

Mark J. Edsall, P.E., P.P.
Planning Board Engineer

MJE/st
NW06-19-NYSDOT-Ref 03-09-07.doc

Sent 3/29/07

TOWN OF NEW WINDSOR

TOWN CLERK'S OFFICE
555 UNION AVENUE
NEW WINDSOR, NEW YORK 12553
Telephone: (845) 563-4611
Fax: (845) 563-4670

1763

RECEIVED
FEB 28 2007
TOWN CLERK'S OFFICE

REQUEST FOR PUBLIC RECORDS

Date: 2/28/07

Name: BILL STEIOLE

Address: 575 JACKSON AVE
N.W. NY 12553

Phone: ( ) 564-4111

Representing: SELF

Please specify:

- **Property location (street address or section, block and lot number)**
- **Department you are requesting records from**
- **Describe information requested as fully as possible**

1) HUDSON VALLEY FED. CREDIT UNION
Rt 32

2) JERRY'S CLIMATE CONTROL
Rt 300

Documents may not be taken from this office.

LEGAL NOTICE - NOTICE IS HEREBY GIVEN that the PLANNING BOARD of the TOWN OF NEW WINDSOR, County of Orange, State of New York will hold a PUBLIC HEARING at Town Hall, 555 Union Avenue, New Windsor, New York on FEBRUARY 14TH, 2007 at 7:30 P.M. on the approval of the proposed Site Plan for

HUDSON VALLEY FEDERAL CREDIT UNION (06-19)

Located at CORNER WILLOW LANE AND RT. 32 (Tax Map #Section 42 , Block 1 , Lot 1.1).

Map of the proposed project is on file and may be inspected at the Planning Board Office, Town Hall, 555 Union Avenue, New Windsor, NY prior to the Public Hearing.

Date: JANUARY 3, 2007

By Order of

TOWN OF NEW WINDSOR PLANNING BOARD

State of New York
County of Orange, ss:
Kathy Amanatides being duly sworn disposes and says that she is The Supervisor of Legal Dept. of the E.W. Smith Publishing Company; Inc. Publisher of The Sentinel, a weekly newspaper published and of general circulation in the Town of New Windsor, Town of Newburgh and City of Newburgh and that the notice of which the annexed is a true copy was published in said newspaper, 1X time(s) commencing on the 30 day of Jan. A.D., 2007 and ending on the 30 day of Jan. A.D. 2007

Subscribed and shown to before me this 22nd day of July, 2007

Notary Public of the State of New York County of Orange.

DEBORAH GREEN
Notary Public, State of New York
Qualified in Orange County
#4984065
Commission Expires July 15, 2001

My commission expires_____.

THE SENTINEL

P.O. BOX 406
VAILS GATE, NY 12584

Invoice

Date	Invoice #
2/20/2007	85

Bill To
TOWN OF NEW WINDSOR 555 UNION AVE NEW WINDSOR, NY 12553

RECEIVED
FEB 26 2007
By

P.O. No.	Terms	Project
48101		

Issue Date	Description	Rate	Amount
1/30/2007	LEGAL ADS: HUDSON VALLEY FEDERAL CREDIT UNION (06-19)	7.11	7.11
	1 AFFIDAVIT	4.00	4.00
		Total	$11.11

LEGAL NOTICE

NOTICE IS HEREBY GIVEN that the PLANNING BOARD of the TOWN OF NEW WINDSOR, County of Orange, State of New York will hold a PUBLIC HEARING at Town Hall, 555 Union Avenue, New Windsor, New York on **FEBRUARY 14TH, 2007** at 7:30 P.M. on the approval of the proposed Site Plan for **HUDSON VALLEY FEDERAL CREDIT UNION (06-19)**

Located at **CORNER WILLOW LANE AND RT. 32**

(Tax Map #Section **42**, Block **1**, Lot **1.1**) . Map of the proposed project is on file and may be inspected at the **Planning Board Office**, Town Hall, 555 Union Avenue, New Windsor, NY prior to the Public Hearing.

Date: JANUARY 3, 2007

By Order of

TOWN OF NEW WINDSOR PLANNING BOARD

THE SENTINEL

P.O. BOX 406
VAILS GATE, NY 12584

Invoice

Date	Invoice #
3/12/2007	150

Bill To
TOWN OF NEW WINDSOR 555 UNION AVE NEW WINDSOR, NY 12553

MMC

P.O. No.	Terms	Project
48370		

Issue Date	Description	Rate	Amount
2/23/2007	LEGAL ADS: LEGAL NOTICE - HUDSON VALLEY FCU	6.32	6.32
	2 AFFIDAVITS	8.00	8.00
		Total	$14.32

RECEIVED
MAR 21 2007
By

Posted

State of New York
County of Orange, ss:
Kathy Amanatides being duly sworn disposes and says that she is The Supervisor of Legal Dept. of the E.W. Smith Publishing Company; Inc. Publisher of The Sentinel, a weekly newspaper published and of general circulation in the Town of New Windsor, Town of Newburgh and City of Newburgh and that the notice of which the annexed is a true copy was published in said newspaper, 1x time(s) commencing on the 23 day of Feb A.D., 2007 and ending on the 23 day of Feb A.D. 2007

LEGAL NOTICE

NOTICE IS HEREBY GIVEN that the PLANNING BOARD of the TOWN OF NEW WINDSOR, County of Orange, State of New York will reschedule the February 14th, 2007 meeting (cancelled by weather) to February 28th, 2007. The following Public Hearing will be held at that time:

Hudson Valley Federal Credit Union (06-19) Corner of Rt. 32 & Willow Lane

Date: February 16, 2007
By Order of
TOWN OF NEW WINDSOR
PLANNING BOARD

Subscribed and shown to before me this 16th day of Nov, 2007

Deborah Green

Notary Public of the State of New York County of Orange.

DEBORAH GREEN
Notary Public, State of New York
Qualified in Orange County
#4984065
Commission Expires July 15, '07

My commission expires_____.

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office
Phone: (845) 454-3980

Orange County Office
Phone: (845) 567-1133

547 River Street, Troy, New York 12182
Phone: (518) 235-8050 Fax: (518) 235-8051
Email: albany@chazencompanies.com
www.chazencompanies.com

North Country Office
Phone: (518) 812-0513

October 6, 2006

Myra Mason
Town of New Windsor
555 Union Avenue
New Windsor, New York 12553

Re: Hudson Valley Federal Credit Union Site Plan
NYS Route 32 and Willow Lane
Section 42 – Block 1 – Lot 1.1
Job # 10512.02

Dear Ms. Mason:

On September 5, 2006 our office received comments from the Town Engineer in regard to the Storm Water Pollution Prevention Plan (SWPPP) for the proposed Hudson Valley Federal Credit Union branch located at the intersection of NYS Route 32 and Willow Lane. Attached please find eight copies of the revised site plans for consideration and placement on the next available Planning Board Meeting. In response to the comments contained within the comment letter described above, we offer the following:

Comment 1: Please provide all applicable plans details and notes for the storm water unit, surface sand filter and detention pond.

Response 1: The site plans have been updated to provide the details and associated notes for the pretreatment structure, surface sand filer and the proposed storm water detention pond.

Comment 2: Erosion and sediment controls should include a temporary sediment pond with a silt-riser to filter and dewater as needed. Additionally, the storm water unit and surface sand filter need to be protected from sediment during construction.

Response 2: The plans have been updated to include details and specifications for a temporary sediment pipe outlet sediment trap. In addition an erosion and sediment control plan have been added to the site plans as

sheet SP4A, which outlines a general construction sequence for the construction activities associated with the proposed erosion control measures and site disturbances. The sequencing indicates that the storm water pretreatment structure and surface sand filter shall not be connected to the rest of the storm water system/infrastructure until the entire site is stabilized.

Comment 3: It is recommended to install a redundant practice such as a hay-bale perimeter dike to protect the drainage channel and wetlands.

Response 3: A detail for the hay-bale dike has been added to the site plans and has been depicted on the erosion and sediment control plan.

Your attention to this matter is greatly appreciated and if you have any questions or require additional information, please contact our office at (518) 273-0055.

Sincerely,

Roger E. Keating, P.E.
Project Engineer

Reviewed and Approved by:

Joseph M. Lanaro, PE
Vice President,
Engineering Services

cc: Mark Edsall, PE, McGoey, Hauser and Edsall Consulting Engineers P.C
Tony Rohrmeier, Hudson Valley Federal Credit Union
Scott Bridie, Turner Construction
File

RESULTS OF P.B. MEETING OF: February 28, 2007

PROJECT: Hudson Valley Federal Credit Union - Willow + Rt 32 P.B. # 06-19

LEAD AGENCY:

AUTHORIZE COORD. LETTER: Y____ N____
TAKE LEAD AGENCY: Y ✓ N____

M) M S) G VOTE: A 4 N 0
CARRIED: Y ✓ N____

NEGATIVE DEC:

M)___ S)___ VOTE: A___ N___
CARRIED: Y____ N___

PUBLIC HEARING: WAIVED:____ CLOSED: ✓

M) M S) B VOTE: A 4 N 0 SCHEDULE P.H.: Y____ N___

SEND TO O.C. PLANNING: Y___
SEND TO DEPT. OF TRANSPORTATION: Y___

REFER TO Z.B.A.: M)___ S)___ VOTE: A___ N___

RETURN TO WORK SHOP: Y___ N___

APPROVAL:

M)___ S)___ VOTE: A___ N___ APPROVED: ____

NEED NEW PLANS: Y___ N___ Check how much room there is for fire trucks at canopy

CONDITIONS – NOTES: Need elevations of rear & side of Bldg

Building is sprinklered

Connect 2- taps in the street - Work out with Camo

Send letter to D.O.T. in poughkeepsie asking for their review

Rebecca Jones - Spoke re: size of Bldg. it is now 5,010 s.f. per Roger Keating + sight distance

Need copy of deed restriction being lifted

Frank Bedetti - Hearth Dr. - Spoke re: direction of entrance + exits

Bill Steidle - Spoke re: Views of Bldg from all directions

Agenda - February 28, 2007

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.

RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

MAIN OFFICE
33 AIRPORT CENTER DRIVE
SUITE 202
NEW WINDSOR, NEW YORK 12553

(845) 567-3100
FAX: (845) 567-3232
E-MAIL: MHENY@MHEPC.COM

WRITER'S E-MAIL ADDRESS:
MJE@MHEPC.COM

TOWN OF NEW WINDSOR
PLANNING BOARD
REVIEW COMMENTS

PROJECT NAME:	HUDSON VALLEY FEDERAL CREDIT UNION SITE PLAN
PROJECT LOCATION:	NYS ROUTE 32 & WILLOW LANE SECTION 42 – BLOCK 1 – LOT 1.1
PROJECT NUMBER:	06-19
DATE:	14 FEBRUARY 2007
DESCRIPTION:	THE APPLICATION PROPOSES A NEW 6100 SF CREDIT UNION FACILITY ON THE 2.3+ ACRE PARCEL. THE PLAN WAS PREVIOUSLY REVIEWED AT THE 24 MAY 2006 PLANNING BOARD MEETING. *THE APPLICATION IS BEFORE THE BOARD FOR A PUBLIC HEARING AT THIS MEETING.*

1. The property is split by the C and R-4 zones, with the majority of the property (and all the structures) being in the C zone.

   The "required" bulk requirements shown on the plan are correct for the zone and use. The bulk table still appears to need some minor corrects. On the site layout sheet (SP-2) on which the bulk table is located, dimensions for setback should be indicated. Minimum building setback lines depicted on the plan should be verified.

2. The plans are otherwise complete and appropriate for public review. We will await any concerns or comment from the public, and provide additional reviews as deemed appropriate by the Planning Board.

3. Procedurally, note the following:

   - DOT referral letter sent 5-31-06. I have no record of any response.
   - Lead Agency letter circulated 5-31-06.
   - OC Planning referral sent 5-24-06. Returned "Local Determination" with comment to reduce parking if possible.
   - SWPPP – review complete. Minor corrections requested on final plans.

Respectfully Submitted,

Mark J. Edsall, P.E., P.P.
Planning Board Engineer

MJE/st NW06-19-14Feb07.doc

PUBLIC_HEARINGS:

HUDSON_VALLEY_FEDERAL_CREDIT_UNION_(06-19)

MR. ARGENIO: Hudson Valley Federal Credit Union site plan on New York State Route 32 and Willow Lane. This application proposes new 6,100 square foot credit union facility on the 2.3 plus acre parcel. Plan was previously reviewed at the 24 May, 2006 planning board meeting. The application is before the board for public hearing at this time. I see Roger is here to represent this. Would you give me your name and who you're with for Franny please?

MR. KEATING: Sure thing, Mr. Chairman, members of the board, my name is Roger Keating from Chazen Companies. I'm here tonight on behalf of the Hudson Valley Federal Credit Union to present the proposed branch located at the Willow Lane Route 32 site. I also have here with me tonight Scott Breidy, he's in the audience from Turner Construction, he's the construction manager for the credit union that does all the sites. I have a few representatives from the credit union if there's any questions regarding their application. It's been some time since we have been before you so I will do a quick overview of everything.

MR. ARGENIO: I want you to turn that a bit so the audience can see it cause you're going to address, give us a brief synopsis of what you're doing there and then we'll have the chance to review it again, the planning board, and then we'll open it up to the audience. So go ahead.

MR. KEATING: Real briefly over the past several months we have been working with the town's designated engineer and the fire district to address comments for the project, what the credit union is proposing is a new branch located at the intersection of Route 32 and Willow Lane. The proposed site is approximately 2.3

acres in size and the project site there's split zoning on it with a commercial zone and the majority of the site being commercially zoned and portions just to the rear of the property being residentially zoned, all of the structures are located in the commercial zone. The proposed branch is proposing two connection points to the site first being along Willow Lane and seeking along New York State Route 32 through the review process with the engineer and the workshops the location of these have been pushed further away from the intersection of Route 32 and Willow and so that there's greater separation distance from the intersection. Proposed site or the proposed branch will connect to the town's public water and sanitary sewer systems, the proposed sanitary sewer connection would be located on the site within an existing sanitary sewer main that runs through the property and the water connections would be off of Willow Lane with two connections, one being for domestic and the other being for the fire suppression system which was something that the fire, part of the fire department was requiring since the building was greater than 5,000 square feet that we're asking that the building be sprinklered.

MR. ARGENIO: It is sprinklered?

MR. KEATING: Yes, we have provided that. Few things that were noted previously with the fire inspector is that he wanted to see two fire hydrants on the site, we provided two 30 foot wide travel lanes on the Willow Lane side and the Route 32 side extended the entrance width to Willow Lane to 30 feet as well at the request of the fire district. Since the project site will disturb greater than one acre of land the site's required to conform with the New York State DEC Phase 2 storm water regulations and the storm water management facilities have been designed on the site to conform for both the quantity and quality measures for the storm water management program. Also at the previous

meetings there was some discussion that this site previously at one time had a restaurant that had burned to the ground, there was a fire there and the town had lost one of their volunteer fireman, Sean McGuire was the gentleman's name and the credit union is looking at doing as part of their landscaping plan and their flag pole on the site doing a monument to incorporate that with the flag pole and the landscaping on the site plan.

MR. ARGENIO: What does that mean you're looking at doing?

MR. KEATING: They're looking at different options.

MR. ARGENIO: It's been a year, we talked about it at length last time.

MR. KEATING: Scott, can you offer anything with the type of monument?

MR. BREIDY: I have been in touch with a monument company and I'm working with the fire department on something that's appropriate.

MR. ARGENIO: So you did talk to them?

MR. KEATING: Yes and I have actually talked to Frank and his brother I believe who was a close personal friend of Sean's and he's offered some insight as well, details are not buttoned up 100 percent but there will be some sort of monument incorporated with landscaping and flag pole on the site.

MR. ARGENIO: You guys are moving, you did speak to the people you need to speak to and the firemen are an important part of our community and the loss of that young guy was a long time ago but it was a terrible thing. Go ahead, I interrupted you.

MR. KEATING: That's fine but no, we're, I should, when I say looking at it, we have been looking into the options of what we can do there on the site. So basically with that, Mr. Chairman, I will open it up for any questions and comments.

MR. ARGENIO: You're sprinklered?

MR. KEATING: Yes.

MR. ARGENIO: We talked about the flag pole. Let me ask you a question, why do you have two water taps out in the middle of Willow Lane? Why aren't you coming in with something of enough substance that you can tap off of that for domestic?

MR. KEATING: We could look at possibly doing that, I'm not sure, maybe Mark can go into that further but--

MR. ARGENIO: Mark?

MR. EDSALL: I think they can probably work the details out with John Agido to come in with a single line and split with domestic and fire.

MR. ARGENIO: You don't have any reason for that?

MR. EDSALL: I would say leave that to John, I'm sure John can work something out.

MR. ARGENIO: I think that would be better a single tap and the configuration of the valves on the site, you have to work that with John, I know a lot of times they don't want to have the domestic water directly adjacent to the sprinkler line because somebody will five years from now be playing with the valves and twist the wrong valve and the sprinkler line will be shut for two years before anybody knows.

MR. EDSALL: These will be substantially different

sizes so we can work that out.

MR. ARGENIO: While my contemporaries up here continue to review the plan, I'm going to just go into a couple of procedural things quick. Mark, we circulated the lead agency coordination letter in May I see, is there any reason where we can't take lead agency at this time?

MR. EDSALL: I'm aware of no reason, I don't believe Myra received any--

MR. ARGENIO: Anybody agrees with that, I'll accept a motion we take lead agency.

MR. MINUTA: So moved.

MR. GALLAGHER: Second it.

MR. ARGENIO: Motion has been made and seconded that the Town of New Windsor Planning Board take lead agency for the Hudson Valley Federal Credit Union site plan. No further discussion, roll call.

ROLL CALL

MR. GALLAGHER	AYE
MR. BROWN	AYE
MR. MINUTA	AYE
MR. ARGENIO	AYE

MR. ARGENIO: You know what I find interesting here on the storm water on the actually the utility plan there's a pre-cast concrete storm water pre-treatment vault that's before it goes into the pond, what's that, a settling structure there that open area?

MR. KEATING: It's a sand filter, surface sand filter. It's a means of providing pre-treatment, almost a settling type of structure before it enters the filter

area.

MR. ARGENIO: You guys are being good citizens by putting that in?

MR. KEATING: No, it's part of the Phase 2 requirements that you have to pretreat for a sand filter 25 percent of the volume before it enters.

MR. ARGENIO: I haven't seen that. Have you seen that out there?

MR. MINUTA: No.

MR. ARGENIO: On storm I haven't seen it.

MR. KEATING: One of the--

MR. ARGENIO: It works for me.

MR. KEATING: Okay.

MR. ARGENIO: We did hear from Orange County Planning and what they say is reduce the parking if possible, can you tell me about your parking counts?

MR. KEATING: Well, the parking counts are such, very similar to what we presented before on previous projects is that the credit union has a desire to have additional parking due to when their shift change happens on their site they tend to eat up an additional amount of parking when the shift changes are happening, so they seem to have a higher demand for their parking on their sites due to the function of their business so that's--

MR. ARGENIO: Do you see that as a big issue there that parking thing? I think that makes sense to me.

MR. EDSALL: Well--

MR. ARGENIO: I know we have parking problems, I mean, in the town, Destinta Theaters, try to go see a movie on an inclement Saturday, it's a disaster.

MR. EDSALL: Yeah, part of my concern always when you have a location immediately on a state highway you want to have a little bit of safety factor.

MR. ARGENIO: I agree.

MR. EDSALL: You don't want parking out in the highway under any circumstances.

MR. ARGENIO: Willow Lane is not exactly a country road.

MR. EDSALL: No, Willow is a connector road so you wouldn't want cars parked out there.

MR. ARGENIO: What do you guys think about that?

MR. MINUTA: Technically speaking, you look at federal credit unions comparison to banks they usually have a much higher need for parking and additional parking on the site is a benefit in this case.

MR. ARGENIO: I agree, what do you guys think?

MR. GALLAGHER: I agree as long as it's not too much blacktop taking away from the trees.

MR. BROWN: I agree.

MR. ARGENIO: Yeah, I agree, I think Joe said it very well as Mark did, you know when you're on, next to Willow Lane and Route 32 you certainly don't want anybody, I mean if you guys had an open house you guys, who the heck knows, you don't want people parking on the road. We have fire approved, we have highway we

don't, we haven't heard back from DOT. Can you tell us a little bit about that?

MR. KEATING: Well, I haven't heard back from DOT either and I think what we'll end up having to do is to set up a workshop with them to see about discussing some of the comments.

MR. EDSALL: I think the simple way since as of January this year the reviews are no longer being performed at the permitting office but rather being performed with the traffic safety up in Poughkeepsie with the board's permission I will send a letter to Mr. Dilman up there and give him a little history and ask that they please return a response.

MR. ARGENIO: Let's open this up to the public. You guys can continue to scan these but I'd like to hear from the people because there may be some things that we're not covering here, some existing site anomalies that we're not aware of. On the first day of February, 2007, 10 addressed envelopes went out containing the notice of public hearing pertinent to application. If there's anybody in the room who would like to speak for or against this project or just comment on it or if you want to know something about it that we didn't cover, please raise your hand, be recognized by the board, come forward, give us your name and address and we're certainly happy to hear you.

MS. JONES: Rebecca Jones.

MR. ARGENIO: Ma'am, name and address for the stenographer?

MS. JONES: Rebecca Jones, 30 Willow Parkway, New Windsor. I live off of Willow Lane, just found out about this project, just wondering, okay, so the building, I have notes from the last meeting of May, 2006 and at that time, the building was supposed to be

less than 6,000 and now it's over?

MR. KEATING: I can actually help clarify that, there's been some resolution to the building as its process has been developing, the building size has actually reduced, it was reduced down to the 5,800 square feet and actually another minor change to the building which is actually just changing it slightly, just next to the drive-thru there was a jog on the building, slight jog in the rear of the building and that has also been removed from there where it was next to the drive-thru so the square footage of the building is around is 5,000 now 5,010 square feet.

MR. ARGENIO: What was it?

MR. KEATING: It was 5,872 I think it was.

MR. ARGENIO: So it's smaller?

MR. KEATING: It's smaller now since we just changed that jog at the drive-thru.

MR. ARGENIO: Does that answer your question, ma'am?

MS. JONES: So it's much smaller than what was indicated on the agenda?

MR. KEATING: What was originally proposed, yes, it has been significantly reduced.

MS. JONES: I have a number of questions. The access to 32 and Willow Lane, how is that, where is that?

MR. KEATING: The access, well, I'll turn the plans.

MR. ARGENIO: You can walk up here if you'd like.

MR. KEATING: This is Willow Lane out here and state highway's here, intersection is here and the access to

Willow Lane is at that driveway location right there.

MS. JONES: So how far back is that?

MR. KEATING: From here it's I believe it's from the intersection approximately 250 feet away.

MS. JONES: How close is the building to the road?

MR. KEATING: The building setback line is 60 foot building setback from the DOT right-of-way, from there approximately I'd say about 80 feet from the right-of-way, approximately 80 feet is the right-of-way from the edge of pavement it's approximately 95 feet.

MS. JONES: So I was just wondering when you're coming down Willow Lane and you're at this point how much, is there anything, will there be any obstructions to sight distance?

MR. KEATING: The sight distance issues were raised briefly by Mark, there was landscaping that was a higher landscaping that was located along the front of the property, that landscaping has since been removed from that area and has been pulled back into the site, there's lower lying landscaping that still remains along the front of the property but there were some obstructions that Mark had identified during some of the previous reviews and those have since been moved, pushed back into the site so that will not be within that right-of-way.

MS. JONES: So the landscaping is now lower?

MR. KEATING: It's a lower landscaping and the landscaping has been pushed further back into the site from where it was originally.

MS. JONES: So then what will be in the front is going to be parking?

MR. KEATING: There's parking here along the front of the lot.

MS. JONES: Then--

MR. KEATING: This now would be green area within that area.

MS. JONES: So the street is over here so this is all going to be empty here?

MR. KEATING: No, that's the state H.

MS. JONES: So the parking is right here so actually the cars--

MR. KEATING: Shaded area is the cars.

MS. JONES: So the cars will--

MR. KEATING: The cars are set back.

MR. ARGENIO: You know what, let me just interrupt for a second, ma'am, if you, what I'd like to get out of this, what I'm trying to get out of this from the people, these plans are available for you to look at any time at Town Hall, Myra will assist you at any point in time but what I'm looking for is input from the public, information that we as a planning board may not have or know about the site to help us to create a better package for the people of the town, that's kind of what I'd like to try to focus on if we can.

MS. JONES: Well, there are a number of people as has been mentioned before Willow Lane is used as a cut through and it has a lot of traffic and so people turning into it, people turning off of it so I think a sight distance question is reasonable, a lot of people use that road.

MR. ARGENIO: It's perfectly reasonable.

MS. JONES: All right, okay, just wondering how large is this project compared to the existing bank by Wal-Mart, is it about the same?

MR. KEATING: Tony, is that about the same?

MR. ROMIER: Tony Romier (phonetic) from the Hudson Valley Credit Union, the current branch by Wal-Mart is about 42 to 4,500 square feet so this is slightly bigger.

MR. ARGENIO: What's your new building going to be up at Wal-Mart?

MR. ROMIER: 6,800 square feet.

MS. JONES: So but for this new building is bigger than the current one by Wal-Mart and the one by Wal-Mart services how many people?

MR. ROMIER: We have a very large business in that location, that's why we're expanding it.

MS. JONES: Right, have you calculated the number of cars?

MR. ROMIER: We don't have a good calculation of that, it's one of our busiest branches, that's why we're expanding and we think that the expanded branch is going to compliment this branch ultimately.

MS. JONES: I was wondering was there any proposal to put sidewalks?

MR. KEATING: There's no proposal to put sidewalks at this time.

MS. JONES: Since this is close to a residential area people from the neighborhood might decide to walk there or at least try to as much as possible.

MR. KEATING: I don't believe there's any sidewalks currently over there right now.

MR. ARGENIO: That's correct.

MS. JONES: There's the mention made from May 24, 2006 of a question about deed restrictions.

MR. KEATING: Actually, I'm glad that was brought up, yes, there was the, I believe it was Henry had brought the mention of possible deed restriction on the property through, we had the title company go back and look at the title reports that were provided and indeed there was a restriction at one point on the property for the Carboughs (phonetic) which were residing next door, the credit union has reached out to Miss Carbough to discuss the possibility of a deed restriction and they have come to an agreement, there was still a restriction on the property for her property and that restriction has, they have come to agreement with the attorneys, I have a copy of the agreement here that I can leave for the town as well that the deed restriction be lifted.

MR. ARGENIO: I'd like a copy of that.

MR. KEATING: Absolutely.

MR. ARGENIO: That's a kudos to you, that's a good one.

MR. KEATING: I'm glad you mentioned that because I failed to mention that.

MR. ARGENIO: What else?

MS. JONES: That was it. Thank you very much.

MR. ARGENIO: Thank you. That was good, I forgot about that.

MR. KEATING: You have to thank Henry, I wish Henry was here.

MR. ARGENIO: Does anybody else have any questions? Yes, sir?

MR. BEDETTI: My name is Frank Bedetti, I live on Harth Drive which is not far from there. I'm also a member of the union. I travel that road quite often and the most difficult thing is, most difficult part of that traveling that route is turning south onto 32 from Willow Lane. I was just wondering are there any out lanes both directions or are they restricted just right turns or left turns?

MR. KEATING: The proposed in and out lanes are full access right ins, right outs.

MR. BEDETTI: Because turning south off Willow Lane is a Russian roulette thing as it is now, this is going to just magnify that, I mean, the road is, some consideration maybe for the way you turn in and turn out of that site.

MR. ARGENIO: Anybody else?

MR. STEIDLE: Bill Steidle. Appreciate the opportunity to speak. My name is Bill Steidle, I live on Jackson Avenue, Town of New Windsor, I speak solely as an interested citizen so it's clear. Actually, I speak because I always have high expectations when I see banks and financial institutions going up and I have seen some good examples and bad ones from my perspective, the one next to Wal-Mart's a bad one, although I recognize it's going to be taken down.

MR. ARGENIO: The metal robot.

MR. STEIDLE: That's a good example is the Walden Savings Bank facility in Washingtonville, which is really a good example but anyway that's the context that I speak. I did look at the plan today, the first thing in the plan is the artist's rendering and that rendering is from Route 32 front view of the facility, I think, however, really the most important view of this site will be the one from Willow Lane because when you turn onto Willow Lane from 32 you're going to pass the site very slowly, you're going to look at the site when you're heading in a westbound direction on Willow, you're going to be coming to the stop sign, you're going to be looking at the site. So I think some focus should be made to look at this from Willow. Also when you're going westbound on Willow you're going to be seeing the back of the site and I think to some extent that's important what the views are from Willow. The site is located in two zoning districts although and may be true that the facility itself is in the residential, in the commercial zone, there's a fair amount of work proposed in the residential zone, including a fairly substantial retaining wall, a lot of grading, excavation of a storm water basin and those disturbances go right up to the property boundaries of residential lots, it seems to me that some consideration should be given to try to maintain some vegetation and to reduce the impacts on those residential properties. I did see incidentally on sheet number one there's a reference to deed restrictions and I wondered what those deed restrictions were. So I'm glad that's been discussed. There's a landscaping plan that you know appears that a lot of effort went into it and Chazen is a good firm, they have a good compliment of different professionals but I would feel more comfortable if the landscaping plan were reviewed by a town planner or a town landscape architect retained by the town to look at the landscaping and I suspect the outcome of that probably

would be some discussion between Chazen and that town consultant which might very well benefit the landscaping plan, particularly the screening between the residential and the site as well as the landscaping as you view the site from Willow Lane. The last comment I had was, did relate to parking, 60 spaces are proposed, the town ordinance requires 24, it's 2 1/2 times the parking requirement in the zoning ordinance, that seems to me to be excessive and I think the county was correct in bringing that comment up and incidentally I saw no response to the County comments in the file but I would ask that some consideration be given to reducing the parking, particularly along Willow Lane and increasing the landscaping to better acclimate the site to the residential portion along Willow. So I guess in closing my recommendations are to look carefully at the impacts on the residential areas, including the grading and other work proposed up to the boundaries of the property, to look at the aesthetic impacts of the project particularly from Willow Lane, I think Route 32 people will be going by at a fast clip, I think that's perhaps the less important. And thirdly, I would ask that some consideration be given to reducing parking reducing, paving and increasing landscaping and other amenities. Thank you.

MR. ARGENIO: Thank you, Bill. Anybody else?

MS. JONES: If I can just tacking on to what Bill said about the parking that the town requires 24 and 60 spaces are provided, if you provide plenty of spaces you'll attract more people so and we're concerned about the traffic and the increase and ingress from Willow Lane and turning onto and off of both roads, so if we can reduce the number of parking spaces we'll reduce the number of cars that are in that area which already has a number of, a large number of cars anyway.

MR. ARGENIO: Thank you. Anybody else? Seeing as

there's no hands, I'll accept a motion to close the public hearing.

MR. MINUTA: So moved.

MR. BROWN: Second it.

MR. ARGENIO: Motion has been made and seconded that the Town of New Windsor Planning Board close the public hearing for Hudson Valley Federal Credit Union. If there's no further discussion, roll call.

ROLL CALL

MR. GALLAGHER	AYE
MR. BROWN	AYE
MR. MINUTA	AYE
MR. ARGENIO	AYE

MR. ARGENIO: I've got a couple things I want to hit and I'm sure that there might be a few other guys have some stuff too. I think that it probably would be wise and I save Joe from having to say this, I think Steidle has a good point, if you could, I'd like to see a couple of elevations of the rear and the side, I don't think you have to go crazy but I'd like that, I think Bill has a good point. What's your roof made out of?

MR. KEATING: Scott, can you elaborate?

MR. BREIDY: It's standing seam.

MR. ARGENIO: It looks like it's standing seam, some type of green and I think that it will match well with the break that's going to be like Petro's building down on 9W.

MR. MINUTA: Exit 10 offices.

MR. ARGENIO: Exit 10 offices. On your ATM, is the ATM

in the front of the building?

MR. KEATING: Well, there's an ATM inside the building and it's I believe it's in the lobby.

MR. ARGENIO: Access from the front.

MR. ROMIER: There's an ATM in the vestibule and there's a drive-up ATM located on the first drive-up lane.

MR. BREIDY: To answer your question, the front ATM is within the lobby of the building and the drive-up ATMs are located in the back.

MR. ARGENIO: Mark, relative to that ATM I'm sure there's somebody out there, I don't know who it is, it's probably some government agency in our government or not that probably tells these folks what kind of lighting and how much lighting they have to have around the pedestrian.

MR. EDSALL: I don't know the particular guidelines but I am aware from discussions with various banks that there are regulations as to minimum lighting so that obviously would be an area of interest, we have discussed that with the applicant, maybe they can expand.

MR. KEATING: There's such an act, there's, New York State has a code for ATM safety act in and around areas where there's the ATMs, the lighting requirements are such that there's a lighting radius essentially that has to be around these entrances.

MR. ARGENIO: I don't want to talk about the front, let's talk about the back.

MR. KEATING: Is this your thing along the back side? I'm going to flip to the landscaping plan here so I can

expand upon this a little better. The radius that would have to go off of the ATM I believe is a 50 foot radius, 50 foot radius, and that radius will have to carry foot candle requirement within that area, however, one of the things that we can do to help reduce the potential for that radius and the glare going passed that is we utilize the sharper cutoff structure so that you're not getting a--

MR. ARGENIO: Are you doing that?

MR. KEATING: Yes, we are absolutely utilizing and it also has a directional optic.

MR. ARGENIO: So it can be changed.

MR. KEATING: So they can help direct that optic as well. And then also there's a 6 foot high stockade fence that along that area on the back and when there is a barrier if I'm not mistaken when there is a barrier of that type of thing you can reduce the amount that that has to be carried back from so by us providing--

MR. ARGENIO: They call it a security barrier.

MR. KEATING: Providing a 6 foot one that will help reduce any headlight glare along the residential properties.

MR. ARGENIO: I think it's a good use, probably better than the bar that was there when I was a kid, but I just want to make sure that we don't jam those folks up on Willow Lane. As for the parking, I disagree with the folks that spoke, everybody's entitled to their opinion, but I will tell that we need to build for the future and if these folks feel too that they need more parking they're in that business, they know what they need, if they didn't need it, I'm quite sure that they would be inclined not to build it. One problem we have

in this town is the places don't have enough parking. As I said before, perfect example is Destinta Theaters, I'm sure a lot of you have been there after it's built, try and get them to come back in and put some more stalls in. You know what, it's impossible. So I think and as I said I'm one member, these guys can, everybody has their own opinion and my opinion if they feel the need for extra parking at that expense especially on the corner of 32 and Willow Lane I think that we should allow them to put the parking in. Go ahead, somebody else? Anybody have anything else? You mentioned the flag pole, Joe Minuta I'm sure is going to mention that. Danny usually mentions the dumpster enclosure when he's here, mentions the roof. What's the dumpster enclosure made of?

MR. KEATING: It's a block type of material to match the brick type of face.

MR. ARGENIO: Block or brick?

MR. BREIDY: It will be a block with a brick veneer.

MR. ARGENIO: I covered a lot here, guys, and what do you guys have? We're not going to go over the wire tonight, there's outstanding stuff that's got to be done.

MR. BROWN: The entrance you say are supposed to be 30 foot wide for the fire?

MR. KEATING: The 30 foot wide is on the Willow Lane side on the DOT side, this was one of the things we had discussed at the workshops is DOT will typically not like to see that width get wider than their standard entrance, so through the discussions with the fire department in the workshops it was agreed upon that we'd provide this amount here 30 feet and then have the additional two fire lanes on both sides of the building and as well also he wanted the, he indicated the

location of where he wanted his building connection for the fire sprinkler system as well we provided that for him on the plan.

MR. ARGENIO: Is there any, probably the wrong guy to ask but Mark, is there any issue with the firemen with the canopy in the back?

MR. EDSALL: No, I believe, what's your drive-thru lane width there? I thought that was wide enough.

MR. KEATING: Yes, we did look at it, I believe there was more than adequate space for the truck to get through that spot.

MR. EDSALL: They knew they'd never take the aerial through there but I believe the fire inspector likes to have that wide enough so the smaller vehicles can make it through.

MR. MINUTA: More specifically, how much space do you have on the roof to the edge?

MR. ARGENIO: I think that was my main issue the roof.

MR. EDSALL: I can doublecheck that with Barney.

MR. ARGENIO: I want to make sure, Mr. Bedetti, is Barney your son?

MR. BEDETTI: Yes.

MR. ARGENIO: Oh, he is, okay.

MR. EDSALL: I'll be speaking with his son to make sure that's what--

MR. ARGENIO: No message there, just made the connection.

MR. EDSALL: I figured you might.

MR. ARGENIO: Thank you, Mark. I don't have anything else. You guys, there's some things you guys have to check, I think you have come a long way, I think we've got some very good input from the public hearing tonight, covered a lot of ground. Joe?

MR. MINUTA: Parking I think is actually a good thing on this particular site with the type of use that it is, I think the town will absolutely benefit, I think the residents will benefit from having the cars on the street.

MR. ARGENIO: You can never get parking spaces back.

MR. MINUTA: Absolutely, absolutely. Mr. Bedetti's comment with regard to the egress out of the lot on 32 that does concern me with the Willow Avenue access travel, I travel that road every single day, that's problematic coming off of Willow, I've waited there myself five minutes just to wait for a spot to come through.

MR. ARGENIO: As Jimmy Petro used to say, he used to need a shave when he got out, town is getting busier.

MR. MINUTA: I like the fact that they have the ingress egress on Willow, I would say let's possibly consider simply ingress off of 32. But other than that, I mean, and also the landscaping, the landscaping I think is ample, what I'd like to see and they adequately provided landscaping on the residential side, what I'd like about the landscape plan that there's quite a few conifers in the back so they're not going to lose their leaves in the wintertime, it will keep a continuous coverage of the building from the residential area.

MR. ARGENIO: Did you look at that landscaping?

MR. EDSALL: I looked at it several times with Roger and in fact it has increased over our discussions and the fence been added.

MR. ARGENIO: Mr. Hines is the landscape expert in your office, probably make sure he gets feedback.

MR. KEATING: Just going to say as part of our agreements when we were working out that restriction on the property, one of the concessions that we're helping with the process is to add additional and let them have some input as to what those trees were, so a lot of the species that you see here are part of the actions of what we've done with the adjoining property owners.

MR. MINUTA: And to that end to Mr. Steidle's comment it's helpful to provide a sample image of what the landscape looks like, a tree that you're proposing really helps the people understand.

MR. ARGENIO: I should show you the landscape renderings that they provided us for the corner of Union Avenue and 32 shops at Newburgh it's called, the way the artists put together the rendering of before and after it's unbelievable.

MR. GALLAGHER: As far as the, we're talking Joe about the only ingress from 32, wouldn't that heighten the problem, the problem on Willow?

MR. MINUTA: Then you're having one access from Willow only, my concern is that you're going to have someone, they'll try and be leaving, they'll try to leave the property and go either northbound or southbound and you already have a problem at the other section, Willow is really difficult to get out of, I can't emphasize that enough, the traffic coming down it's 45 miles an hour, you're coming down the hill, you're coming through the underpass, it's a very difficult area to negotiate a vehicle.

MR. ARGENIO: That's as difficult as any of the other driveways going south.

MR. MINUTA: Absolutely.

MR. ARGENIO: Mark, I think personally I'm not a traffic expert but I think it's a good idea to have ins and outs on both of those entrances but just take a look at that.

MR. EDSALL: One of the things that you should be aware of is that this is a significantly enhanced plan from the originals, we have really maximized the spacing from the intersection just so that the conflict wouldn't again wouldn't occur there, original plan had both access points closer to the intersection and that was vetoed rather early as it may be acknowledged every driveway on 32 is a tough one to make a left turn southbound.

MR. ARGENIO: Don't forget about the water line thing, Agido's got to be in the middle of that.

MR. KEATING: We'll get that taken care of, that's not a problem.

MR. ARGENIO: Thank you.

FIRE INSPECTOR'S INTER-OFFICE CORRESPONDENCE

TO: Genaro Argenio, Planning Board Chairman

FROM: Wm. Horton, Asst. Fire Inspector

SUBJECT: PB-06-19
HVFCU
SBL: 42-1-1.1

DATE: February 28, 2007

Fire Prevention Reference Number: FPS-07-006

A review of the above referenced site plan has been conducted and is acceptable.

FIRE INSPECTOR'S
INTER-OFFICE CORRESPONDENCE

TO: Genaro Argenio, Planning Board Chairman

FROM: Wm. Horton, Asst. Fire Inspector

SUBJECT: PB-06-19
Hud. Valley Fed. Credit Union
SBL: 42-1-1.1

DATE: May 24, 2006

Fire Prevention Reference Number: FPS-06-019

A review of the above referenced site plan has been conducted and is unacceptable for the following reasons:

1) Fire lanes are insufficient. Appear to only be 22' wide including entrances.

2) Building appears to be approximately 5300 sq. ft. and needs sprinkler system and location of hydrant & Fire Dept. connection.

3) Is pre-treatment structure on Rte. 32 side above ground ? If so, cuts into fire lane again need to be 30' wide.

FIRE PREVENTION

Planning Board Work Session
Record of Appearance

Town of New Windsor

SBL: 42-1-1.1

Work session date: 6-21-06

Project name: HVFCU

New ✓ Old ____

Project address: Willow Lane

Municipal Representatives present:

Bldg: ____

Engineer: ✓

Fire Inspector: JB

Water: ____

Items discussed:

- Rt 32 Side - DOT 25' (Entrance) OK
  Willow Lane - 30' (Entrance) OK
  Fire Lanes - 30' OK

- R.F.D.C To be on the South side of the Building.

- Pre Treatment is Underground

Checklist:

Fire lanes: ✓

Fire hydrants: ____

Bldg. size: ____

F.D. Connect: ✓

Hazards: ____

Existing violations: ____

PLANNING BOARD: TOWN OF NEW WINDSOR
COUNTY OF ORANGE: STATE OF NEW YORK

----------X

In the Matter of the Application for Site Plan for:

HUDSON VALLEY FED. CREDIT UNION P. B. #06-19

Applicant

AFFIDAVIT OF
SERVICE
BY MAIL

STATE OF NEW YORK)
) SS:
COUNTY OF ORANGE)

MYRA L. MASON, being duly sworn, deposes and says:

That I am not a party to the action, am over 18 years of age and reside at 131 Mt. Airy Road, New Windsor, NY 12553.

That on the **1ST** day of FEBRUARY, 2006, I compared the 10 addressed envelopes containing the Public Hearing Notice pertinent to this case with the certified list provided by the Assessor's Office regarding the above application for site plan/subdivision/special permit/lot line change approval and I find that the addresses are identical to the list received. I then placed the envelopes in a U.S. Depository within the Town of New Windsor.

Sworn to before me this

Myra Mason
Myra L. Mason, Secretary

28th day of February, 20 07

Lisa R. DiStefano
Notary Public

LISA R. DISTEFANO
Notary Public, State Of New York
No. 01DI6050022
Qualified In Orange County
Commission Expires 10/30/ 2010

Town of New Windsor

555 Union Avenue
New Windsor, New York 12553
Telephone: (845) 563-4631
Fax: (845) 563-3101

Assessors Office

October 6, 2006

Hudson Valley Federal Credit Union
Corner Willow Lane & Rt. 32
New Windsor, NY 12553

Re:42-1-1.1 PB #:06-19 (10)

Dear Mr. Keating:

According to our records, the attached list of property owners are abutting and across any street of the above referenced property.

The charge for this service is $25.00 minus your deposit of $25.00.

Please remit the balance of $0 to the Town Clerk's Office.

Sincerely,

J. Todd Wiley

J. Todd Wiley, IAO
Sole Assessor

JTW/rah
Attachments

CC: Myra Mason, ~~Zoning~~ Planning Board

35-1-43
PETRO METALS INC.
PO BOX 928
VAILS GATE, NY 12584

38-3-61
ROBERT TOOHEY
7 WILLOW LANE
NEW WINDSOR, NY 12553

38-3-62
JOHN &
ANTONIETTA GUERRIERO
23 WILLOW PKWY.
NEW WINDSOR, NY 12553

38-3-63
JEFFREY &
JASMINE PEREZ
3 WILLOW LANE
NEW WINDSOR, NY 12553

38-3-64
ALFRED & MAIZE RUGER
1 WILLOW LANE
NEW WINDSOR, NY 12553

42-1-1.21
VENERA MARTINISI
273 WINDSOR HWY.
NEW WINDSOR, NY 12553

42-1-1.23
SALVATORE &
MARY ACCOLLA
119 BRITTANY TERR.
ROCK TAVERN, NY 12575

42-1-2
BERTHA KARPOFF
8 WILLOW LANE
NEW WINDSOR, NY 12553

42-1-3
CHRISTOPHER & LAURIE ORR
10 WILLOW LANE
NEW WINDSOR, NY 12553

42-1-4
HERMAN & SALLY INGRIM
12 WILLOW LANE
NEW WINDSOR, NY 12553

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.
RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

☐ Main Office
33 Airport Center Drive
Suite #202
New Windsor, New York 12553
(845) 567-3100
e-mail: mhenv@mhepc.com

☐ Regional Office
507 Broad Street
Milford, Pennsylvania 18337
(570) 296-2765
e-mail: mhepa@mhepc.com

Writer's E-mail Address:
mje@mhepc.com

PLANNING BOARD WORK SESSION
RECORD OF APPEARANCE

TOWN / VILLAGE OF: New Windsor **P/B APP. NO.:** 06-19

WORK SESSION DATE: 2 AUG 06 **PROJECT:** NEW ____ OLD X

REAPPEARANCE AT W/S REQUESTED: Not now **RESUB. REQ'D:** new plans/fee

PROJECT NAME: HVFCU

REPRESENTATIVES PRESENT: Roger & Scott

MUNICIPAL REPS PRESENT:

BLDG INSP.		FIRE INSP.	
ENGINEER	X	PLANNER	
P/B CHMN		OTHER	

ITEMS DISCUSSED: 32

Karpoff has deed restrict
new one being worked out

SWPPP ⇒ MM ⇒ BMM
① P/H once SWPPP ok
(already auth)

STND CHECKLIST:

DRAINAGE ____
DUMPSTER ____
SCREENING ____
LIGHTING (Streetlights) ____
LANDSCAPING ____
BLACKTOP ____
ROADWAYS ____
APPROVAL BOX ____

PROJECT TYPE

SITE PLAN
SPEC PERMIT
L L CHG.
SUBDIVISION
OTHER

PROJECT STATUS:

ZBA Referral: ___Y ___N

Ready For Meeting X Y ___N

Recommended Mtg Date ____

WorksessionForm.doc 9-02 MJE

TOWN OF NEW WINDSOR
REQUEST FOR NOTIFICATION LIST

CHECKED BY MYRA: **09-26-2006 mm**

DATE: **09-26-06** PROJECT NUMBER: ZBA# _____ P.B. # **06-19**

APPLICANT NAME: **HUDSON VALLEY FEDERAL CREDIT UNION**

PERSON TO NOTIFY TO PICK UP LIST:

CHAZEN ENGINEERING (ROGER KEATING)
547 RIVER STREET
TROY, NY 12182

TELEPHONE: **518-235-8050 (ROGER KEATING)**

TAX MAP NUMBER: SEC. **42** BLOCK **1** LOT **1.1**
SEC. _____ BLOCK _____ LOT _____

PROPERTY LOCATION: **CORNER WILLOW LANE & RT. 32**
NEW WINDSOR

LIST OF PROPERTY OWNERS WITHIN 500 FT. FOR SITE PLANS/SUBDIVISION _____
(IS NOT PREPARED ON LABELS)

❖ ❖

THIS LIST IS BEING REQUESTED BY:

NEW WINDSOR PLANNING BOARD: **XXX**

SITE PLAN OR SUBDIVISION: (ABUTTING AND ACROSS ANY STREET **XXX**

SPECIAL PERMIT ONLY: (ANYONE WITHIN 500 FEET) _____

AGRICULTURAL DISTRICT:
(ANYONE WITHIN THE AG DISTRICT WHICH IS WITHIN 500'
OF SITE PLAN OR SUBDIVISION PROJECT) _____

❖ ❖
NEW WINDSOR ZONING BOARD _____

LIST WILL CONSIST OF ALL PROPERTY WITHIN 500 FEET OF PROJECT _____

❖ ❖
AMOUNT OF DEPOSIT: **25.00** CHECK NUMBER: **4687926115**

TOTAL CHARGES: _____

RESULTS OF P.B. MEETING OF: May 24, 2006

PROJECT: Hudson Valley Fed. Cred. Un. - Rt. 32 + Willow P.B. # 06-19

LEAD AGENCY:

AUTHORIZE COORD. LETTER: Y ✓ N____
TAKE LEAD AGENCY: Y____ N____

M) ✓ S) S VOTE: A 5 N 0
CARRIED: Y ✓ N____

Then Sched P.H.

NEGATIVE DEC:

M)____ S)____ VOTE: A____ N____
CARRIED: Y____ N____

PUBLIC HEARING: WAIVED:_____ CLOSED:_____

M) ✓ S) S VOTE: A 5 N 0 SCHEDULE P.H.: Y ✓ N____ after 30 days.

SEND TO O.C. PLANNING: Y ✓
SEND TO DEPT. OF TRANSPORTATION: Y ✓

REFER TO Z.B.A.: M)____ S)____ VOTE: A____ N____

RETURN TO WORK SHOP: Y____ N____

APPROVAL:

M)____ S)____ VOTE: A____ N____ APPROVED: _____

NEED NEW PLANS: Y____ N____

CONDITIONS – NOTES:

Address Mark's Comments
Need SWPPP - Before P.H.
Will incorporate a monument on the site to Sean McGuire
No Split Rail Fence
Lighting around ATM Area to be screened
Address fire Inspect Comments.

COUNTY OF ORANGE

EDWARD A. DIANA
COUNTY EXECUTIVE

DEPARTMENT OF PLANNING
124 MAIN STREET
GOSHEN, NEW YORK 10924-2124
TEL: (845)291-2318 FAX: (845)291-2533
www.orangecountygov.com/planning

DAVID CHURCH, A.I.C.P.
COMMISSIONER

ORANGE COUNTY DEPARTMENT OF PLANNING
239 L, M OR N REPORT

This proposed action is being reviewed as an aid in coordinating such action between and among governmental agencies by bringing pertinent inter-community and countywide considerations to the attention of the municipal agency having jurisdiction.

Referred by: New Windsor Planning Board

Reference/County ID No.: NWT17-06M
Tax Parcel ID: 42-1-1.1

Applicant: Hudson Valley Federal Credit Union

Proposed Action: Site Plan: Construction of New Building

Reason for Review: Within 500' of ST RTE 32

Date of Full Statement: May 30, 2006

Comments: The Department has received the above application for the construction of a new Credit Union Branch, and offers the following:

- The amount of parking spaces proposed seems to indicate that a percentage of the new structure will be used for offices, unrelated to banking. If this is not the case, the recommendation is to reduce the amount parking spaces proposed.

County Recommendation: Local Determination

Date: June 5, 2006
Reviewed By: Kathy V. Murphy, Planner

David Church, AICP
Commissioner of Planning

"IMPORTANT NOTE: As per NYS General Municipal Law 239-m(6),within 30 days of municipal final action on the above referred project, the referring board must file a report of the final action taken with the County Planning Department. For such filing, please use the final action report form attached to this review or available on-line at www.orangecountygov.com/planning."

RECEIVED
TOWN OF NEW WINDSOR
JUN 1 2 2006
ENGINEER & PLANNING

P.B. #06-19

cc: Roger Keating
cc: M.E.

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

Bernadette Castro
Commissioner

July 14, 2006

Mark Edsall
New Windsor Town Planning Board
555 Union Avenue
New Windsor, New York 12553

Re: FDIC
Hudson Valley Federal Credit Union; new branch
New York 32 and Willow Lane/Orange County
06PR03509

Dear Mr. Edsall:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP) concerning your project's potential impact/effect upon historic and/or prehistoric cultural resources. Our staff has reviewed the documentation that you provided on your project. Preliminary comments and/or requests for additional information are noted on separate enclosures accompanying this letter. A determination of impact/effect will be provided only after ALL documentation requirements noted on any enclosures have been met. Any questions concerning our preliminary comments and/or requests for additional information should be directed to the appropriate staff person identified on each enclosure.

In cases where a state agency is involved in this undertaking, it is appropriate for that agency to determine whether consultation should take place with OPRHP under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. In addition, if there is any federal agency involvement, Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties" 36 CFR 800 requires that agency to initiate Section 106 consultation with the State Historic Preservation Officer (SHPO).

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director

Enclosure

cc: Roger Keating
cc: M.E.

An Equal Opportunity/Affirmative Action Agency
printed on recycled paper

REQUEST FOR ADDITIONAL INFORMATION
BUILDINGS/STRUCTURES/DISTRICTS

PROJECT NUMBER 06PR03509

(Hudson Valley Federal Credit Union; new branch/New York 32 and Willow Lane/T/NEW WINDSOR)

In order for us to complete our evaluation of the historic signification of all buildings/structures/districts within or adjacent to your project area we will need the following additional information

- ☐ Full project description showing area of potential effect.
- ☑ Clear, original photographs of buildings/structures 50 years or older.
  - ☑ within or ☑ immediately adjacent to the project area
  - *** key all photographs to a site map*
- ☐ Clear, original photographs of the surroundings looking out from the project site in all direction, *keyed to a site map.*
- ☐ Date of construction.
- ☐ Brief history of property.
- ☐ Clear, original photographs of the following:
- ☐ Other:

Please provide only the additional information checked above. If you have any question concerning this request for additional information, please call William Krattinger at 5182378643. ext 3265

PLEASE BE SURE TO REFER TO THE PROJECT NUMBER NOTED ABOVE WHEN RESPONDING TO THIS REQUEST

ORANGE COUNTY DEPARTMENT OF PLANNING

124 Main Street
Goshen, NY 10924-2124

APPLICATION FOR MANDATORY COUNTY REVIEW OF LOCAL PLANNING ACTION

(Variances, Zone Changes, Special Permits, Subdivisions, Site Plans)

Local File No. **06-19** **(Please include this number on any correspondence)**

1. Municipality **Town of New Windsor** Public Hearing Date: **not set**

City, Town or Village Board _____ Planning Board **X** Zoning Board _____

2. Owner: Name: **Hudson Valley Federal Credit Union**
   Address: **159 Barnegat Road, Poughkeepsie, NY 12601**

3. Applicant * Name: **same**
   Address: _____

***If applicant is owner, leave blank**

4. Location of Site: **NYS Route 32 at Willow Lane**
   (Street or highway, plus nearest intersection)

Tax Map Identification: Section: **42** Block: **1** Lot: **1.1**

Present Zoning District: **C** Size of Parcel: **2.3 + Acres**

5. Type of Review:

*****Site Plan**

Zone Change: From -- To: --

Zoning Amendment: To Section _____

**Subdivision: Number of Lots/Units _____

***Site Plan: Use **New Credit Union facility on vacant lot**

Date: **5-24-06** Signature & Title: Mark J. Edsall, P.E.
Mark J. Edsall, P.E.,
Planning Board Engineer

Sent 5/25/06

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.
RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

☐ Main Office
33 Airport Center Drive
Suite #202
New Windsor, New York 12553
(845) 567-3100
e-mail: mhany@mhepc.com

☐ Regional Office
507 Broad Street
Milford, Pennsylvania 18337
(570) 296-2765
e-mail: mhepa@mhepc.com

Writer's E-mail Address:
mje@mhepc.com

PLANNING BOARD WORK SESSION
RECORD OF APPEARANCE

TOWN / VILLAGE OF: New Windsor **P/B APP. NO.:** 06 - 19

WORK SESSION DATE: 21 June 06 **PROJECT:** NEW ____ OLD X

REAPPEARANCE AT W/S REQUESTED: ____ **RESUB. REQ'D:** ____

PROJECT NAME: HVFCU (~~[illegible]~~ Rt 32)

REPRESENTATIVES PRESENT: Roger Keating

MUNICIPAL REPS PRESENT:
BLDG INSP. ____ FIRE INSP. ____
ENGINEER ____ PLANNER ____
P/B CHMN ____ OTHER ____

ITEMS DISCUSSED:

~~[illegible]~~
Roger will call Steve Bedetti Res VGFD
- willow lane drive to 30'
- lighting impact
- elevation/section - show next door home - light line
- fire com south side
-

STND CHECKLIST:
DRAINAGE ____
DUMPSTER ____
SCREENING ____
LIGHTING ____ (Streetlights)
LANDSCAPING ____
BLACKTOP ____
ROADWAYS ____
APPROVAL BOX ____

PROJECT TYPE
SITE PLAN
SPEC PERMIT
L L CHG.
SUBDIVISION
OTHER

PROJECT STATUS:
ZBA Referral: ____Y ____N
Ready For Meeting ____Y ____N
Recommended Mtg Date ____

WorksessionForm.doc 9-02 MJE

COUNTY OF ORANGE

EDWARD A. DIANA
COUNTY EXECUTIVE

DEPARTMENT OF PLANNING
124 MAIN STREET
GOSHEN, NEW YORK 10924-2124
TEL: (845)291-2318 FAX: (845)291-2533
www. orangecountygov.com
planning@co.orange.ny.us

DAVID E. CHURCH, AICP
COMMISSIONER

June 5, 2006

Attention: Mr. Mark Edsall, P.E., P.P. Planning Board Engineer
555 Union Ave
New Windsor, NY 12553

RE: Lead Agency Hudson Valley Federal Credit Union

Dear Mr. Edsall:

Our office is in receipt of a lead agency coordination request. We have no permitting authority; therefore we have no interest in becoming the lead agency on this project. We would, however like the opportunity to review any additional SEQR information that is provided by the applicant of this project.

Thank you for giving us the opportunity to respond to your request and look forward to reviewing the application when it is referred to us for our comments.

Sincerely,

David Church, Commissioner

RECEIVED
TOWN OF NEW WINDSOR
JUN - 7 2006
ENGINEER & PLANNING

P.B. 06-19

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 05/23/2006

LISTING OF PLANNING BOARD **FEES**
ESCROW

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	DESCRIPTION---------	TRANS	--AMT-CHG	-AMT-PAID	--BAL-DUE
05/19/2006	REC. CK. #4687922784	PAID		750.00	
			---	---	---
		TOTAL:	0.00	750.00	-750.00

Recd
5/24/06

P.B. #06-19
Application fee

Town of New Windsor

555 Union Avenue
New Windsor, NY 12553
(845) 563-4611

RECEIPT
#429-2006

05/24/2006

Hudson Valley Federal Credit Union

Received $ 125.00 for Planning Board Fees, on 05/24/2006. Thank you for stopping by the Town Clerk's office.

As always, it is our pleasure to serve you.

Deborah Green
Town Clerk

Myra Mason

From: Myra Mason
Sent: Thursday, May 25, 2006 12:34 PM
To: 'mje@mhepc.com'
Subject: 06-19 HUD VAL FED CREDIT UNION

Mark;

I need Lead Agency Letter for Hudson Valley Federal Credit Union – Willow Lane & Rt. 32

Thanks

Me

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 05/25/2006

LISTING OF PLANNING BOARD**ACTIONS**

STAGE: STATUS [Open, Withd]
O [Disap, Appr]

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	MEETING-PURPOSE----------	ACTION-TAKEN--------
05/24/2006	P.B. APPEARANCE	LA LTR;OCP - DOT
	. ADDRESS MARK'S COMMENTS - NEED SWPPP (BEFORE PH) - WILL	
	. INCORPORATE A MONUMENT TO SEAN MCQUIRE ON SITE - NO SPLIT	
	. RAIL FENCE - LIGHTING AROUND ATM AREA TO BE SCREENED -	
	. ADDRESS FIRE INSPECTOR'S COMMENTS - SCHED PH	
05/17/2006	WORK SHOP	SUBMIT

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 05/24/2006

LISTING OF PLANNING BOARD **AGENCY APPROVALS**

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

	DATE-SENT	AGENCY----------	DATE-RECD	RESPONSE----------
ORIG	05/19/2006	MUNICIPAL HIGHWAY	05/24/2006	APPROVED
ORIG	05/19/2006	MUNICIPAL WATER	/ /	
ORIG	05/19/2006	MUNICIPAL SEWER	/ /	
ORIG	05/19/2006	MUNICIPAL FIRE	05/24/2006	DISAPPROVED

. FIRE LANES ARE INSUFFICIENT - APPEAR TO BE ONLY 22" WIDE
. INCLUDING ENTRANCES
. BUILDING APPEARS TO BE APPROXIMATELY 5300 SQ. FT. AND NEEDS
. SPRINKLER SYSTEM AND LOCATION OF HYDRANT AND FIRE DEPT.
. CONNECTION.
. IS PRE-TREATMENT STRUCTURE ON RT. 32 SIDE ABOVE GROUND? IF
. SO, CUTS INTO FIRE LANE AGAIN NEED TO BE 30' WIDE.

ORIG	05/19/2006	NYSDOT	/ /	

PLANNING BOARD
TOWN OF NEW WINDSOR

AS OF: 05/24/2006

LISTING OF PLANNING BOARD**ACTIONS**

STAGE: STATUS [Open, Withd]
O [Disap, Appr]

FOR PROJECT NUMBER: 6-19
NAME: HUDSON VALLEY FED CREDIT UNION - PA2006-0046
APPLICANT: HUDSON VALLEY FEDERAL CREDIT UNION

--DATE--	MEETING-PURPOSE----------	ACTION-TAKEN--------
05/17/2006	WORK SHOP	SUBMIT

THIS DOCUMENT HAS AN ARTIFICIAL WATERMARK PRINTED ON THE BACK. THE FRONT OF THE DOCUMENT HAS A MICRO-PRINT SIGNATURE LINE. ABSENCE OF THESE FEATURES WILL INDICATE A COPY.

2219

Hudson Valley Federal Credit Union

150 BARNEGAT RD POUGHKEEPSIE, NY 12601 800-488-3011

P.B. #06-19 Application fee

4687922783

ACCOUNTS PAYABLE

09-35
519

PAY

Ref: 031706

DATE 17 MAR 06

TO THE ORDER OF PAY

TOWN OF NEW WINDSOR *****

ONE HUNDRED AND TWENTY FIVE DOLLARS ONLY

$125.00

TOWN OF NEW WINDSOR
555 UNION AVENUE
NEW WINDSOR NY 12553

PRESIDENT/CEO

AUTHORIZED SIGNATURE

PAYABLE THROUGH
BB&T
CHARLESTON, WV

⑆051900353⑆00468 79227837⑈

NON-NEGOTIABLE Chk 4687922784 17 MAR 06 14:37 Br 50-23 Net Chk Amt 750.00

THIS DOCUMENT HAS AN ARTIFICIAL WATERMARK PRINTED ON THE BACK. THE FRONT OF THE DOCUMENT HAS A MICRO-PRINT SIGNATURE LINE. ABSENCE OF THESE FEATURES WILL INDICATE A COPY.

2219

Hudson Valley Federal Credit Union

150 BARNEGAT RD, POUGHKEEPSIE, NY 12601 800-488-3011

P.B. #06-19 Escrow

4687922784

ACCOUNTS PAYABLE

09-35
519

PAY

Ref: 3/17/06

DATE 17 MAR 06

TO THE ORDER OF PAY

TOWN OF NEW WINDSOR *****

SEVEN HUNDRED AND FIFTY DOLLARS ONLY

$750.00

TOWN OF NEW WINDSOR
555 UNION AVENUE
NEW WINDSOR NY 12553

PRESIDENT/CEO

AUTHORIZED SIGNATURE

PAYABLE THROUGH
BB&T
CHARLESTON, WV

⑆051900353⑆00468 79227846⑈

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office
Phone: (845) 454-3980

Orange County Office
Phone: (845) 567-1133

547 River Street, Troy, New York 12180
Phone: (518) 273-0055 Fax: (518) 273-8391
Web: www.chazencompanies.com

North Country Office
Phone: (518) 812-0513

March 31, 2006

Town of New Windsor
555 Union Avenue
New Windsor, New York 12553
Attention: Myra Mason

APR 03 2006

Re: Site Plan Application for the
Hudson Valley Federal Credit Union
NYS Route 32 and Willow Lane
Job #10512.02

Dear Ms. Mason:

Attached for consideration for placement on the next planning board meeting are 10 sets of Site Plans, the completed Site Plan Application, the Planning Board Application Checklist, the Site Plan Check List, Short Form EAF and two checks for the application fees and escrow for the proposed Hudson Valley Federal Credit Union located at the intersection of NYS Route 32 and Willow Lane.

The property is designated as Tax Map Section 42, Block 1, Lot 1.1 and is approximately 2.3 acres in size. The Credit Union proposes a 6,000 SF (+/-) branch with drive up tellers and associated parking with a curb cut to both Willow Lane and NYS Route 32.

If you have any questions or require additional information please contact our office. Your attention to this matter is greatly appreciated.

Sincerely,

Roger E. Keating, P.E.
Project Engineer

REK/encl.

cc: Hudson Valley Federal Credit Union
File

06-19

FIRE INSPECTOR'S
INTER-OFFICE CORRESPONDENCE

TO: Genaro Argenio, Planning Board Chairman

FROM: Wm. Horton, Asst. Fire Inspector

SUBJECT: PB-06-19
Hud. Valley Fed. Credit Union
SBL: 42-1-1.1

DATE: May 24, 2006

Fire Prevention Reference Number: FPS-06-019

A review of the above referenced site plan has been conducted and is unacceptable for the following reasons:

1) Fire lanes are insufficient. Appear to only be 22' wide including entrances.

2) Building appears to be approximately 5300 sq. ft. and needs sprinkler system and location of hydrant & Fire Dept. connection.

3) Is pre-treatment structure on Rte. 32 side above ground ? If so, cuts into fire lane again need to be 30' wide.

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.
RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

☐ Main Office
33 Airport Center Drive
Suite #202
New Windsor, New York 12553
(845) 567-3100
e-mail: mhenv@mhepc.com

☐ Regional Office
507 Broad Street
Milford, Pennsylvania 18337
(570) 296-2765
e-mail: mhepa@mhepc.com

Writer's E-mail Address:
mje@mhepc.com

PLANNING BOARD WORK SESSION
RECORD OF APPEARANCE

TOWN / VILLAGE OF: New Windsor **P/B APP. NO.:** 06-19 (100-3)

WORK SESSION DATE: 5 April 06 **PROJECT:** NEW X OLD ____

REAPPEARANCE AT W/S REQUESTED: ~~next avail~~ NO **RESUB. REQ'D:** Rilgp

PROJECT NAME: HVFCC Willow/32

REPRESENTATIVES PRESENT: ____

MUNICIPAL REPS PRESENT:

BLDG INSP.	____	FIRE INSP.	____
ENGINEER	X	PLANNER	____
P/B CHMN	____	OTHER	____

ITEMS DISCUSSED:

- 30' fire lane on 32 + Willow side
- ret wall. up to E-7 ~~B~~ hyd.
- fence @ top of wall
- lyt
- SWPPP - BMM.

App @ Mtg

STND CHECKLIST:

DRAINAGE ____
DUMPSTER ____
SCREENING ____
LIGHTING ____ (Streetlights)
LANDSCAPING ____
BLACKTOP ____
ROADWAYS ____
APPROVAL BOX ____

PROJECT TYPE

SITE PLAN
SPEC PERMIT
L L CHG.
SUBDIVISION
OTHER

PROJECT STATUS:

ZBA Referral: ____ Y ? ____ N

Ready For Meeting X Y ____ N

Recommended Mtg Date next avail

WorksessionForm.doc 9-02 MJE

TOWN OF NEW WINDSOR

555 UNION AVENUE
NEW WINDSOR, NEW YORK 12553
Telephone: (845) 563-4615
Fax: (845) 563-4689

PLANNING BOARD APPLICATION

TYPE OF APPLICATION (check appropriate item):

Subdivision ____ Lot Line Change ____ Site Plan X Special Permit ____

Tax Map Designation: Sec. 42 Block 1 Lot 1.1

BUILDING DEPARTMENT PERMIT NUMBER: PA 2006 - 46
MUST FILL IN THIS NUMBER

1. Name of Project Hudson Valley Federal Credit Union - NYS Route32 & Willow Lane

2. Owner of Record Hudson Valley Federal Credit Union Phone 845-463-3011

   Address: 159 Barnegat Road (Street Name & Number) Poughkeepsie (Post Office) New York (State) 12601 (Zip)

3. Name of Applicant Hudson Valley Federal Credit Union Phone 845-463-3011

   Address: 159 Barnegat Road (Street Name & Number) Poughkeepsie (Post Office) New York (State) 12601 (Zip)

4. Person Preparing Plan The Chazen Companies Phone 518-273-0055

   Address: 547 River Street (Street Name & Number) Troy (Post Office) New York (State) 12180 (Zip)

5. Attorney Dale Lois (Whitman, Breed, Abbott, and Morgan Phone 203-869-3800

   Address 100 Field Point Road (Street Name & Number) Greenwich (Post Office) Connecticut (State) 06830 (Zip)

6. Person to be notified to appear at Planning Board meeting:

   Roger Keating (Name) 518-273-0055 (Phone) 518-273-8391 (fax)

7. Project Location: On the South (Direction) side of NYS Route 32 (Street)

8. Project Data: Acreage 2.31 Zone C School Dist. Newburgh City School District

(PLEASE DO NOT COPY 1 & 2 AS ONE PAGE TWO-SIDED)

RECEIVED
MAY 17 2006
ENGINEER & PLANNING

06-19

9. Is this property within an Agricultural District containing a farm operation or within 500 feet of a farm operation located in an Agricultural District? Yes______ No X

***This information can be verified in the Assessor's Office.**
***If you answer yes to question 9, please complete the attached AAgricultural Data Statement.**

10. Detailed description of Project: (Use, Size, Number of Lots, etc.) Construction of a new 6,100sf +/- credit union branch

11. Has the Zoning Board of Appeals Granted any Variances for this property? yes____ no X
12. Has a Special Permit previously been granted for this property? yes____ no X

IF THIS APPLICATION IS SIGNED BY ANYONE OTHER THAN THE PROPERTY OWNER, A SEPARATE NOTARIZED STATEMENT OR PROXY STATEMENT FROM THE OWNER MUST BE SUBMITTED, AT THE TIME OF APPLICATION, AUTHORIZING THIS APPLICATION.

STATE OF NEW YORK)
SS.:
COUNTY OF ORANGE)

THE UNDERSIGNED APPLICANT, BEING DULY SWORN, DEPOSES AND STATES THAT THE INFORMATION, STATEMENTS AND REPRESENTATIONS CONTAINED IN THIS APPLICATION AND SUPPORTING DOCUMENTS AND DRAWINGS ARE TRUE AND ACCURATE TO THE BEST OF HIS/HER KNOWLEDGE AND/OR BELIEF. THE APPLICANT FURTHER ACKNOWLEDGES RESPONSIBILITY TO THE TOWN FOR ALL FEES AND COSTS ASSOCIATED WITH THE REVIEW OF THIS APPLICATION.

SWORN BEFORE ME THIS:

17th DAY OF March 2006

SUSAN A. TANSEY
Notary Public, State of New York
Qualified in Orange County
Reg. No. 5008665
Commission Expires February 22, 2007

Susan A. Tansey
NOTARY PUBLIC

Anton L Rohrmeier
(OWNER'S SIGNATURE)

(AGENT'S SIGNATURE)

ANTON L ROHRMEIER
Please Print Agent's Name as Signed

****

TOWN USE ONLY:

RECEIVED
TOWN OF NEW WINDSOR
MAY 17 2006

DATE APPLICATION RECEIVED

06-19
APPLICATION NUMBER

AGENT/OWNER PROXY STATEMENT
(for professional representation)

for submittal to the:
TOWN OF NEW WINDSOR PLANNING BOARD

Hudson Valley Federal Credit Union, deposes and says that he resides
(OWNER)

at 159 Barnegat Road in the County of Dutchess
(OWNER'S ADDRESS)

and State of New York and that he is the owner of property tax map

(Sec. _____ Block _____ Lot _____)
designation number(Sec. 42 Block 1 Lot 1.1) which is the premises described in the foregoing application and that he designates:

The Chazen Companies 21 Fox Street, Poughkeepsie, NY 12601
(Agent Name & Address)

_____
(Name & Address of Professional Representative of Owner and/or Agent)

as his agent to make the attached application.

THIS DESIGNATION SHALL BE EFFECTIVE UNTIL WITHDRAWN BY THE OWNER OR UNTIL TWO (2) YEARS FROM THE DATE AGREED TO, WHICH EVER IS SOONER.

SWORN BEFORE ME THIS:

17th DAY OF March 2006

SUSAN A. TANSEY
Notary Public, State of New York
Qualified in Orange County
Reg. No. 5008665
Commission Expires February 22, 2007

Susan A Tansey
NOTARY PUBLIC

** Peter Z Robinson
Owner's Signature (MUST BE NOTARIZED

_____
Agent's Signature (If Applicable)

_____
Professional Representative's Signature

****PLEASE NOTE:*** ***ONLY OWNER'S SIGNATURE MUST BE NOTARIZED.***

THIS PROXY SHALL BE VOID TWO (2) YEARS AFTER AGREED TO BY THE OWNER

RECEIVED
TOWN OF NEW WINDSOR
MAY 17 2006
ENGINEER & PLANNING

TOWN OF NEW WINDSOR

555 UNION AVENUE
NEW WINDSOR, NEW YORK 12553
Telephone: (845) 563-4615
Fax: (845) 563-4689

PLANNING BOARD APPLICATION

TYPE OF APPLICATION (check appropriate item):

Subdivision ___ Lot Line Change ___ Site Plan X Special Permit ___

Tax Map Designation: Sec. 42 Block 1 Lot 1.1

BUILDING DEPARTMENT PERMIT NUMBER PA 2006 - 46
MUST FILL IN THIS NUMBER

1. Name of Project Hudson Valley Federal Credit Union - NYS Route32 & Willow Lane

2. Owner of Record 1877 Webster Realty LLC Phone

   Address: 608 E. 183rd St (Street Name & Number) Bronx (Post Office) NY (State) 10457 (Zip)

3. Name of Applicant Hudson Valley Federal Credit Union Phone 845-463-3011

   Address: 159 Barnegat Road (Street Name & Number) Poughkeepsie (Post Office) New York (State) 12601 (Zip)

4. Person Preparing Plan The Chazen Companies Phone 518-273-0055

   Address: 547 River Street (Street Name & Number) Troy (Post Office) New York (State) 12180 (Zip)

5. Attorney Dale Lois (Whitman, Breed, Abbott, and Morgan Phone 203-869-3800

   Address 100 Field Point Road (Street Name & Number) Greenwich (Post Office) Connecticut (State) 06830 (Zip)

6. Person to be notified to appear at Planning Board meeting:

   Roger Keating (Name) 518-273-0055 (Phone) 518-273-8391 (fax)

7. Project Location: On the South (Direction) side of NYS Route 32 (Street)

8. Project Data: Acreage 2.31 Zone C School Dist. Newburgh City School District

(PLEASE DO NOT COPY 1 & 2 AS ONE PAGE TWO-SIDED)

property within an Agricultural District containing a farm operation or within 500 feet
arm operation located in an Agricultural District? Yes_____ No_x_____

is information can be verified in the Assessor's Office.
you answer yes to question 9, please complete the attached AAgricultural Data
tement.

d description of Project: (Use, Size, Number of Lots, etc.) Construction of a
0sf +/- credit union branch

: Zoning Board of Appeals Granted any Variances for this property? yes_____ no_x_
pecial Permit previously been granted for this property? yes_____ no_x_

PLICATION IS SIGNED BY ANYONE OTHER THAN THE PROPERTY OWNER,
TE NOTARIZED STATEMENT OR PROXY STATEMENT FROM THE OWNER
UBMITTED, AT THE TIME OF APPLICATION, AUTHORIZING THIS
ION.

NEW YORK)
SS.:
F ORANGE)

UNDERSIGNED APPLICANT, BEING DULY SWORN, DEPOSES AND STATES
INFORMATION, STATEMENTS AND REPRESENTATIONS CONTAINED IN THIS
ON AND SUPPORTING DOCUMENTS AND DRAWINGS ARE TRUE AND
TO THE BEST OF HIS/HER KNOWLEDGE AND/OR BELIEF. THE APPLICANT
CKNOWLEDGES RESPONSIBILITY TO THE TOWN FOR ALL FEES AND COSTS
D WITH THE REVIEW OF THIS APPLICATION

EFORE ME THIS:

(OWNER'S SIGNATURE)

DAY OF November 2006

(AGENT'S SIGNATURE)

JAMI JAMAL
Please Print ~~Agent~~'s Name as Signed

OTARY PUBLIC

ROBERT D. BRING
Notary Public, State of New York
No. 44-04[illegible]
Qualified [illegible] Orange County
Commission Expires September 30, 2009

****

ONLY:

LICATION RECEIVED

APPLICATION NUMBER

AGENT/OWNER PROXY STATEMENT
(for professional representation)

for submittal to the:
TOWN OF NEW WINDSOR PLANNING BOARD

1877 Webster ... Realty LLC, deposes and says that he resides
(OWNER)

at 608 E 187 Street in the County of Bronx
(OWNER'S ADDRESS)

and State of NY and that he is the owner of property tax map

(Sec._____ Block_____ Lot_____)
designation number(Sec. 42 Block 1 Lot 1.1) which is the premises described in the foregoing application and that he designates:

Hudson Valley Federal Credit Union 159 Barnegat Rd. Poughkeepsie, NY 12601
(Agent Name & Address)

R.W. Larson Associates P.C. 3 Farm Colony Drive Warren, PA 16365
The Chazen Companies 21 Fox Street Poughkeepsie, NY 12601
(Name & Address of Professional Representative of Owner and/or Agent)

as his agent to make the attached application.

THIS DESIGNATION SHALL BE EFFECTIVE UNTIL WITHDRAWN BY THE OWNER OR UNTIL TWO (2) YEARS FROM THE DATE AGREED TO, WHICH EVER IS SOONER.

SWORN BEFORE ME THIS:

** _____
Owner's Signature (MUST BE NOTARIZED

16th DAY OF November 20 06

ROBERT D. RING
Notary Public, State of New York
No. 44-0419775
Qualified in Rockland County
Commission Expires September 30, 2009

_____
Agent's Signature (If Applicable)

_____
NOTARY PUBLIC

_____
Professional Representative's Signature

*****PLEASE NOTE:*** ***ONLY OWNER'S SIGNATURE MUST BE NOTARIZED.***

THIS PROXY SHALL BE VOID TWO (2) YEARS AFTER AGREED TO BY THE OWNER

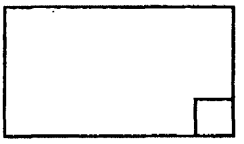
TOWN OF NEW WINDSOR PLANNING BOARD

SITE PLAN CHECKLIST

ITEM

1. __X__ Site Plan Title
2. __X__ **Provide 4" wide X 2" high box (IN THE LOWEST RIGHT CORNER OF THE PLAN) for use by Planning Board in affixing Stamp of Approval. (ON ALL PAGES OF SITE PLAN).**

SAMPLE:



3. __X__ Applicant's Name(s)
4. __X__ Applicant's Address
5. __X__ Site Plan Preparer's Name
6. __X__ Site Plan Preparer's Address
7. __X__ Drawing Date
8. __X__ Revision Dates
9. __X__ Area Map Inset and Site Designation
10. __TBD__ Properties within 500' of site
11. __TBD__ Property Owners (Item #10)
12. __NA__ Plot Plan
13. __X__ Scale (1" = 50' or lesser)
14. __X__ Metes and Bounds
15. __X__ Zoning Designation
16. __X__ North Arrow
17. __X__ Abutting Property Owners
18. __X__ Existing Building Locations
19. __X__ Existing Paved Areas
20. __X__ Existing Vegetation
21. __X__ Existing Access & Egress

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PROPOSED IMPROVEMENTS

22. X Landscaping
23. X Exterior Lighting
24. X Screening
25. X Access & Egress
26. X Parking Areas
27. X Loading Areas
28. TBD Paving Details (Items 25 - 27)
29. X Curbing Locations
30. TBD Curbing through section
31. X Catch Basin Locations
32. TBD Catch Basin Through Section
33. X Storm Drainage
34. X Refuse Storage
35. TBD Other Outdoor Storage
36. X Water Supply
37. NA Sanitary Disposal System
38. X Fire Hydrants
39. X Building Locations
40 X Building Setbacks
41. X Front Building Elevations
42. TBD Divisions of Occupancy
43. TBD Sign Details
44. X Bulk Table Inset
45. X Property Area (Nearest 100 sq. ft.)
46. X Building Coverage (sq. ft.)
47. X Building Coverage (% of total area)
48. X Pavement Coverage (sq. ft.)
49. X Pavement Coverage (% of total area)
50 X Open Space (sq. ft.)
51. X Open Space (% of total area)
52. X No. of parking spaces proposed
53. X No. of parking spaces required

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REFERRING TO QUESTION 9 ON THE APPLICATION FORM, AIS THIS PROPERTY WITHIN AN AGRICULTURAL DISTRICT CONTAINING A FARM OPERATION OR WITHIN 500 FEET OF A FARM OPERATION LOCATED IN AN AGRICULTURAL DISTRICT, PLEASE NOTE THE FOLLOWING:

54. N/A — Referral to Orange County Planning Dept. is required for all applicants filing AD Statement.

55. NA — A disclosure Statement, in the form set below, must be inscribed on all site plan maps prior to the affixing of a stamp of approval, whether or not the Planning Board specifically requires such a statement as a condition of approval.

APrior to the sale, lease, purchase, or exchange of property on this site which is wholly or partially within or immediately adjacent to or within 500 feet of a farm operation, the purchaser or leasee shall be notified of such farm operation with a copy of the following notification.

It is the policy of this State and this community to conserve, protect and encourage the development and improvement of agricultural land for the production of food, and other products, and also for its natural and ecological value. This notice is to inform prospective residents that the property they are about to acquire lies partially or wholly within an agricultural district or within 500 feet of such a district and that farming activities occur within the district. Such farming activities may include, but not be limited to, activities that cause noise, dust and odors.

This list is provided as a guide only and is for the convenience of the Applicant. The Town of New Windsor Planning Board may require additional notes or revisions prior to granting approval.

PREPARER'S ACKNOWLEDGMENT:

THE PLAT FOR THE PROPOSED SITE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THIS CHECKLIST AND THE TOWN OF NEW WINDSOR ORDINANCES, TO THE BEST OF MY KNOWLEDGE.

BY: _____ 3/31/06
Licensed Professional — Date

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PLEASE NOTE:

THE APPLICANT OR THEIR REPRESENTATIVE IS RESPONSIBLE TO KEEP TRACK OF ALL EXPIRATION DATES FOR ANY AND ALL APPROVALS GRANTED TO A PROJECT. EXTENSIONS MUST BE APPLIED FOR PRIOR TO EXPIRATION DATE.

06-19

PROJECT ID NUMBER

617.20
APPENDIX C

SEQR

STATE ENVIRONMENTAL QUALITY REVIEW

SHORT ENVIRONMENTAL ASSESSMENT FORM

for UNLISTED ACTIONS Only

PART 1 - PROJECT INFORMATION (To be completed by Applicant or Project Sponsor)

1. APPLICANT / SPONSOR	2. PROJECT NAME
Hudson Valley Federal Credit Union	HVFCU - NYS Route 32 & Willow Lane
3. PROJECT LOCATION: Town of New Windsor (Municipality)	Orange (County)

4. PRECISE LOCATION: Street Address and Road Intersections, Prominent landmarks etc - or provide map

The intersection of NYS Route 32 and Willow Lane.

5. IS PROPOSED ACTION: ☑ New ☐ Expansion ☐ Modification / alteration

6. DESCRIBE PROJECT BRIEFLY:

Construction of a new 6,100 SF credit union branch with associated parking and utility connections.

7. AMOUNT OF LAND AFFECTED:
Initially 2.31 acres Ultimately 2.31 acres

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER RESTRICTIONS?
☑ Yes ☐ No If no, describe briefly:

9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT? (Choose as many as apply.)
☑ Residential ☐ Industrial ☑ Commercial ☐ Agriculture ☐ Park / Forest / Open Space ☐ Other (describe)

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (Federal, State or Local)
☑ Yes ☐ No If yes, list agency name and permit / approval:

NYSDEC SPDES permit for stormwater; Town of New Windsor Planning and Town Board approvals.

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?
☐ Yes ☑ No If yes, list agency name and permit / approval:

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT / APPROVAL REQUIRE MODIFICATION?
☐ Yes ☑ No

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

Applicant / Sponsor Name Date:

Signature Chaz Schneider 3/17/06

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If the action is a Coastal Area and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment

06-19

PART II - IMPACT ASSESSMENT (To be completed by Lead Agency)

A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR, PART 617.4? If yes, coordinate the review process and use the FULL EAF.

☐ Yes ☐ No

B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency.

☐ Yes ☐ No

C. COULD ACTION RESULT IN **ANY** ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)

C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic pattern, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly:

C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character? Explain briefly:

C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly:

C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly:

C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly:

C6. Long term, short term, cumulative, or other effects not identified in C1-C5? Explain briefly:

C7. Other impacts (including changes in use of either quantity or type of energy? Explain briefly:

D. WILL THE PROJECT HAVE AN IMPACT ON THE ENVIRONMENTAL CHARACTERISTICS THAT CAUSED THE ESTABLISHMENT OF A CRITICAL ENVIRONMENTAL AREA (CEA)? (If yes, explain briefly:

☐ Yes ☐ No

E. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS? If yes explain:

☐ Yes ☐ No

PART III - DETERMINATION OF SIGNIFICANCE (To be completed by Agency)

INSTRUCTIONS: For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed. If question d of part ii was checked yes, the determination of significance must evaluate the potential impact of the proposed action on the environmental characteristics of the CEA.

Check this box if you have identified one or more potentially large or significant adverse impacts which **MAY** occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.

Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action **WILL NOT** result in any significant adverse environmental impacts **AND** provide, on attachments as necessary, the reasons supporting this determination.

Name of Lead Agency | Date

Print or Type Name of Responsible Officer in Lead Agency | Title of Responsible Officer

Signature of Responsible Officer in Lead Agency | Signature of Preparer (If different from responsible officer)

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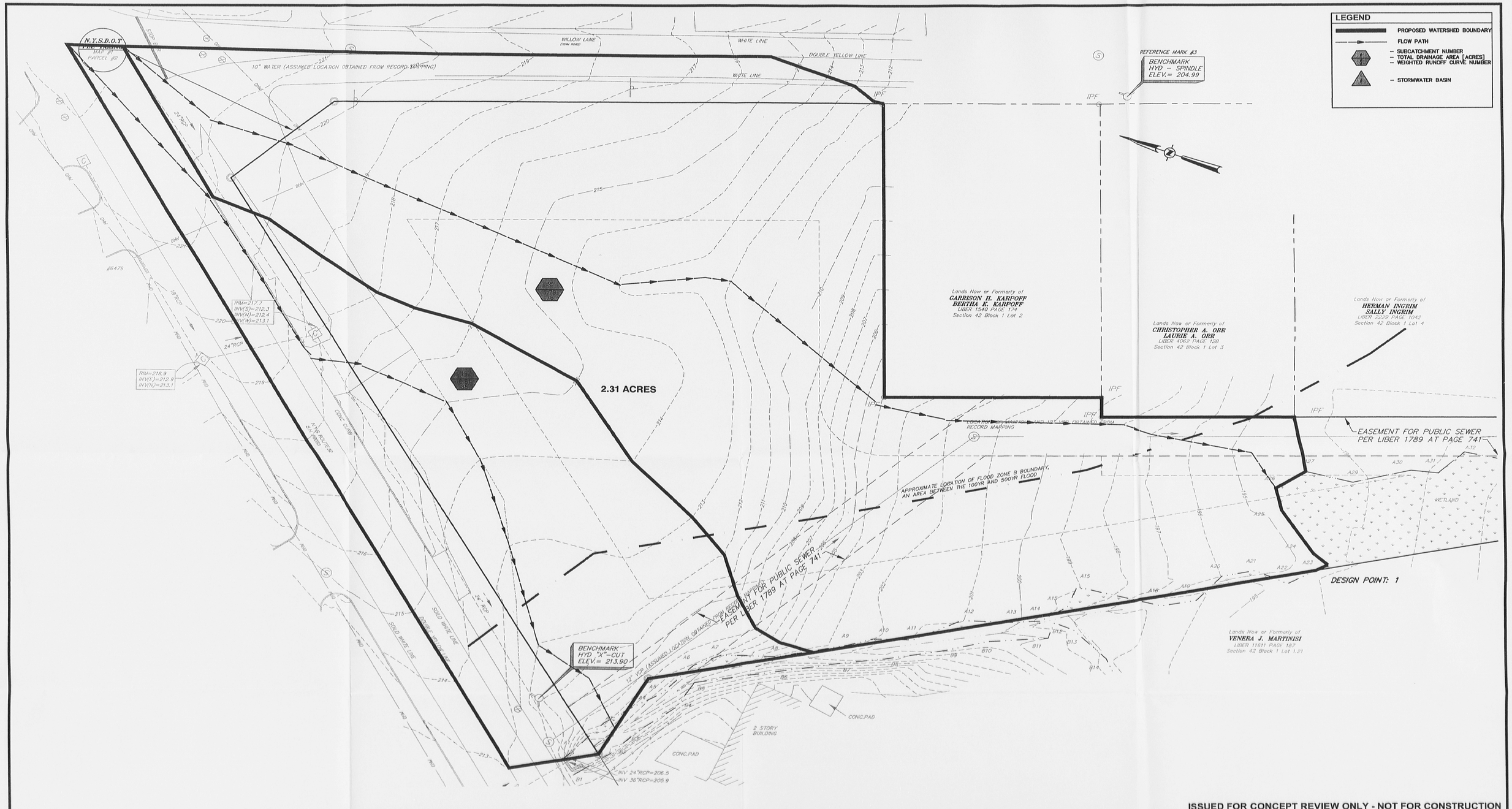

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HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE EXISTING CONDITIONS DRAINAGE PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn REK	checked JML
date 3/17/06	scale 1"=20'
project no. 10512.02	
sheet no. SW1	

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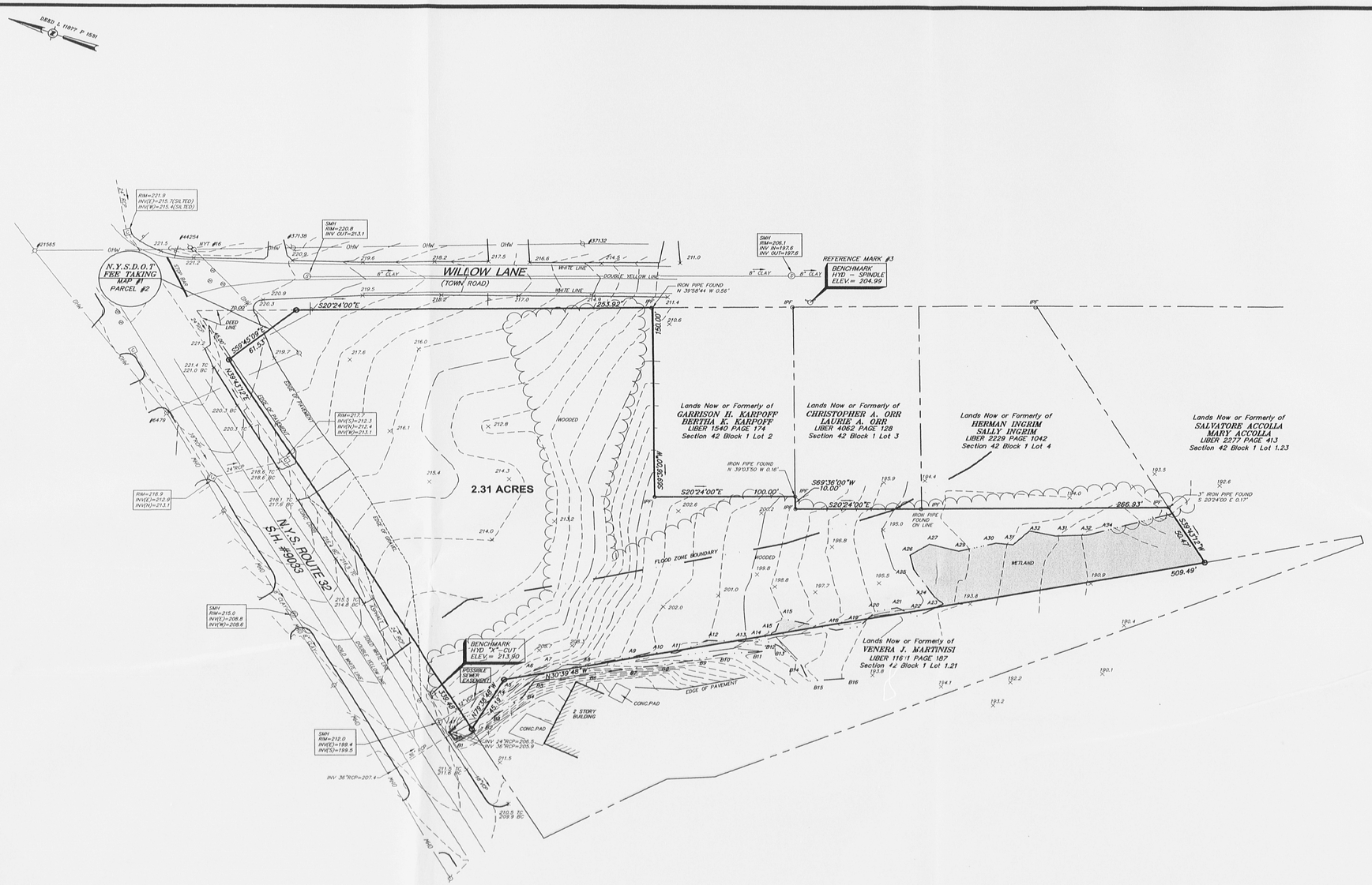

LEGEND:

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- ACOE WETLANDS LINE
- 110 — EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- 500.5 — EXISTING SPOT GRADE
- EXISTING TREE LINE
- OHW — EXISTING OVERHEAD WIRES
- EXISTING SIGN
- BENCHMARK HYD "X"-CUT ELEV.= 213.90 — EXISTING BENCHMARK
- EXISTING CATCH BASIN
- EXISTING GUY WIRE
- EXISTING HYDRANT
- EXISTING UTILITY POLE
- EXISTING WATER VALVE

NOTES

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UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

WETLANDS SHOWN HEREON AS PER FIELD DELINEATION AUGUST 31, 2005 BY STEVEN FINCH AND SURVEY LOCATION COMPLETED BY THIS OFFICE ON SEPTEMBER 14, 2005.

FLOOD ZONE NOTE

PARCELS SHOWN HEREON LIE WITHIN FLOOD ZONE B AS SHOWN ON FIRM MAPPING FOR THE TOWN OF NEW WINDSOR COMMUNITY PANEL #360628 0010 B DATED DECEMBER 15, 1978. THE EXPLANATION OF ZONE B IS AS FOLLOWS, AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100 YEAR FLOODING WITH AVERAGE DEPTHS LESS THAN ONE FOOT OR WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THEN ONE SQUARE MILE; OR AREAS PROTECTED BY LEVEES FROM BASE FLOOD.

DEED REFERENCE

CARLOS S. SCHEER
-TO-
1877 WEBSTER REALTY, LLC
LIBER 11877 PAGE 1531

TAX PARCEL NUMBER

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK
SECTION 42 BLOCK 1 LOT 1.1

APPLICANT:

HUDSON VALLEY FEDERAL CREDIT UNION
159 BARNEGAT ROAD
POUGHKEEPSIE, NY 12601

NEW WINDSOR PLANNING BOARD
NEW WINDSOR, NEW YORK
SITE PLAN APPROVAL

JOHN E. MACDONALD PLS #49774

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North Country Office:
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Glens Falls, New York 12801
Phone: (518) 812-0513

rev.	date	description

HUDSON VALLEY FEDERAL CREDIT UNION

EXISTING CONDITIONS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn TCR	checked JEM
date 10/03/05	scale 1" = 40'
project no. 10512.02	
sheet no. SP1 1 of 1	

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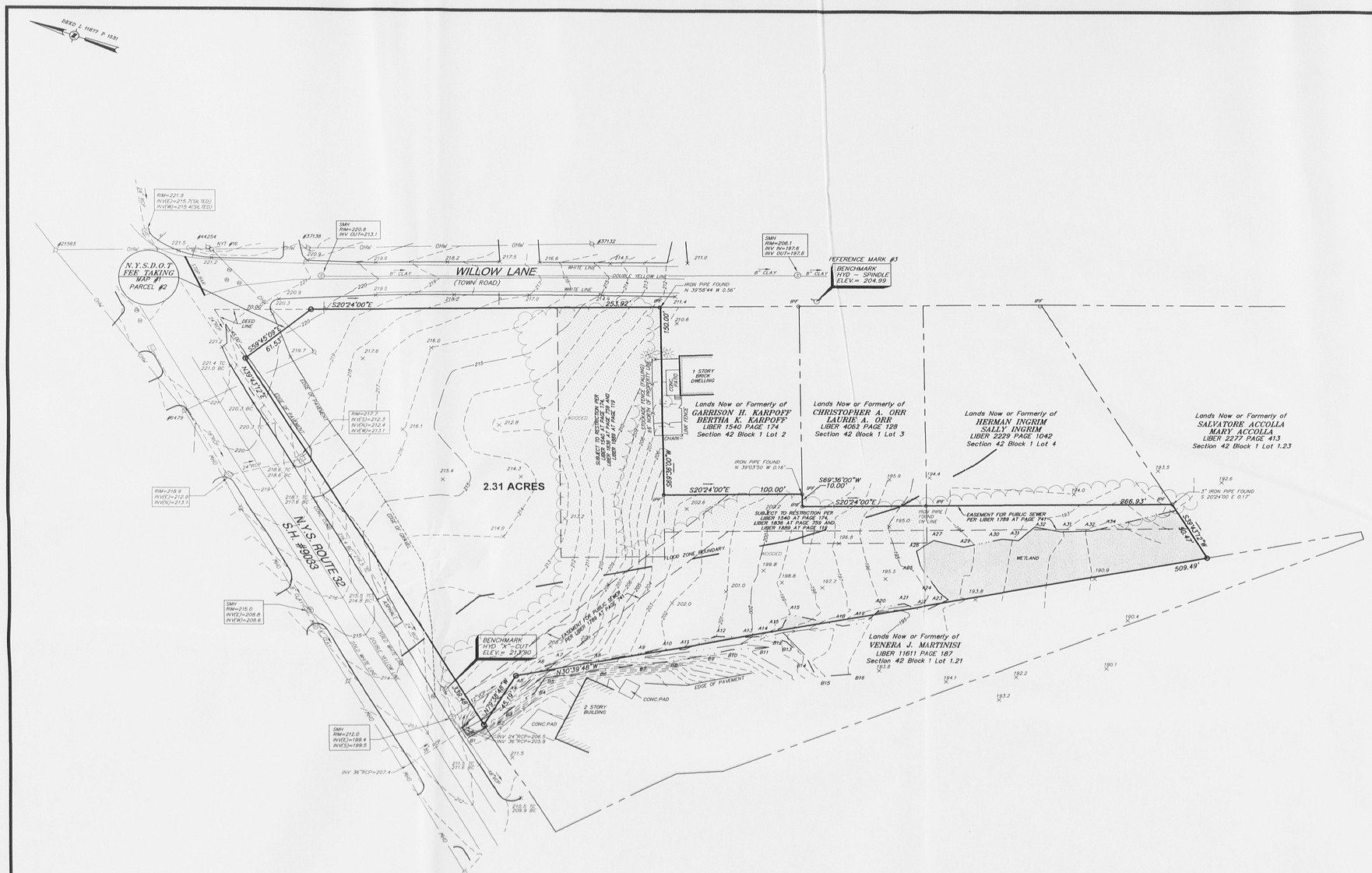

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WETLANDS SHOWN HEREON AS PER FIELD DELINEATION AUGUST 31, 2005 BY STEVEN FINCH AND SURVEY LOCATION COMPLETED BY THIS OFFICE ON SEPTEMBER 14, 2005.

THE SUBJECT PARCEL IS APPARENTLY SUBJECT TO AN EASMENT GRANTED TO CENTRAL HUDSON GAS AND ELECTRIC CORPORATION AND NEW YORK TELEPHONE COMPANY AS EVIDENCED BY THE DOCUMENT RECORDED IN LIBER 1483 AT PAGE 106, A COPY OF WHICH DOCUMENT WAS PROVIDED BY NORTH RIVER ABSTRACT CORPORATION. NO SPECIFIC LOCATION OR LIMTS OF SAID EASEMENT ARE RECITED IN SAID DOCUMENT.

FLOOD ZONE NOTE

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DEED REFERENCE

CARLOS S. SCHEER
-TO-
1877 WEBSTER REALTY, LLC
LIBER 11877 PAGE 1531

TAX PARCEL NUMBER

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK
SECTION 42 BLOCK 1 LOT 1.1

APPLICANT:

HUDSON VALLEY FEDERAL CREDIT UNION
159 BARNEGAT ROAD
POUGHKEEPSIE, NY 12601

NEW WINDSOR PLANNING BOARD
NEW WINDSOR, NEW YORK
SITE PLAN APPROVAL

APPROVAL GRANTED BY TOWN OF NEW WINDSOR
NOV - 7 2007
By: Angelo Arginello, Chairman
By: Neil Schiavone, Secretary

ISSUED FOR FINAL APPROVAL

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STATE OF NEW YORK · COPY NOT VALID UNLESS EMBOSSED · JOHN E. DECKER · LICENSED LAND SURVEYOR · No. 49774

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Glens Falls, New York 12801
Phone: (518) 812-0513

rev.	date	description
5	10/8/07	ISSUED TO TOWN FOR FINAL SIGNATURE
4	9/26/07	ISSUED TO TURNER FOR BIDDING
3	6/27/07	ISSUED TO TOWN
2	09/25/2006	IMPROVEMENTS ALONG TAX LOT 42-1-2
1	06/14/2006	EASEMENTS & RESTRICTIONS

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH
NYS ROUTE 32 & WILLOW LANE
EXISTING CONDITIONS PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
TCR	JEM
date 3/17/06	scale 1" = 40'
project no. 10512.02	
sheet no. SP1	

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Date Printed: Oct 08, 2007 11:48am

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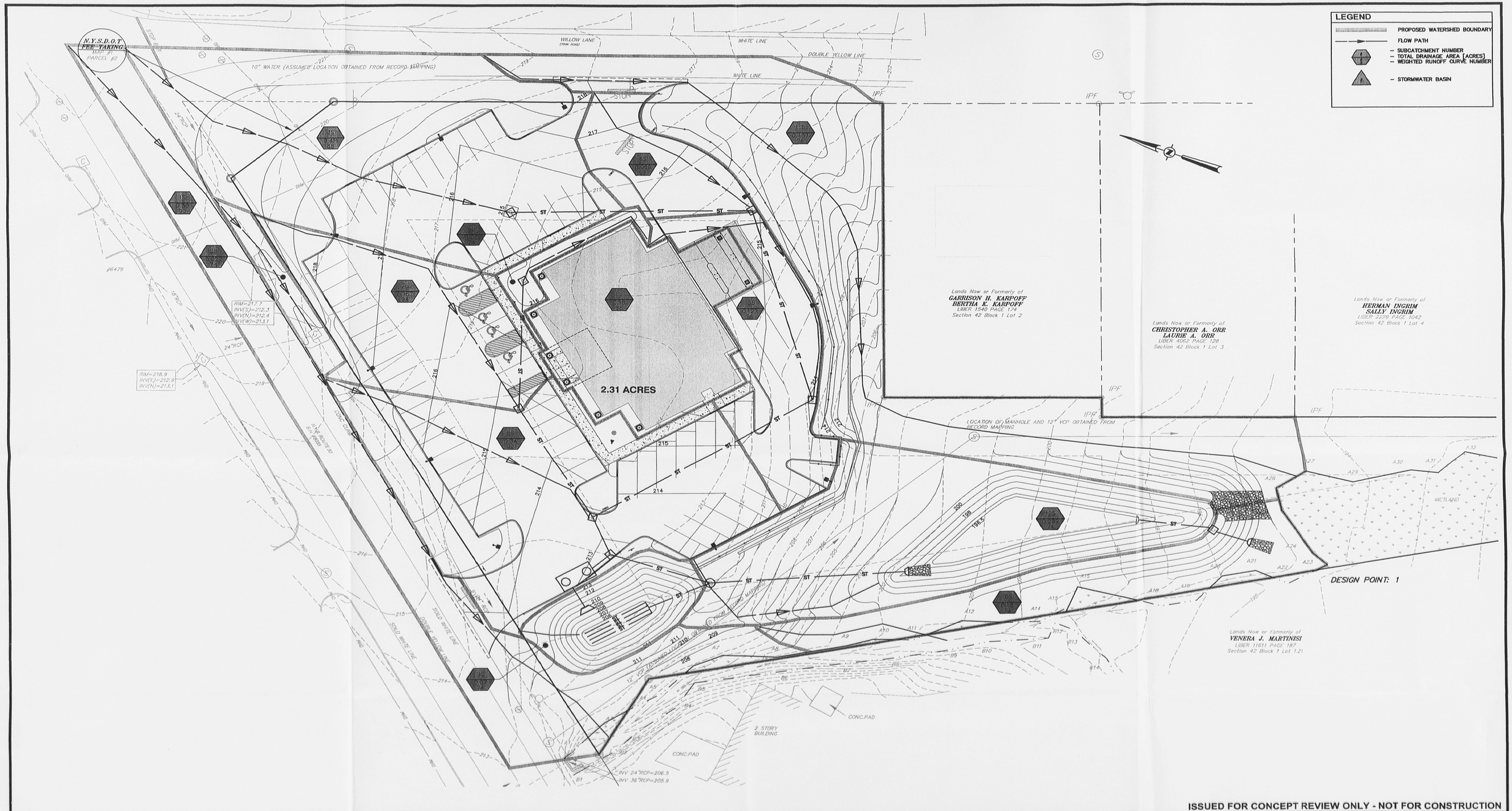

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rev.	date	description

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE PROPOSED CONDITIONS DRAINAGE PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn REK	checked JML
date 3/17/06	scale 1"=20'
project no. 10512.02	
sheet no. SW2	

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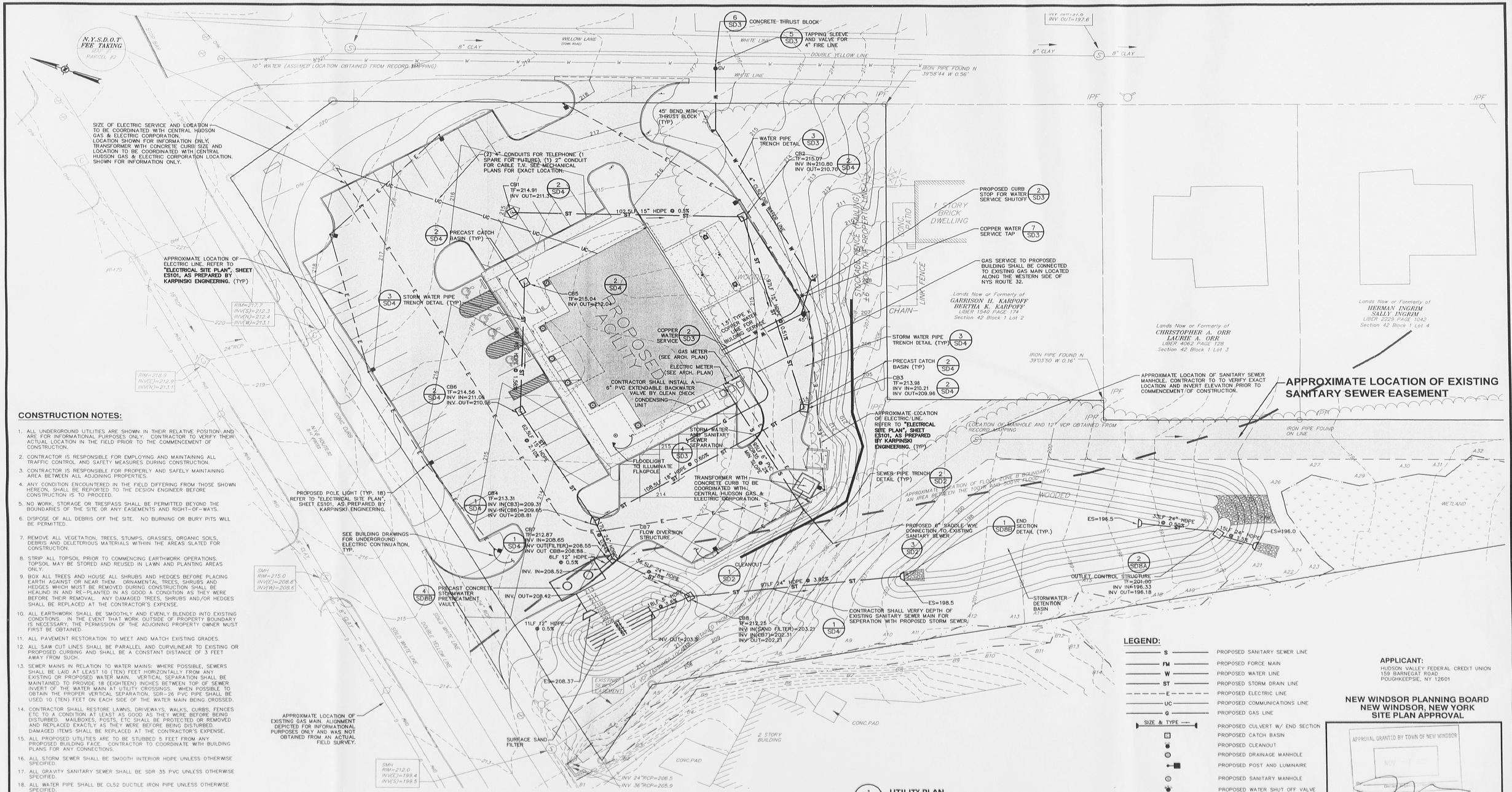

CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES ARE SHOWN IN THEIR RELATIVE POSITION AND ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR TO VERIFY THEIR ACTUAL LOCATION IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR EMPLOYING AND MAINTAINING ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR PROPERLY AND SAFELY MAINTAINING AREA BETWEEN ALL ADJOINING PROPERTIES.
4. ANY CONDITION ENCOUNTERED IN THE FIELD DIFFERING FROM THOSE SHOWN HEREON, SHALL BE REPORTED TO THE DESIGN ENGINEER BEFORE CONSTRUCTION IS TO PROCEED.
5. NO WORK, STORAGE OR TRESPASS SHALL BE PERMITTED BEYOND THE BOUNDARIES OF THE SITE OR ANY EASEMENTS AND RIGHT-OF-WAYS.
6. DISPOSE OF ALL DEBRIS OFF THE SITE. NO BURNING OR BURY PITS WILL BE PERMITTED.
7. REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES, ORGANIC SOILS, DEBRIS AND DELETERIOUS MATERIALS WITHIN THE AREAS SLATED FOR CONSTRUCTION.
8. STRIP ALL TOPSOIL PRIOR TO COMMENCING EARTHWORK OPERATIONS. TOPSOIL MAY BE STORED AND REUSED IN LAWN AND PLANTING AREAS ONLY.
9. BOX ALL TREES AND HOUSE ALL SHRUBS AND HEDGES BEFORE PLACING EARTH AGAINST OR NEAR THEM. ORNAMENTAL TREES, SHRUBS AND HEDGES WHICH MUST BE REMOVED DURING CONSTRUCTION SHALL BE HEALND IN AND RE-PLANTED IN AS GOOD A CONDITION AS THEY WERE BEFORE THEIR REMOVAL. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
10. ALL EARTHWORK SHALL BE SMOOTHLY AND EVENLY BLENDED INTO EXISTING CONDITIONS. IN THE EVENT THAT WORK OUTSIDE OF PROPERTY BOUNDARY IS NECESSARY, THE PERMISSION OF THE ADJOINING PROPERTY OWNER MUST FIRST BE OBTAINED.
11. ALL PAVEMENT RESTORATION TO MEET AND MATCH EXISTING GRADES.
12. ALL SAW CUT LINES SHALL BE PARALLEL AND CURVILINEAR TO EXISTING OR PROPOSED CURBING AND SHALL BE A CONSTANT DISTANCE OF 3 FEET AWAY FROM SUCH.
13. SEWER MAINS IN RELATION TO WATER MAINS: WHERE POSSIBLE, SEWERS SHALL BE LAID AT LEAST 10 (TEN) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. VERTICAL SEPARATION SHALL BE MAINTAINED TO PROVIDE 18 (EIGHTEEN) INCHES BETWEEN TOP OF SEWER INVERT OF THE WATER MAIN AT UTILITY CROSSINGS. WHEN POSSIBLE TO OBTAIN THE PROPER VERTICAL SEPARATION, SDR-26 PVC PIPE SHALL BE USED 10 (TEN) FEET ON EACH SIDE OF THE WATER MAIN BEING CROSSED.
14. CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, WALKS, CURBS, FENCES ETC. TO A CONDITION AT LEAST AS GOOD AS THEY WERE BEFORE BEING DISTURBED. MAILBOXES, POSTS, ETC SHALL BE PROTECTED OR REMOVED AND REPLACED EXACTLY AS THEY WERE BEFORE BEING DISTURBED. DAMAGED ITEMS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
15. ALL PROPOSED UTILITIES ARE TO BE STUBBED 5 FEET FROM ANY PROPOSED BUILDING FACE. CONTRACTOR TO COORDINATE WITH BUILDING PLANS FOR ANY CONNECTIONS.
16. ALL STORM SEWER SHALL BE SMOOTH INTERIOR HDPE UNLESS OTHERWISE SPECIFIED.
17. ALL GRAVITY SANITARY SEWER SHALL BE SDR 35 PVC UNLESS OTHERWISE SPECIFIED.
18. ALL WATER PIPE SHALL BE CL52 DUCTILE IRON PIPE UNLESS OTHERWISE SPECIFIED.

0 1 2 3
ORIGINAL SCALE IN INCHES

1 SP3 **UTILITY PLAN**
SCALE: 1"=20'

LEGEND:

S	PROPOSED SANITARY SEWER LINE
FM	PROPOSED FORCE MAIN
W	PROPOSED WATER LINE
ST	PROPOSED STORM DRAIN LINE
E	PROPOSED ELECTRIC LINE
UC	PROPOSED COMMUNICATIONS LINE
G	PROPOSED GAS LINE
SIZE & TYPE	PROPOSED CULVERT W/ END SECTION
	PROPOSED CATCH BASIN
	PROPOSED CLEANOUT
	PROPOSED DRAINAGE MANHOLE
	PROPOSED POST AND LUMINAIRE
	PROPOSED SANITARY MANHOLE
	PROPOSED WATER SHUT OFF VALVE
	PROPOSED WATER VALVE

APPLICANT:
HUDSON VALLEY FEDERAL CREDIT UNION
159 BARNEGAT ROAD
POUGHKEEPSIE, NY 12601

NEW WINDSOR PLANNING BOARD
NEW WINDSOR, NEW YORK
SITE PLAN APPROVAL

APPROVAL GRANTED BY TOWN OF NEW WINDSOR
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7	6/27/07	ISSUED TO TOWN
6	2/28/07	UPDATES FOR PLANNING BOARD MEETING
5	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06
4	6/17/06	REV PER TOWN WORKSHOP AND DRAINAGE UPDATE
3	6/27/06	REV PER TOWN COMMENTS
2	6/16/06	ADDED LOCATION OF EASEMENTS AND RESTRICTIONS
1	4/25/06	REV PER TOWN COMMENTS

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PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE UTILITY PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

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date 3/17/06	scale 1"=20'
project no. 10512.02	
sheet no. SP3	

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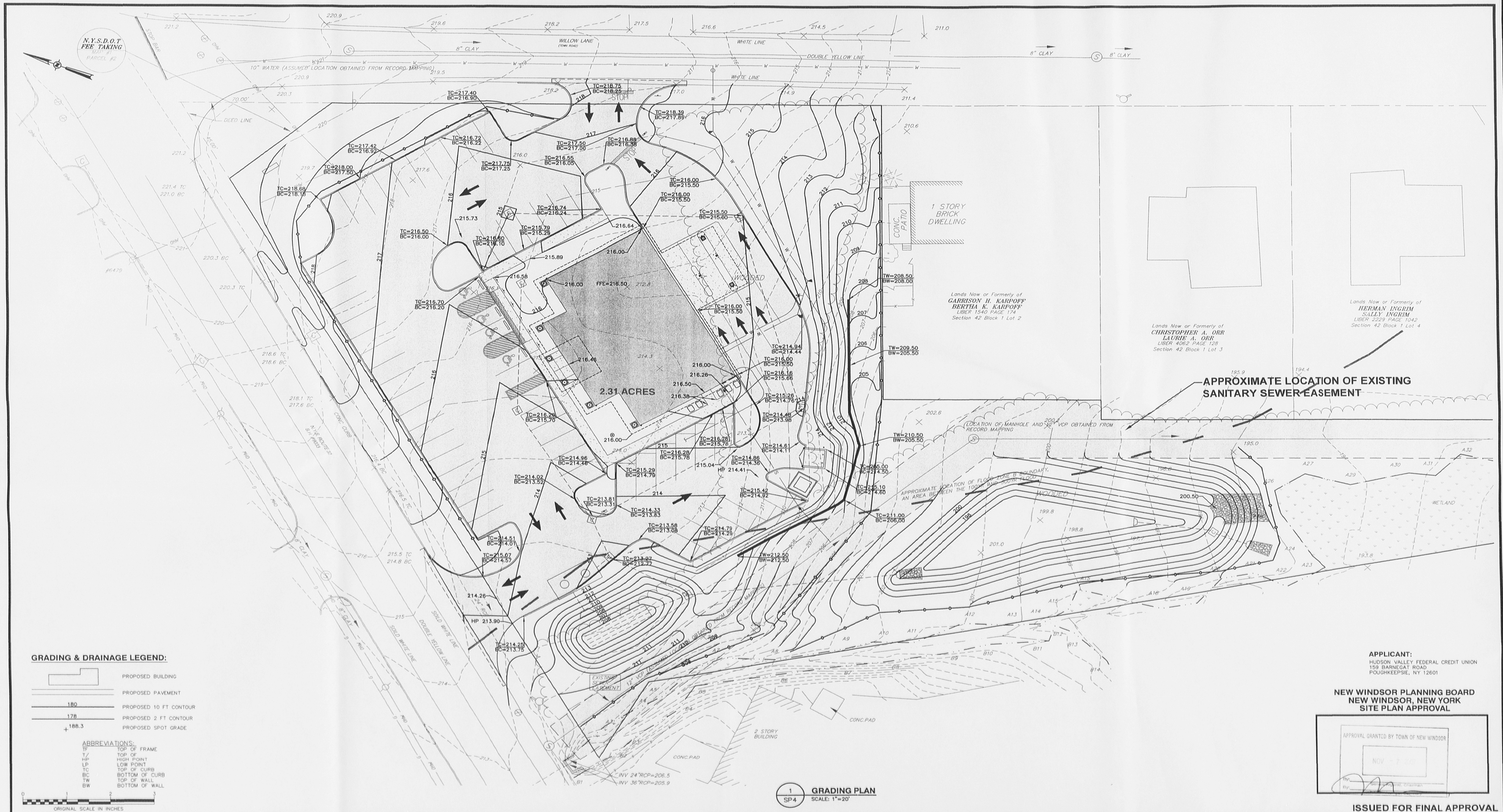

1 SP4 **GRADING PLAN**
SCALE: 1"=20'

GRADING & DRAINAGE LEGEND:

- PROPOSED BUILDING
- PROPOSED PAVEMENT
- 180 — PROPOSED 10 FT CONTOUR
- 178 — PROPOSED 2 FT CONTOUR
- +188.3 — PROPOSED SPOT GRADE

ABBREVIATIONS:

TF	TOP OF FRAME
T/	TOP OF
HP	HIGH POINT
LP	LOW POINT
TC	TOP OF CURB
BC	BOTTOM OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL

0 1 2 3
ORIGINAL SCALE IN INCHES

APPLICANT:
HUDSON VALLEY FEDERAL CREDIT UNION
159 BARNEGAT ROAD
POUGHKEEPSIE, NY 12601

NEW WINDSOR PLANNING BOARD
NEW WINDSOR, NEW YORK
SITE PLAN APPROVAL

APPROVAL GRANTED BY TOWN OF NEW WINDSOR
NOV 7 2007
By: _____ Secretary, Planning Board, Chairman
By: _____

ISSUED FOR FINAL APPROVAL

STATE OF NEW YORK
JOSEPH MARTIN LAURO
070126
LICENSED PROFESSIONAL ENGINEER

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PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE GRADING PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

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project no. 10512.02	
sheet no. SP4A	

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Date Printed: Oct 08, 2007, 11:51pm

GENERAL CONSTRUCTION SEQUENCE NOTES:

1. FLAG THE WORK AND CLEARING LIMITS.

2. HOLD A PRE-CONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO COMMENCING CONSTRUCTION.

3. INSTALL SEDIMENT BARRIERS DOWN SLOPE FROM CONSTRUCTION ACTIVITIES THAT DISTURB SITE SOIL.

4. SELECTIVELY CLEAR ONLY THE AREAS REQUIRED FOR THE INSTALLATION OF THE STABILIZED CONSTRUCTION ENTRANCES/EXITS AND TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES.

5. INSTALL STABILIZED CONSTRUCTION ENTRANCES/EXITS FOR THE SITE. THIS WILL BE THE FIRST CONSTRUCTION WORK OF THE PROJECT.

6. CONSTRUCT THE EQUIPMENT AND STAGING AREAS FOR SITE CONSTRUCTION.

7. UPON INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCES/EXITS AND DOWN SLOPE SEDIMENT BARRIERS A QUALIFIED PROFESSIONAL MUST CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION CERTIFYING IN AN INSPECTION REPORT THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROL DESCRIBED IN THE SWPPP HAS BEEN ADEQUATELY INSTALLED OR IMPLEMENTED TO ENSURE OVERALL PREPAREDNESS OF THE SITE.

8. THE OPERATOR SHALL INITIATE STABILIZATION MEASURES AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OF PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OF PERMANENTLY CEASED.

9. GRAVEL SHALL BE USED FOR CONSTRUCTION ROAD STABILIZATION FOR TRAFFIC ROUTES AND PARKING/STAGING AREAS. THE STONE SURFACE SHALL BE A 6-INCH COURSE OF NYSDOT TYPE 3 OR 4 BASE COURSE OR EQUIVALENT AS SPECIFIED IN NYS- STANDARDS AND SPECIFICATIONS FOR HIGHWAYS.

10. SPRINKLING MAY BE USED TO MAINTAIN DUST CONTROL THROUGH DRY WEATHER PERIODS. SPRINKLING WILL BE DONE ON A CYCLE AND AT A RATE THAT KEEPS THE SURFACE WET AND PREVENTS SEDIMENT TRANSPORT. OPERATIONS SHALL BE MONITORED TO EVALUATE THE SPRAYING OR SPRINKLING CYCLES AND ADJUSTMENTS MADE IF NECESSARY.

11. ALL SEDIMENT SPILLED, DROPPED, OR WASHED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

12. INSTALL SEDIMENT BARRIERS (EROSION CONTROL MEASURES) DOWN SLOPE FROM CONSTRUCTION ACTIVITIES THAT DISTURB SITE SOIL. INSTALL SILT FENCE ALONG THE LANDS NOW OR FORMERLY OF KARPOFF. INSTALL SILT FENCE AND HAY-BALE DIKES ALONG THE STREAM AND WETLANDS. INSTALL TEMPORARY SEDIMENT TRAP WHERE PROPOSED DETENTION BASIN IS LOCATED. SEE DESIGN AND CONSTRUCTION NOTES ON SHEET SD5 AND SD6.

14. STABILIZE SLOPES OF TEMPORARY SEDIMENT TRAP WITH SEED AND MULCH AS SPECIFIED ON SHEET SPX FOR EROSION AND SEDIMENT CONTROL MEASURES, FOR SEED AND MULCH RATES FOR BOTH PERMANENT AND TEMPORARY VEGETATIVE COVER. JUTE MESH OR EROSION CONTROL MATTING SHALL BE PROVIDED TO PROVIDE ADDITIONAL STABILIZATION OF SLOPES AND SEED AND MULCH. INSTALL TEMPORARY OUTLET. (JUTE MESH AND EROSION CONTROL MATTING BY INDIAN VALLEY INDUSTRIES INC. OR EQUIVALENT. MATTING TO BE IVI STRAW MAT BY INDIAN VALLEY INDUSTRIES, INC).

15. BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE BUILDING IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING.

16. COMMENCE SITE GRADING.

17. CREATE TEMPORARY STOCK PILE AREAS. (THE SPECIFIC STOCK PILES SHOWN ON THIS DRAWING ARE COMMON AREAS THAT WILL BE PRIMARILY UTILIZED DURING THE INITIAL STAGES OF SITE CONSTRUCTION INCLUDING ROUGH SITE GRADING AND ENTRANCE ROAD CONSTRUCTION.)

18. ROUGH GRADE AREAS REQUIRED FOR DRIVEWAY CONSTRUCTION, BUILDING AREAS IN THE CENTER OF THE SITE. STOCKPILE TOP SOIL FOR LATER USE. ONCE ROUGH GRADING IS COMPLETED FOR MULCH AND STABILIZE DISTURBED AREAS.

19. COMPLETE FINAL GRADING FOR DRIVEWAYS AND PARKING AREAS AND INSTALL ON-SITE UTILITIES.

20. CONSTRUCT ALL CURB AND GUTTER INLETS AND STORM SEWER MANHOLES AS SHOWN ON THE PLANS. PLACE REQUIRED RIPRAP AT LOCATIONS SHOWN ON THE PLANS. ALLOW RUNOFF FROM THE STORM SYSTEM TO ENTER THE SEDIMENT TRAP.

21. INSTALL PROTECTIVE SILT FENCES AT THE LOCATIONS OF ALL GRATE INLETS, AND CURB INLETS.

21. TOPSOIL CRITICAL AREAS AND ESTABLISH PERMANENT VEGETATIVE COVER, LANDSCAPE AND MULCH. CRITICAL AREAS INCLUDE THE SLOPES ALONG THE KARPOFF PROPERTY, AND STREAM AND WETLAND AREAS. THE REMAINDER OF THE SITE AND LAWN AREAS SHALL BE TOPSOILED AND ESTABLISH PERMANENT VEGETATIVE COVER.

22. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS SHALL BE SEEDED AND WATERED. SEE SHEET SP6 NOTES: PERMANENT EROSION AND SEDIMENT CONTROL MEASURES, FOR SEED AND MULCH RATES FOR BOTH PERMANENT AND TEMPORARY VEGETATIVE COVER.

23. CONSTRUCT SURFACE SAND FILTER WITH UNDERGROUND STORAGE SYSTEM AND ALL NECESSARY COMPONENTS AND ESTABLISH PERMANENT VEGETATIVE COVER. APPLY SEED AND MULCH AS NOTED ON SHEET SD6 AND APPLY JUTE MESH FOR ADDITIONAL STABILIZATION OF SLOPE AND SEED AND MULCH. DO NOT MAKE THE CONNECTION TO THE REST OF THE STORMWATER SYSTEM/INFRASTRUCTURE UNTIL ENTIRE SITE IS STABILIZED.

24. FINALIZE PAVEMENT SUBGRADE PREPARATION.

25. REMOVE SILT FENCES AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.

26. REMOVE TEMPORARY CONSTRUCTION EXITS ONLY PRIOR TO PAVEMENT CONSTRUCTION IN THESE AREAS (THESE AREAS TO BE PAVED LAST).

27. REMOVE SEDIMENT CONTROLS ONLY AFTER ALL PAVING IS COMPLETE AND EXPOSED SURFACES ARE COMPLETELY STABILIZED.

28. ONCE SITE IS STABILIZED WITH DRIVEWAY PAVED AND ALL LAWN AREAS HAVING PERMANENT VEGETATIVE COVER, BRING SAND FILTER ON-LINE. MAKE CONNECTION FROM DIVERSION STRUCTURE TO THE PRETREATMENT STRUCTURE.

29. UTILITY COMPANY INSTALLATION NOTE: EROSION CONTROL MEASURES SHALL REMAIN IN PLACE DURING THE UTILITY INSTALLATION. SILT FENCES AT THE LOCATIONS OF ALL GRATE INLETS, CURB INLETS AND AT THE ENDS OF ALL EXPOSED STORM SEWER PIPES SHALL BE IN PLACE PRIOR TO CONSTRUCTION OF UTILITIES. IN ADDITION AT THE COMPLETION OF THE INSTALLATION DISTURBED AREAS SHALL BE STABILIZED. IF UTILITY COMPANY WILL NOT SIGN REQUIRED CONTRACTOR CERTIFICATION STATEMENT, THEN A CONTRACTOR MUST BE DESIGNATED AS THE RESPONSIBLE PARTY FOR THIS DISTURBANCE ACTIVITY.

30. CONSTRUCTION SCHEDULE NOTE: THE ACTUAL SCHEDULE FOR IMPLEMENTING POLLUTANT CONTROL MEASURES SHALL BE DETERMINED BY PROJECT CONSTRUCTION PROGRESS. DOWN SLOPE PROTECTIVE MEASURES MUST ALWAYS BE IN PLACE BEFORE SOIL IS DISTURBED. IN ADDITION A QUALIFIED PROFESSIONAL WILL CONDUCT SITE INSPECTIONS EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER. A SITE LOG BOOK WILL BE PROVIDED WHERE INSPECTION REPORTS WILL BE LOGGED. THE LOG WILL RECORD THE ONGOING CONSTRUCTION SCHEDULE AND ON A SITE MAP, INDICATE THE EXTENT OF ALL DISTURBED SITE AREAS AND DRAINAGE PATHWAYS AS WELL AS INDICATE AREAS ON SITE THAT ARE EXPECTED TO UNDERGO INITIAL DISTURBANCE OR SIGNIFICANT SITE WORK WITHIN THE NEXT 14 DAY PERIOD. THIS ALLOWS THE CONSTRUCTION SCHEDULE FLEXIBILITY TO BE DETERMINED BY THE CONSTRUCTION PROGRESS DUE TO SUCH THINGS AS; WEATHER, SITE CONDITIONS, LABOR, MATERIALS, ETC.

0 1 2 3
ORIGINAL SCALE IN INCHES

1 SP4 **GRADING & EROSION CONTROL PLAN**
SCALE: 1"=20'

EROSION CONTROL LEGEND:

PROPOSED BUILDING

EROSION CONTROL BARRIER – SILT FENCE

SPOILS STORAGE AREA/STAGING AREA

STABILIZED CONSTRUCTION ENTRANCE

FILTER FABRIC DROP INLET PROTECTION

STONE & BLOCK DROP INLET PROTECTION

EROSION CONTROL BARRIER – HAY BALE DIKE

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POUGHKEEPSIE, NY 12601

NEW WINDSOR PLANNING BOARD
NEW WINDSOR, NEW YORK
SITE PLAN APPROVAL

APPROVAL GRANTED BY TOWN OF NEW WINDSOR
NOV - 7 2007
By: Genaro Argenio, Chairman
By: Neil Schlesinger, Secretary

ISSUED FOR FINAL APPROVAL

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PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE EROSION & SEDIMENT CONTROL PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
REK	JML
date 3/17/06	scale 1"=20'
project no. 10512.02	
sheet no. SP4B	

Drawing Name: S:\1\10500-10599\10512.02\ENG\DWG\SP4B_E&SC_10512_02.dwg
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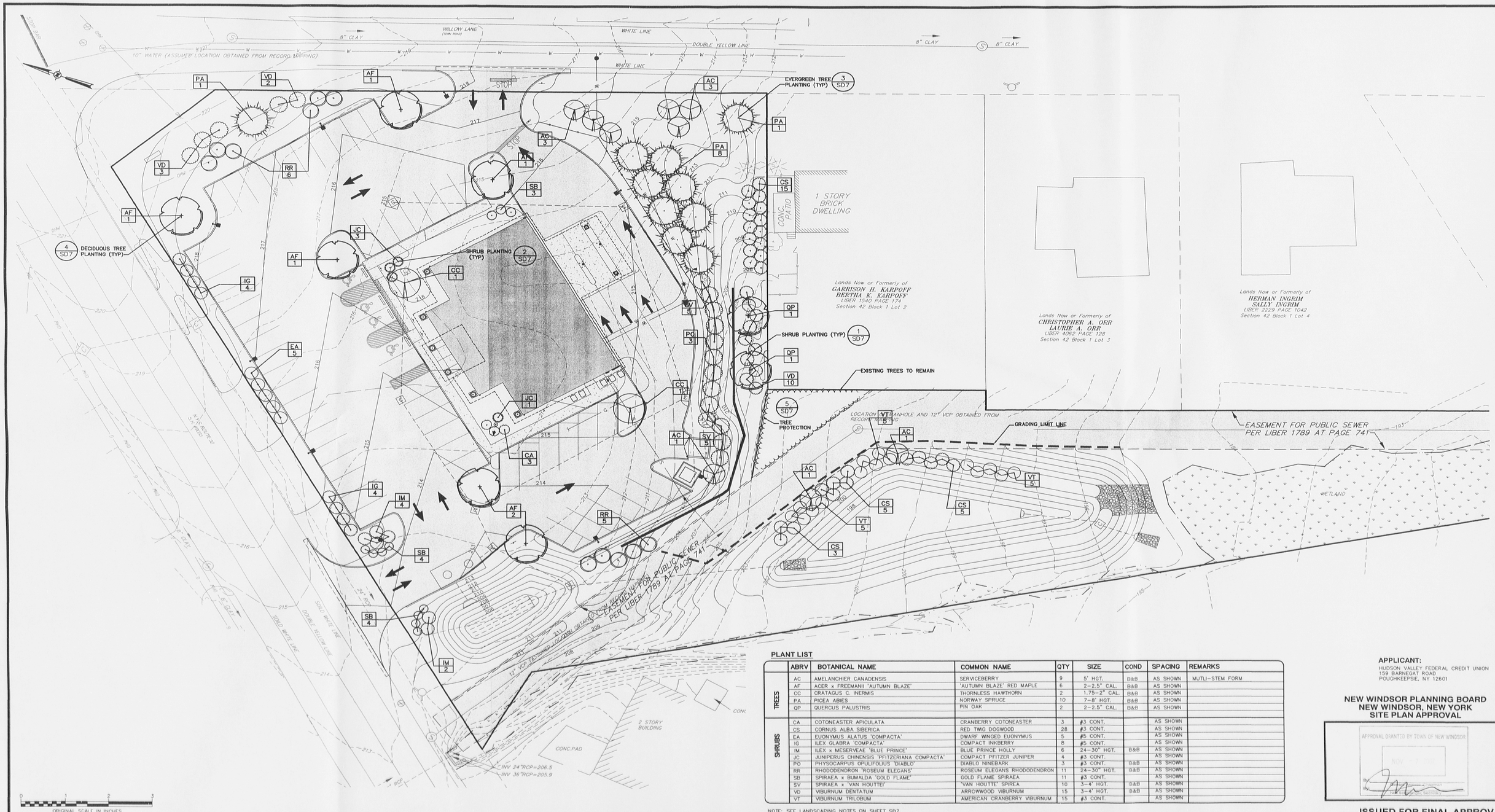

PLANT LIST

	ABRV	BOTANICAL NAME	COMMON NAME	QTY	SIZE	COND	SPACING	REMARKS
TREES	AC	AMELANCHIER CANADENSIS	SERVICEBERRY	9	5' HGT.	B&B	AS SHOWN	MUTLI-STEM FORM
	AF	ACER x FREEMANII 'AUTUMN BLAZE'	'AUTUMN BLAZE' RED MAPLE	6	2-2.5" CAL.	B&B	AS SHOWN	
	CC	CRATAGUS C. INERMIS	THORNLESS HAWTHORN	2	1.75-2" CAL.	B&B	AS SHOWN	
	PA	PICEA ABIES	NORWAY SPRUCE	10	7-8' HGT.	B&B	AS SHOWN	
	QP	QUERCUS PALUSTRIS	PIN OAK	2	2-2.5" CAL.	B&B	AS SHOWN	
SHRUBS	CA	COTONEASTER APICULATA	CRANBERRY COTONEASTER	3	#3 CONT.		AS SHOWN	
	CS	CORNUS ALBA SIBERICA	RED TWIG DOGWOOD	28	#3 CONT.		AS SHOWN	
	EA	EUONYMUS ALATUS 'COMPACTA'	DWARF WINGED EUONYMUS	5	#5 CONT.		AS SHOWN	
	IG	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	8	#5 CONT.		AS SHOWN	
	IM	ILEX x MESERVEAE 'BLUE PRINCE'	BLUE PRINCE HOLLY	6	24-30" HGT.	B&B	AS SHOWN	
	JC	JUNIPERUS CHINENSIS 'PFITZERIANA COMPACTA'	COMPACT PFITZER JUNIPER	4	#3 CONT.		AS SHOWN	
	PO	PHYSOCARPUS OPULIFOLIUS 'DIABLO'	DIABLO NINEBARK	3	#3 CONT.	B&B	AS SHOWN	
	RR	RHODODENDRON 'ROSEUM ELEGANS'	ROSEUM ELEGANS RHODODENDRON	11	24-30" HGT.	B&B	AS SHOWN	
	SB	SPIRAEA x BUMALDA 'GOLD FLAME'	GOLD FLAME SPIRAEA	11	#3 CONT.		AS SHOWN	
	SV	SPIRAEA x 'VAN HOUTTEI'	'VAN HOUTTE' SPIREA	10	3-4' HGT.	B&B	AS SHOWN	
	VD	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	15	3-4' HGT.	B&B	AS SHOWN	
	VT	VIBURNUM TRILOBUM	AMERICAN CRANBERRY VIBURNUM	15	#3 CONT.		AS SHOWN	

NOTE: SEE LANDSCAPING NOTES ON SHEET SD7.

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APPROVAL GRANTED BY TOWN OF NEW WINDSOR
NOV
By
By
Chairman, Planning Board
Town Clerk, Secretary

ISSUED FOR FINAL APPROVAL

STATE OF NEW YORK
JOSEPH MARTIN LEONG
071026
LICENSED PROFESSIONAL ENGINEER

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TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

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sheet no. SP5	

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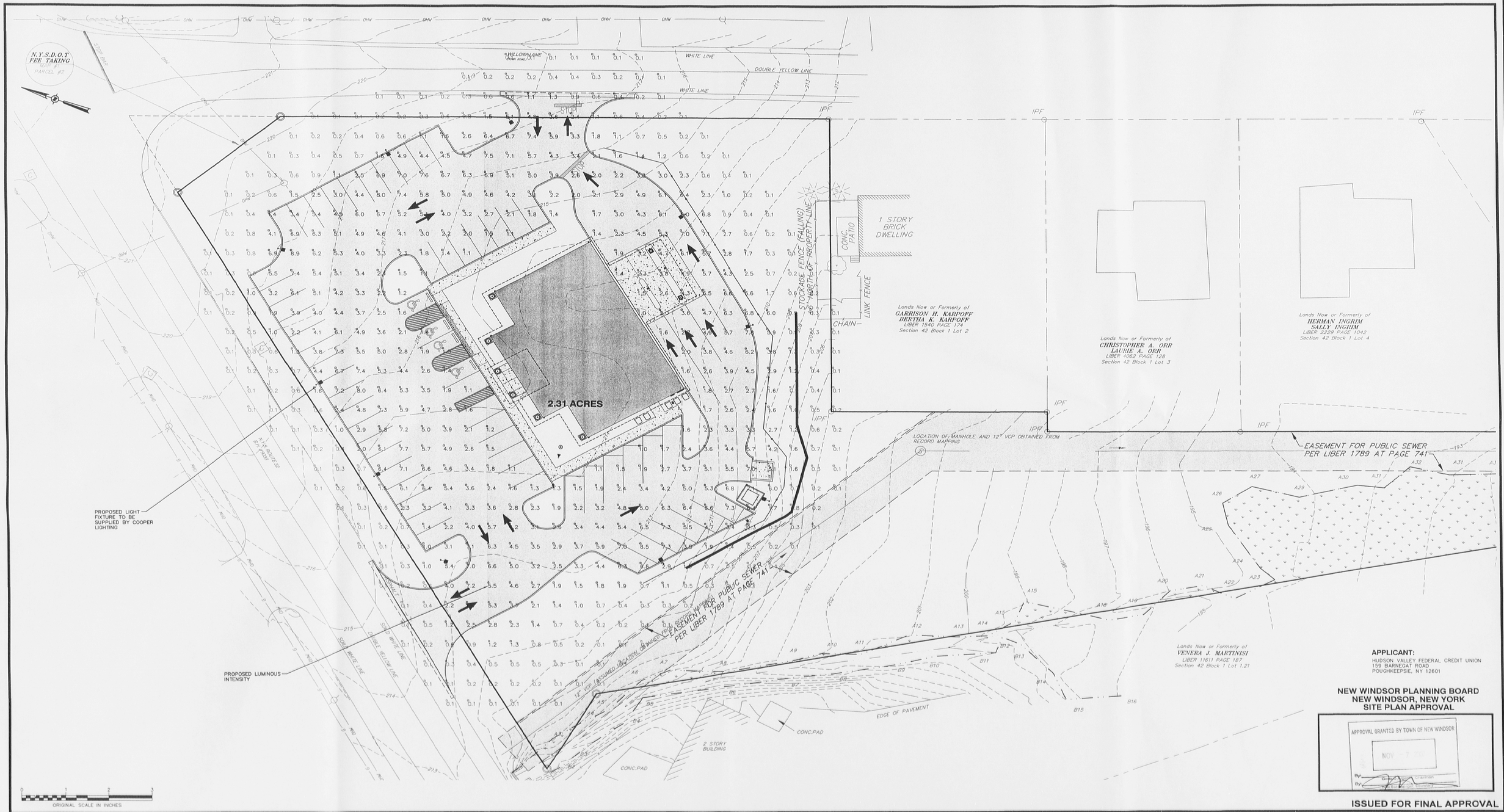
5981



APPLICANT:
HUDSON VALLEY FEDERAL CREDIT UNION
159 BARNEGAT ROAD
POUGHKEEPSIE, NY 12601

NEW WINDSOR PLANNING BOARD
NEW WINDSOR, NEW YORK
SITE PLAN APPROVAL

APPROVAL GRANTED BY TOWN OF NEW WINDSOR
NOV
By: Chairman
By: Secretary

ISSUED FOR FINAL APPROVAL

STATE OF NEW YORK · JOSEPH MARTIN LAPOLLO · 070126 · LICENSED PROFESSIONAL ENGINEER

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THE Chazen COMPANIES
Engineers/Surveyors
Planners
Environmental Scientists

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

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rev.	date	description
9	10/8/07	ISSUED TO TOWN FOR FINAL SIGNATURE
8	9/28/07	ISSUED TO TURNER FOR BIDDING
7	7/30/07	REV PER TDE COMMENT LETTER DATED 7/25/07
6	6/27/07	ISSUED TO TOWN
5	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06
4	8/11/06	REV PER TOWN WORKSHOP AND DRAINAGE UPDATE
3	6/27/06	REV PER TOWN COMMENTS
2	6/16/06	ADDED LOCATION OF EASEMENTS AND RESTRICTIONS
1	4/25/06	REV PER TOWN COMMENTS

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE PHOTOMETRIC PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn REK	checked JML
date 3/17/06	scale 1"=20'
project no. 10512.02	
sheet no. SP6	

Drawing Name: S:\10500-10599\10512.02\ENG\DWG\SP6_LIGHTING 10512_02.dwg
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Date Printed: Oct 08, 2007, 11:53am

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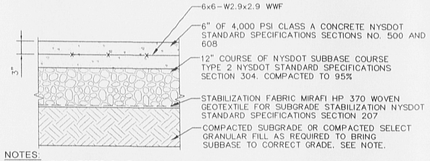
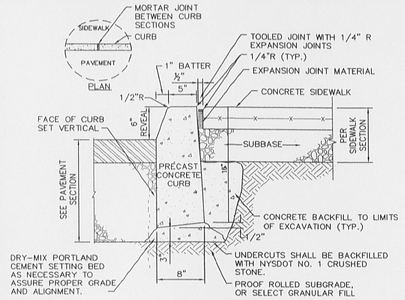


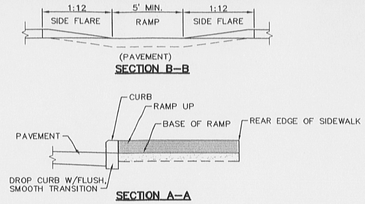
NOTES:
1. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSE OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMATION WITH SECTION 203- EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.

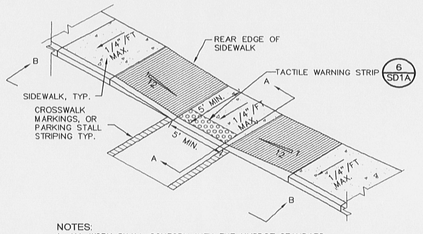
1 / SD1A CONCRETE PAVEMENT DETAIL
SCALE: NOT TO SCALE



NOTES:
1. PRE-CAST CONCRETE CURB SHALL BE IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 609.
2. CAST IN PLACE CONCRETE CURB MAY BE SUBSTITUTED WHEN ALTERNATE CONSTRUCTION DETAILS ARE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

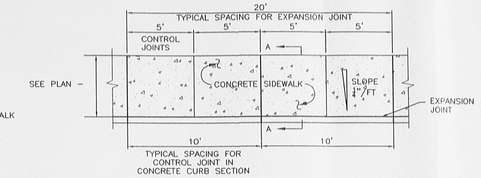
2 / SD1A PRECAST CONCRETE CURB AT SIDEWALK
SCALE: NOT TO SCALE



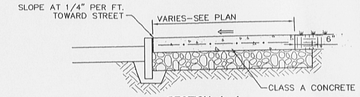


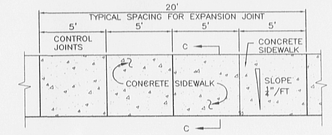
NOTES:
1. ALL WORK SHALL CONFORM WITH THE NYSDOT STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS DATED, JANUARY 2, 2002 AND ALL ADDENDA THERETO; SPECIFICALLY SECTION 608- SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS.
2. SLOPE RAMP AND SIDE FLARES AS INDICATED IN THE PLANS OR AS ORDERED BY THE ENGINEER.
3. TACTILE WARNING STRIPS SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE W/ ADA REQUIREMENTS.

3 / SD1A PEDESTRIAN RAMP SECTION - DROP CURB
SCALE: NOT TO SCALE

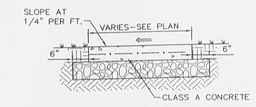


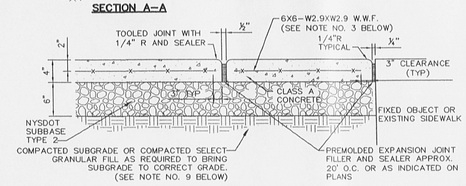
NOTES:
1. 10' SPACING OF CONTROL JOINTS SHALL BE USED FOR CAST IN PLACE CONCRETE CURBS.

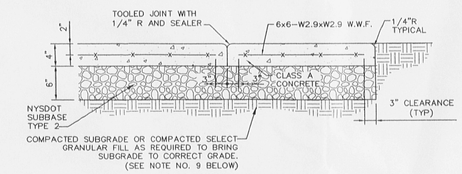


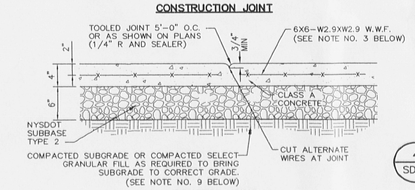


NOTES:
1. 10' SPACING OF CONTROL JOINTS SHALL BE USED FOR CAST IN PLACE CONCRETE CURBS.



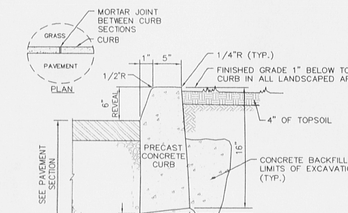






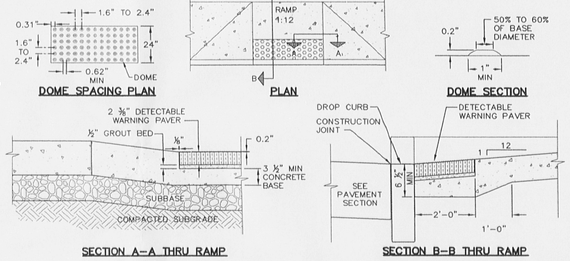
NOTES:
1. MATERIAL AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTIONS AND MATERIALS, DATED JANUARY 2, 2002, AND ALL ADDENDA THERETO; THE ONLY EXCEPTION BEING THAT THE WORK OF THIS CONTRACT SHALL BE MEASURED IN ENGLISH UNITS.
2. ALL CONCRETE SHALL BE 4,000 PSI CLASS A CONCRETE. CONCRETE MATERIALS, PLACEMENT, AND CONSTRUCTION SHALL CONFORM WITH SECTION 500 OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
3. REINFORCING STEEL FOR CONCRETE SHALL CONFORM WITH SECTION 556 -- REINFORCING STEEL FOR CONCRETE STRUCTURES OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND AS SPECIFICALLY CALLED OUT IN THE DRAWINGS.
4. ALL EXPOSED SURFACES SHALL HAVE A BROOM TEXTURED FINISH.
5. EXPANSION JOINTS SHALL BE LOCATED A MAXIMUM OF 20'-0" ON CENTER, OR AS INDICATED ON PLANS.
6. JOINTS SHALL NOT BE SAW CUT.
7. EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH "SUREBOND"/"SAFEBOND" SB-7000 INTENSIFIER BRIGHT PROTECTOR AND SIDEWALK SEALER, OR EQUAL. RATE AND METHOD OF APPLICATION SHALL BE IN ACCORDANCE WITH MANUFATURER'S RECOMMENDATIONS.
8. SUBBASE MATERIAL SHALL CONFORM WITH SECTION 304 OF THE ABOVE REFERENCED NYSDOT STANDARD.
9. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSE OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203-EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
10. ALL WORK SHALL CONFORM WITH SECTION 608-SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.

4 / SD1A CONCRETE SIDEWALK DETAIL
SCALE: NOT TO SCALE

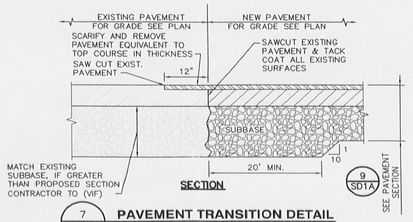


NOTES:
1. PRE-CAST CURB TO BE IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 609.
2. CAST IN PLACE CONCRETE CURB MAY BE SUBSTITUTED WHEN ALTERNATE CONSTRUCTION DETAILS ARE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

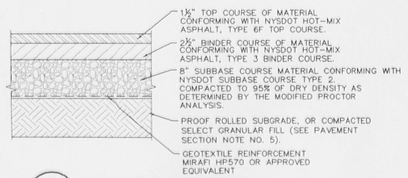
5 / SD1A PRECAST CONCRETE CURB AT GRASS
SCALE: NOT TO SCALE



6 / SD1A TACTILE WARNING STRIPS FOR RAMPS
SCALE: NOT TO SCALE

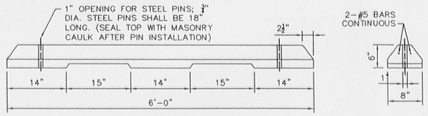


7 / SD1A PAVEMENT TRANSITION DETAIL
SCALE: NOT TO SCALE



8 / SD1A PAVEMENT SECTION DETAIL
SCALE: NOT TO SCALE

PAVEMENT SECTION NOTES:
1. MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JANUARY 2, 2002, AND ALL ADDENDA THERETO; THE ONLY EXCEPTION BEING THAT THE WORK OF THIS CONTRACT SHALL BE MEASURED IN ENGLISH UNITS.
2. SUBBASE MATERIAL SHALL CONFORM WITH SECTION 304 – SUBBASE COURSE OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND THE TYPE CALLED OUT IN THESE DRAWINGS.
3. HOT MIX ASPHALT (HMA) PAVEMENT SHALL CONFORM WITH SECTION 400-HOT MIX ASPHALT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS AND THE TYPE CALLED OUT IN THESE DRAWINGS. ALTHOUGH SECTION 400 IN ITS ENTIRETY IS REFERENCED, THE HOT MIX ASPHALT (HMA) PAVEMENT(S) SPECIFIED FOR THIS CONTRACT SHALL BE AS SPECIFIED UNDER SECTION 403-HOT MIX ASPHALT (HMA) PAVEMENTS FOR MUNICIPALITIES.
4. TACK COAT WHEN SPECIFIED OR CALLED OUT IN THESE DRAWINGS OR REQUIRED BY THE REFERENCED SPECIFICATIONS SHALL CONFORM WITH SECTION 407-TACK COAT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
5. WHERE IT IS NECESSARY TO PLACE FILL FOR PURPOSES OF BRINGING THE SUBGRADE ELEVATION UP TO A SPECIFIED GRADE, THE FILL MATERIAL PLACED SHALL BE IN CONFORMANCE WITH SECTION 203-EXCAVATION AND EMBANKMENT OF THE ABOVE REFERENCED NYSDOT STANDARD SPECIFICATIONS.
6. PAVEMENT SECTION TAKEN FROM GEOTECHNICAL REPORT PREPARED BY THE CHAZEN COMPAINES, DATED 04/11/2006.



NOTE TO ENGINEER
1. PROVIDE ONLY AT HANDICAPPED PARKING SPACES ADJACENT TO DEPRESSED CURBS, DEPRESSED SIDEWALKS, AND SIDEWALK RAMPS.

9 / SD1A CONCRETE CURB WHEEL STOP
SCALE: NOT TO SCALE

0 1 2 3
ORIGINAL SCALE IN INCHES

APPROVAL GRANTED BY TOWN OF NEW WINDSOR

ISSUED FOR FINAL APPROVAL

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1	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE SITE DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn CAM	checked JML
date 3/17/06	scale AS NOTED
project no. 10512.02	
sheet no. SD1A	

Drawing Name: S:\1-10500-10599\10512.02\ENG\DWG\SD1_10512_SITE DETAIL.dwg
Xref's Attached: XTB_10512_24X36
Date Printed: Oct 08, 2007, 11:53am

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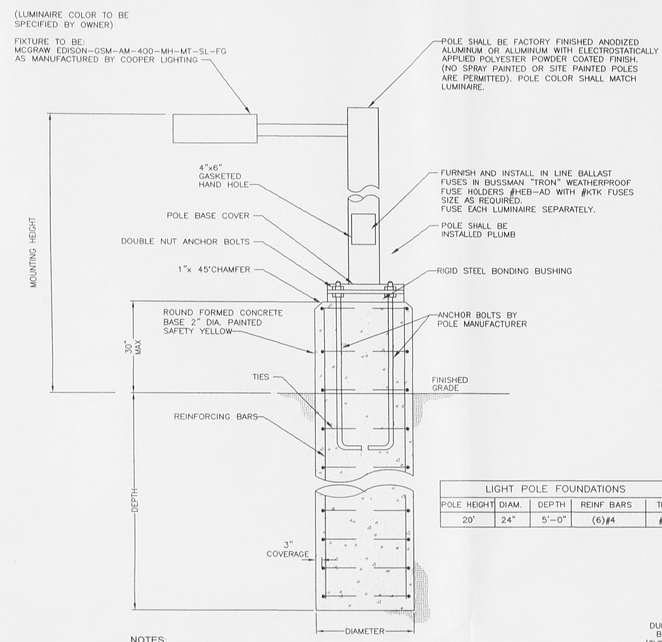


LIGHT POLE FOUNDATIONS				
POLE HEIGHT	DIAM.	DEPTH	REINF BARS	TIES
20'	24"	5'-0"	(6)#4	#3@12"

NOTES:
1. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS
2. DESIGN CRITRIA:
   WIND: 90 MPH
   FIXTURE AREA: 13 SF
3. FOUNDATION DIAMETER AND REINFORCING CIRCLE SHALL BE COORDINATED WITH ANCHOR BOLT LIMITS
4. FOUNDATIONS SHALL BEAR ON UNDISTURBED NATURAL SOIL OR COMPACTED CRUSHED STONE
5. ALL EXCAVATIONS SHALL BE BACKFILLED WITH STRUCTURAL FILL AND COMPACTED TO 95% OF DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR TEST.
6. EXPOSED AREAS OF CONCRETE AND ONE FOOT MIN BELOW FINISHED GRADE SHALL BE FORMED

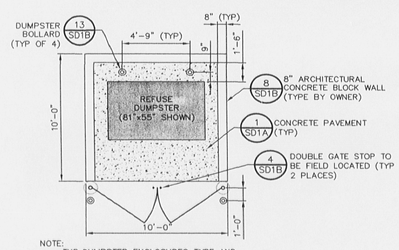
1 / SD1B **PARKING LOT LIGHTING STANDARD WITH CONCRETE BASE**
SCALE: NOT TO SCALE

SIGN SCHEDULE

SIGN NO.	SIGN FACE	NUMBER	SIZE	COLORS BCK GRND	COLORS LEGEND
1	STOP	R1-1B	24"x24"	RED	WHITE
4	ONE WAY	R3-10C	36"x12"	BLACK	WHITE
5	ONE WAY	R3-11C	36"x12"	BLACK	WHITE
7	DO NOT ENTER	R3-15C	30"x30"	RED	WHITE
8	PARKING	M12-1	24"x24"	BLUE	WHITE
9	VAN ACCESSIBLE	P4-7C	12"x6"	WHITE	BLUE
11	NO PARKING ANY TIME	SIGN PROVIDED BY BARCO PRODUCTS, MODEL NUMBER RSP2-12X18 OR EQUIVALENT			
12	EMPLOYEE PARKING ONLY	SIGN PROVIDED BY BARCO PRODUCTS, MODEL NUMBER RSP205-12X18 OR EQUIVALENT			

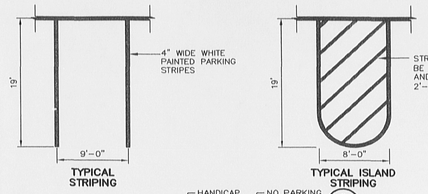
2 / SD1B **SIGN SCHEDULE**
SCALE: NOT TO SCALE

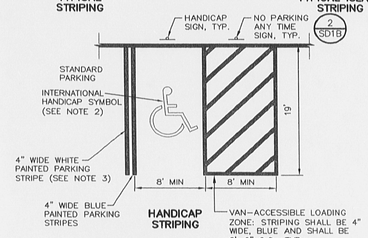
SIGNAGE AND PAVEMENT MARKING NOTES:
1. ALL SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE NYSDOT STANDARD SPECIFICATIONS, SECTION 640 AND THE CODES RULES AND REGULATIONS OF THE STATE OF NEW YORK (NYCRR) TITLE 17-TRANSPORTATION VOLUME B-CHAPTER V "UNIFORM TRAFFIC CONTROL DEVICES."
2. STRIPING WORK WILL BE REVIEWED AND ACCEPTED BY THE AUTHORITY HAVING JURISDICTION.



NOTE:
THE DUMPSTER ENCLOSURES TYPE AND COLOR SHALL MATCH BUILDING FINISH.

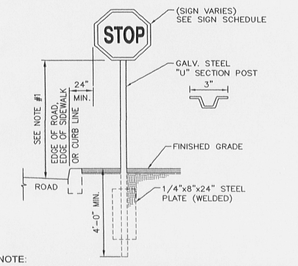
5 / SD1B **DUMPSTER ENCLOSURE**
SCALE: NOT TO SCALE





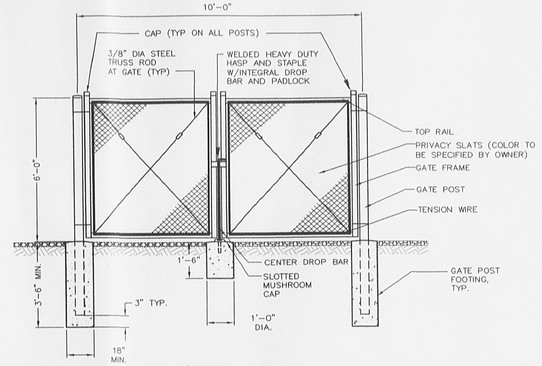
NOTE:
1. ALL DISTANCES SUBJECT SHALL CURRENT ZONING AND SITE REGULATIONS.
2. PAINTED HANDICAP SYMBOL TO BE IN CONFORMANCE W/ ADA STANDARDS.
3. WHEN A STANDARD SPACE ADJOINS A HANDICAPPED SPACE, A DOUBLE LINE SHALL BE INSTALLED, ONE BLUE AND ONE WHITE.

3 / SD1B **PAVEMENT STRIPING DETAILS**
SCALE: NOT TO SCALE



NOTE:
1. SIGN MOUNTING HEIGHT SHALL BE A MINIMUM OF 7'. MINIMUM MOUNTING HEIGHT MAY BE ADJUSTED ONLY IN ACCORDANCE WITH PROVISIONS OUTLINED IN "NYCRR, CHAPTER V-UNIFORM TRAFFIC CONTROL DEVICES."
2. SIGN POST SHALL BE IN ACCORDANCE W/ NYSDOT STANDARD SPECS SECTION 730.

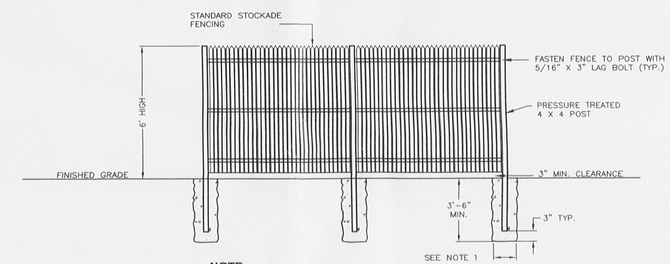
6 / SD1B **REGULATORY SIGN**
SCALE: NOT TO SCALE



GATE POST SCHEDULE	
GATE LEAF SIZE	POST O.D.
UP TO 12'	3"
12' TO 20'	4"

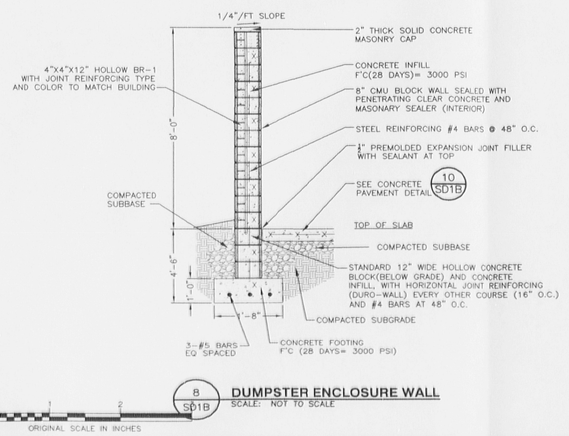
NOTE:
GATES ARE TO SWING OUTWARD, MAINTAINING 4" OF CLEARANCE FROM FINISHED GRADE.

4 / SD1B **DUMPSTER WIRE SWING GATE, DOUBLE**
SCALE: NOT TO SCALE

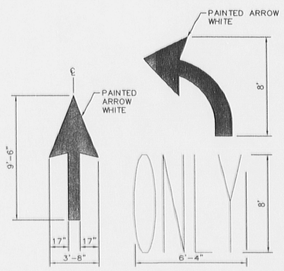


NOTE:
1. CONCRETE POST FOOTING TO BE 18" MIN. DIAMETER FOR CORNER POSTS AND GATE POST OR 12" MIN. DIAMETER FOR LINE POSTS.

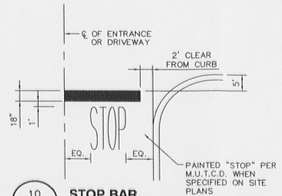
7 / SD1B **STOCKADE FENCE DETAIL**
SCALE: NOT TO SCALE



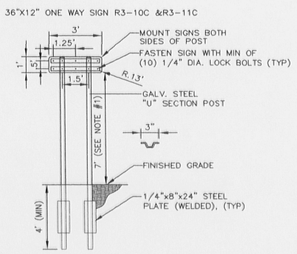
8 / SD1B **DUMPSTER ENCLOSURE WALL**
SCALE: NOT TO SCALE



9 / SD1B **DIRECTIONAL ARROW**
SCALE: NOT TO SCALE

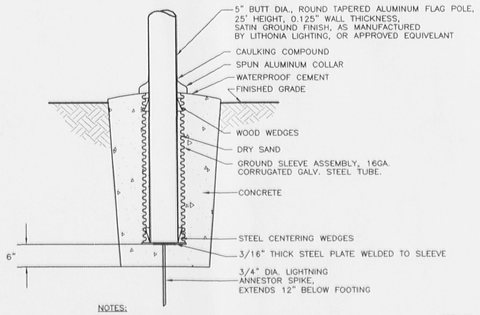


10 / SD1B **STOP BAR**
SCALE: NOT TO SCALE



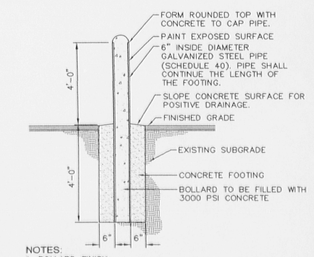
NOTE:
1. SIGN MOUNTING HEIGHT SHALL BE A MINIMUM OF 7'. MINIMUM MOUNTING HEIGHT MAY BE ADJUSTED ONLY IN ACCORDANCE WITH PROVISIONS OUTLINED IN "NYCRR, CHAPTER V-UNIFORM TRAFFIC CONTROL DEVICES."
2. SIGN POST SHALL BE IN ACCORDANCE W/ NYSDOT STANDARD SPECS SECTION 730.

11 / SD1B **TWO POST ONE WAY SIGN MOUNTING DETAIL**
SCALE: NOT TO SCALE



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. THE RECOMMENDED FLAG SIZE IS 4' X 6'
3. THE RECOMMENDED FIXTURE WATTAGE FOR LIGHTING THE FLAG IS 175MH

12 / SD2 **FLAGPOLE MOUNTING DETAIL**
SCALE: NOT TO SCALE



NOTES:
1. BOLLARD FINISH:
   PREPARE GALVANIZED COATING TO RECEIVE PAINTED FINNISH. APPLY (1) COAT OF RUST INHIBITOR PRIMER. APPLY (2) COATS OF GLOSS ENAMEL (COLOR SHALL BE SELECTED BY THE OWNER.)
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS.
3. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" (WITH A TOLERANCE OF 1").
4. ALL CONCRETE SHALL HAVE A 5% ENTRAINED AIR (WITH A TOLERANCES OF 1%) CONFORMING WITH ASTM C260.

13 / SD1B **DUMPSTER BOLLARD DETAIL**
SCALE: NOT TO SCALE

0 1 2
ORIGINAL SCALE IN INCHES

ISSUED FOR FINAL APPROVAL

STATE OF NEW YORK · JOSEPH MARTIN · 070126 · LICENSED PROFESSIONAL ENGINEER

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THE Chazen COMPANIES
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CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980
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Orange County Office: 356 Meadow Avenue, Newburgh, New York 12550, Phone: (845) 567-1133
North Country Office: 100 Glen Street, Glens Falls, New York 12801, Phone: (518) 812-0513

rev.	date	description
5	10/8/07	ISSUED TO TOWN FOR FINAL SIGNATURE
4	9/28/07	ISSUED TO TURNER FOR BIDDING
3	7/30/07	REV PER TDE COMMENT LETTER DATED 7/25/07
2	6/2/07	ISSUED TO TOWN
1	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06

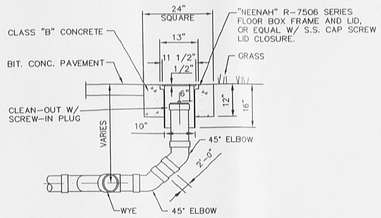
HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE SITE DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

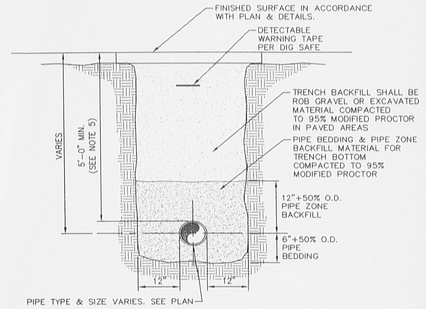
drawn CAM	checked JML
date 3/17/06	scale AS NOTED
project no. 10512.02	
sheet no. SD1B	

Drawing Name: S:\10500-10599\10512.02 ENG DWG\SD1_10512_SITE DETAIL.dwg
Xref's Attached: XTB_10512_24X36
Date Printed: Oct 08, 2007, 11:54am



NOTES:
1. SEWER PIPE FITTINGS SHALL BE ASTM D-3033 OR D-3034 PVC SDR-35.
2. TO BE USED FOR GRAVITY PORTION OF SANITARY SYSTEM AS WELL AS THE STORM ROOF DRAINAGE SYSTEM.

1 / SD2 **CLEAN OUT DETAIL**
SCALE: NOT TO SCALE



NOTES:
1. PIPE BEDDING & PIPE ZONE BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) SAND OR A MIXTURE OF CRUSHED STONE AND GRAVEL, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS; AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. BEDDING GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
3/4"	100%
NO. 40	0-70%
NO. 200	0-10%

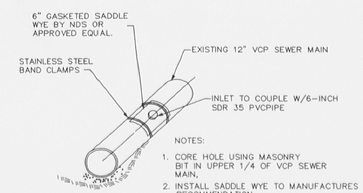
2. TRENCH BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) GRAVEL, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS; AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. TRENCH BACKFILL GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
4"	100%
NO. 40	0-70%
NO. 200	0-10%

IN UNPAVED AREAS, TRENCH BACKFILL CAN BE MATERIALS EXCAVATED FROM THE TRENCH AS APPROVED BY THE ENGINEER.

3. INSTALL CONTINUOUS DETECTABLE MARKING TAPE DURING BACKFILLING OF TRENCH FOR UNDERGROUND PIPING. LOCATE TAPE 12" BELOW FINISHED GRADE, DIRECTLY OVER PIPING, EXCEPT 6" BELOW SUBGRADE UNDER PAVEMENTS & SLAB.
4. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.
5. 5'-0" MIN COVER SHALL BE APPLIED TO WATER MAIN OR SANITARY SEWER FORCE MAINS ONLY.

2 / SD2 **PIPE TRENCH DETAIL (TYPICAL)**
SCALE: NOT TO SCALE



NOTES:
1. CORE HOLE USING MASONRY BIT IN UPPER 1/4 OF VCP SEWER MAIN.
2. INSTALL SADDLE WYE TO MANUFACTURES RECOMMENDATION
3. WYE IN DIRECTION OF FLOW.

3 / SD2 **FLEXIBLE SADDLE WYE**
SCALE: NOT TO SCALE

APPROVAL GRANTED BY TOWN OF NEW WINDSOR

BY: _____ Chairman, Town Board
BY: _____ Town Clerk

0 1 2 3
ORIGINAL SCALE IN INCHES

ISSUED FOR FINAL APPROVAL

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PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE SANITARY SEWER DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn CAM	checked JML
date 3/17/06	scale AS NOTED
project no. 10512.02	
sheet no. SD2	

Drawing Name: S:\1-10500-10599\10512.02 ENG DWG\SD2_10512.__SEWER.dwg
Xref's Attached: XTB_10512_24X36
Date Printed: Oct 08, 2007, 11:54am

TESTING WATER MAINS:

1. AFTER TRENCH HAS BEEN BACKFILLED, HYDROSTATIC ACCEPTANCE TESTS, CONSISTING OF A PRESSURE TEST AND A LEAKAGE TEST, SHALL BE PERFORMED ON ALL SECTIONS OF WATER MAINS INSTALLED. LEAKAGE TEST SHALL BE CONDUCTED CONCURRENTLY WITH PRESSURE TEST. TEST SECTION SHALL BE LIMITED TO ABOUT 2000 FT (MAX.) UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. AFTER ALL TESTS AND INSPECTIONS HAVE BEEN PERFORMED EVIDENCE OF COMPLIANCE SHALL BE FORWARDED TO OWNER/ENGINEER AND THE MUNICIPALITY PRIOR TO ACCEPTANCE.
3. ALL WATER FOR TESTS SHALL BE FURNISHED AND DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. SOURCE AND/OR QUALITY OF WATER WHICH THE CONTRACTOR PROPOSES TO USE IN TESTING LINES SHALL BE ACCEPTABLE TO THE ENGINEER.
4. HYDROSTATIC PRESUMPTIVE TESTS MAY BE PERFORMED WHEN SYSTEM IS PARTIALLY BACKFILLED TO SIMPLY CHECK WORK, BUT ACCEPTANCE OF SYSTEM SHALL BE BASED ON HYDROSTATIC TESTS RUN ON FINISHED SYSTEM AFTER IT HAS BEEN COMPLETELY BACKFILLED. ALL HYDROSTATIC TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 651-05 OR LATER ADDITION, AS MODIFIED HEREIN.
5. FOR THE PRESSURE TEST, SYSTEM SHALL BE PRESSURIZED AND MAINTAINED AT A MINIMUM OF 150 POUNDS PER SQUARE INCH, OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER, BASED ON THE ELEVATION OF THE LOWEST POINT IN THE SECTION BEING TESTED AND CORRECTED TO THE ELEVATION OF THE GAUGE. PROVISIONS SHALL BE MADE TO RELIEVE AIR TRAPPED AT HIGH POINTS IN THE SYSTEM THROUGH ADJACENT HYDRANTS OR THROUGH TAPS AND CORPORATION STOPS INSTALLED FOR THIS PURPOSE BY THE CONTRACTOR. AFTER SAID PRESSURE HAS BEEN MAINTAINED SUCCESSFULLY, WITH FURTHER PUMPING AS REQUIRED, FOR A PERIOD OF AT LEAST TWO HOURS, THE SECTION UNDER TEST SHALL BE CONSIDERED TO HAVE PASSED THE PRESSURE TEST.
6. LEAKAGE TEST SHALL BE PERFORMED CONCURRENTLY USING A MINIMUM TEST PRESSURE OF 150 LBS/SQUARE INCH, OR 1.5 TIMES THE WORKING PRESSURE, WHICHEVER IS GREATER, BASED ON THE ELEVATION OF THE LOWEST POINT IN THE SECTION UNDER TEST AND CORRECTED TO ELEVATION OF THE GAUGE. LEAKAGE TEST DURATION SHALL BE A MINIMUM OF 2 HOURS AFTER LEAKAGE RATE HAS STABILIZED.
7. MAXIMUM ALLOWABLE LEAKAGE SHALL BE AS SHOWN IN THE FOLLOWING TABLE: ALLOWABLE LEAKAGE PER 1000 FT (305M) OF PIPELINE (GPH)

AVG. TEST PRESSURE PSI (BAR)	NOMINAL PIPE DIAMETER–IN. 4	6	8	10	12	14	16
450 (31)	0.64	0.95	1.27	1.59	1.91	2.23	2.55
400 (28)	0.60	0.90	1.20	1.50	1.80	2.10	2.40
350 (24)	0.56	0.84	1.12	1.40	1.69	1.97	2.25
300 (21)	0.52	0.78	1.04	1.30	1.56	1.82	2.08
275 (19)	0.50	0.75	1.00	1.24	1.49	1.74	1.99
250 (17)	0.47	0.71	0.95	1.19	1.42	1.66	1.90
225 (16)	0.45	0.68	0.90	1.13	1.35	1.58	1.80
200 (14)	0.43	0.64	0.85	1.06	1.28	1.48	1.70
175 (12)	0.40	0.59	0.80	0.99	1.19	1.39	1.59
150 (10)	0.37	0.55	0.74	0.92	1.10	1.29	1.47
125 (9)	0.34	0.50	0.67	0.84	1.01	1.18	1.34
100 (7)	0.30	0.45	0.60	0.75	0.90	1.05	1.20

8. IF LEAKAGE IN SYSTEM EXCEEDS THE SPECIFIED AMOUNT, THE CONTRACTOR SHALL, AT NO ADDED COST TO THE OWNER, LOCATE, REPAIR, AND/OR REPLACE DEFECT(S) AND RE-TEST PIPING SYSTEM.

WATER NOTES:

1. ALL WATER LINES SHALL BE CEMENT LINED DUCTILE IRON PIPE, CLASS 52, UNLESS OTHERWISE SPECIFIED BY OR APPROVED BY THE ENGINEER.
2. THE WATER LINE MAY BE FLEXED WITHIN PIPE SPECIFICATIONS OR LAID DEEPER IN AREAS WHERE CROSSINGS WITH THE SANITARY LINE OCCUR, TO ACHIEVE THE REQUIRED 1.5' VERTICAL SEPARATION DISTANCE. IF THIS DISTANCE CANNOT BE REASONABLY ACHIEVED, THE CONTRACTOR SHALL EITHER CUT AND JOINT THE PIPE OR CONCRETE ENCASE BOTH LINES 10' IN EACH DIRECTION. (SEE WATERLINE OFFSET DETAIL FOR FURTHER INFORMATION).
3. ALL NEW WATER MAIN INSTALLATIONS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH AWWA STANDARD C 600(LATEST REVISION) AT A PRESSURE OF 150 PSI, OR 1.5 TIMES (AS REFERENCED ABOVE) THE WORKING PRESSURE OF THE SYSTEM AS A MINIMUM. ALLOWABLE LEAKAGE OF THIS TEST SHALL BE AS DEFINED IN SECTION 4.2 OF SAID AWWA SPECIFICATION.
4. APPROVED AND TESTED WATER MAIN SHALL BE DISINFECTED PER AWWA SECTION C 651 (AS REFERENCED ABOVE), AS DIRECTED BY ENGINEER.
5. THE WATERMAIN IS TO BE INSTALLED AT A CONTINUOUS GRADE WITH NO ABRUPT HIGH OR LOW POINTS.

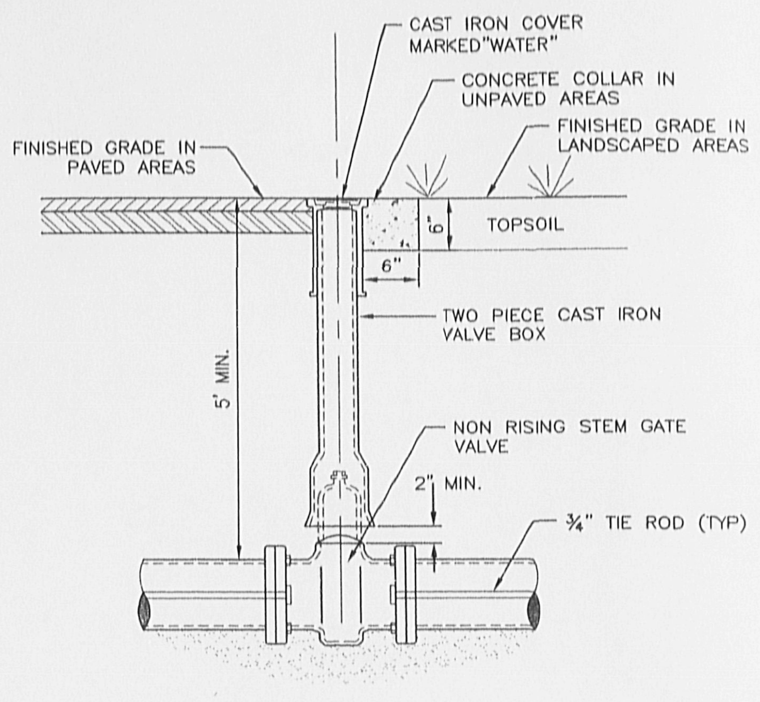
DISINFECTION OF POTABLE WATER SERVICE MAINS:

1. DISINFECTION WILL BE ACCOMPLISHED AFTER PIPE HAS PASSED ANY LEAKAGE TESTS.
2. THE MUNICIPALITY AND THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE START OF PRESSURE TESTING, LEAKAGE TESTING, AND DISINFECTION.
3. DISINFECTION WILL BE PERFORMED IN ACCORDANCE WITH AWWA STANDARD C 651-05 OR LATER ADDITION. (EXCLUDING SECTION 5.1 COVERING THE TABLET METHOD).
4. CHLORINE-WATER SOLUTION IS PREPARED BY ADDING SODIUM HYPOCHLORITE TO WATER IN ACCORDANCE WITH THE FOLLOWING TABLE (VERIFY AGAINST TOWN REQUIREMENTS): CHLORINE REQUIRED TO PRODUCE 25 MG/1 CONCENTRATION IN 100 FT. OF PIPE BY DIAMETER

PIPE SIZE IN.	1000 PERCENT CHLORINE LB.	1 PERCENT CHLORINE SOLUTIONS GAL.
6	0.030	0.36
8	0.054	0.65

NOTE: 1% SOLUTIONS REQUIRE 1 POUND OF SODIUM HYPOCHLORITE IN 8 GAL OF WATER

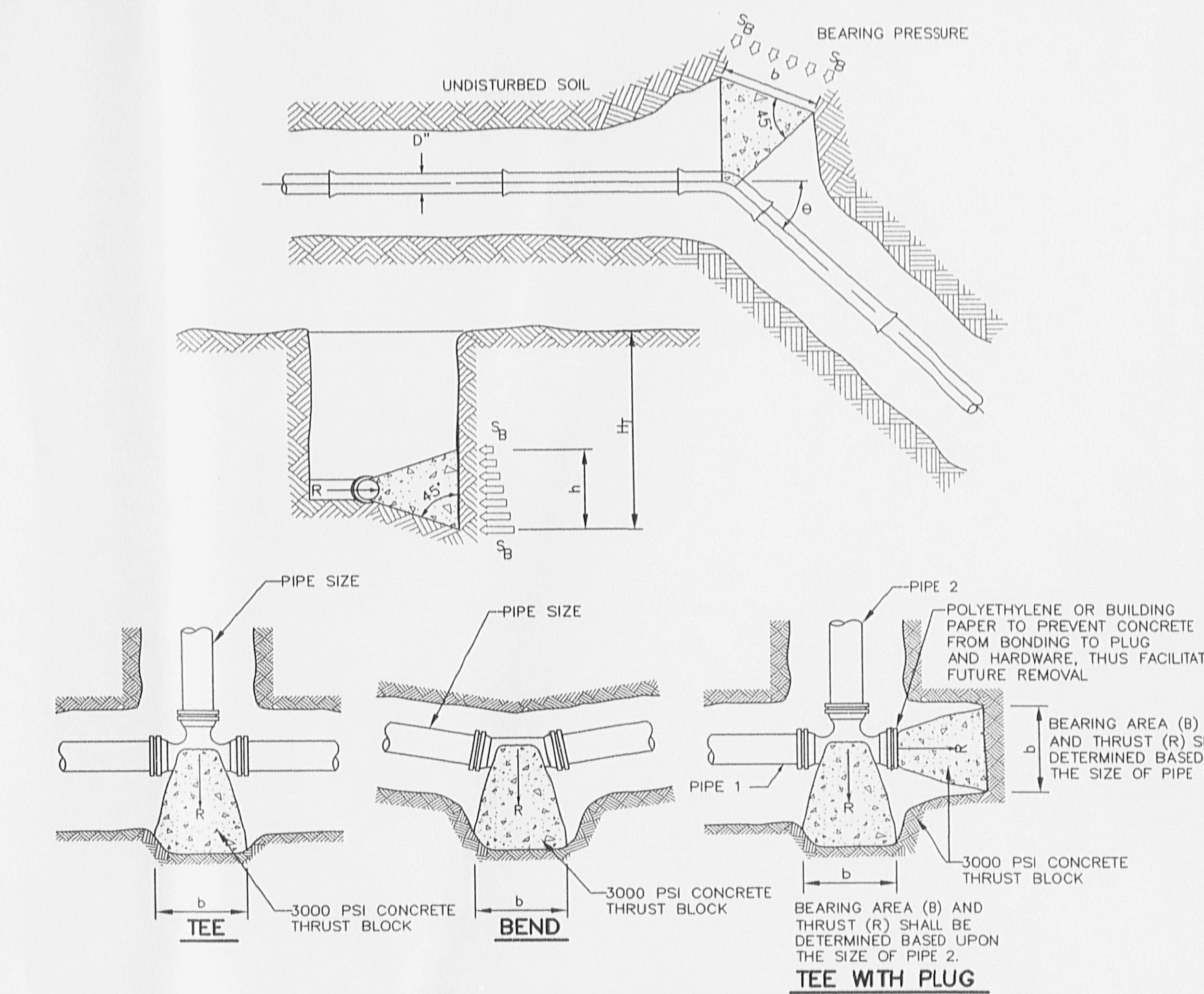
5. PRODUCT DETERIORATION MUST BE CONSIDERED IN COMPUTING THE QUANTITY OF SODIUM HYPOCHLORITE REQUIRED FOR THE DESIRED CONCENTRATION.
6. CHLORINE-WATER SOLUTION SHALL BE INTRODUCED INTO THE WATER MAIN WITH A GASOLINE OR ELECTRICALLY POWERED CHEMICAL FEED PUMP DESIGNED FOR FEEDING CHLORINE SOLUTIONS. FEED LINES SHALL BE OF SUCH MATERIAL AND STRENGTH TO PERMIT THEM TO WITHSTAND SAFELY THE MAXIMUM PRESSURE THAT MAY BE CREATED BY PUMP. ALL CONNECTIONS SHALL BE CHECKED FOR TIGHTNESS BEFORE HYPOCHLORITE SOLUTION IS APPLIED TO MAIN.
7. THE CONTRACTOR SHALL FURNISH AND INSTALL A CORPORATION STOP JUST DOWNSTREAM FROM THE NEWLY INSTALLED GATE VALVE OR AS OTHERWISE SHOWN ON DRAWINGS OR APPROVED BY THE ENGINEER.
8. GENERALLY, THE FOLLOWING PROCEDURE SHALL BE USED TO DISINFECT THE NEW MAIN. THE CONTRACTOR SHALL HOWEVER, REVIEW THEIR PROPOSED PROCEDURES WITH THE ENGINEER AT LEAST 48 HOURS PRIOR TO START OF DISINFECTION. ALL DISINFECTION PROCEDURES MUST BE APPROVED BY THE ENGINEER BEFORE DISINFECTION STARTS.
   A. ALL GATE VALVES AND HYDRANTS MUST BE CLOSED. THE NEW MAIN SHOULD ALREADY BE FULL OF WATER FORM THE HYDROSTATIC TESTS; IF NOT, IT SHALL BE FILLED.
   B. MIX CHLORINE-WATER SOLUTION IN 55 GALLON DRUMS; CONNECT FEED LINE TO PUMP AND NEW MAIN.
   C. OPEN GATE VALVE ON THE HYDRANT LEAD OF END HYDRANT; THEN OPEN HYDRANT FULLY. (NOTE: HYDRANT MUST ALWAYS BE EITHER FULLY OPENED OF FULLY CLOSED. THE HYDRANT FLOW MAY BE CONTROLLED BY THROTTLING THE GATE VALVE ON THE HYDRANT LEAD).
   D. START PUMPING CHLORINE-WATER SOLUTION INTO WATER MAIN; THEN OPEN UPSTREAM GATE VALVE SLOWLY UNTIL FLOW FROM HYDRANT IS PROPORTIONATE TO THE AMOUNT OF CHLORINE-WATER SOLUTION BEING PUMPED (30 PARTS WATER TO 1 PART CHLORINE-WATER SOLUTION). IF A WATER METER IS NOT AVAILABLE, DISCHARGE RATE MAY BE DETERMINED BY USING EITHER A PITOT GAUGE IN THE DISCHARGE OR BY MEASURING THE TIME TO FILL A CONTAINER OF KNOWN VOLUME (SUCH AS A 55 GAL. BARREL). THE PUMPING RATE CAN BE DETERMINED BY MEASURING THE DROP IN LIQUID LEVEL IN A GIVEN LENGTH OF TIME. (NOTE: A STANDARD 55 GALLON STEEL BARREL CONTAINS 19.75 GAL/FT OF DEPTH OR 1.64 GAL/IN OF DEPTH).
   E. AFTER HYDRANT FLOW AND PUMPING RATE HAVE BEEN ADJUSTED, MAINTAIN A CONSTANT FLOW SO THAT CHLORINE CONCENTRATION IN THE MAIN IS MAINTAINED AT A MINIMUM OF 25 PPM.
   F. PERIODICALLY CHECK HYDRANT DISCHARGE FOR CHLORINE CONCENTRATION BY USING A FIELD CHLORINE RESIDUAL TEST KIT. MAINTAIN HYDRANT DISCHARGE AND PUMPING RATE UNTIL THE MINIMUM CHLORINE CONCENTRATION OF 25 PPM HAS BEEN ACHIEVED THROUGHOUT THE ENTIRE MAIN DISINFECTED.
   G. AFTER THE REQUIRED CONCENTRATION HAS BEEN ACHIEVED, ALL VALVES AND HYDRANTS ON THE MAIN LINE BETWEEN THE UPSTREAM GATE VALVE AND THE DISCHARGE HYDRANT SHALL BE OPERATED IN ORDER TO DISINFECT THE INTERNAL APPURTENANCES. DO NOT OPERATE ANY GATE VALVE THAT IS LOCATED ON A CONNECTION TO AN EXISTING WATER MAIN THAT IS IN SERVICE.
9. AFTER THE ENGINEER HAS TAKEN A WATER SAMPLE AND VERIFIED THE MINIMUM 25 PPM CHLORINE CONCENTRATION, THE CONTRACTOR SHALL RETAIN THE CHLORINATED WATER IN THE MAIN BY THE FOLLOWING METHOD:
   A. FIRST, CLOSE THE UPSTREAM GATE VALVE.
   B. SECOND, CLOSE THE DISCHARGE HYDRANT.
   C. THIRD, SHUT OFF THE PUMP.
10. CHLORINATED WATER SHALL REMAIN IN THE MAIN FOR A MINIMUM OF 24 HOURS.
11. IF THE CHLORINE RESIDUAL IS LESS THAN 10 PPM, REPEAT SYSTEM TREATMENT.
12. ANY SECTION OF PIPE, VALVES OR FITTINGS, INCLUDING TAPPING SLEEVES AND VALVES WHICH ARE INSTALLED OUTSIDE THE LIMITS OF THE SYSTEM SUBJECTED TO THE CHLORINATION PROCEDURES SPECIFIED ABOVE, SHALL BE SPRAYED OR SWABBED WITH A 1% HYPOCHLORITE SOLUTION PRIOR TO INSTALLATION.
13. AFTER THE ENGINEER HAS TAKEN A WATER SAMPLE AND VERIFIED THE MINIMUM 10 PPM CHLORINE RESIDUAL, CONTRACTOR SHALL THOROUGHLY FLUSH CHLORINATED WATER FROM THE MAIN BY THE FOLLOWING METHOD:
   A. FIRST, OPEN THE DISCHARGE HYDRANT.
   B. SECOND, OPEN THE UPSTREAM GATE VALVE.
   C. THIRD, OPEN ANY HYDRANTS ON THE MAIN LINE TO REMOVE ALL CHLORINATED WATER FROM THE HYDRANT LEADS.
14. FLUSH THE MAIN WITH POTABLE WATER IN SUCH A MANNER THAT SHALL NOT ADVERSELY AFFECT FISH, PLANT, OR ANIMAL LIFE.
15. THE QUANTITY AND LOCATION OF WATER SAMPLES TO BE TAKEN SHALL BE DETERMINED BY THE ENGINEER.
16. WATER SAMPLES SHALL BE TAKEN BY THE CONTRACTOR IN STERILIZED BOTTLES.
17. ANALYZE WATER SAMPLES IN ACCORDANCE WITH STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER, 14TH EDITION, PUBLISHED BY AMERICAN WATER WORKS ASSN., 6666 WEST QUINCY AVE., DENVER, CO 80235.
18. IF A BACTERIOLOGICAL TEST PROVES THE WATER QUALITY TO BE UNACCEPTABLE; REPEAT SYSTEM TREATMENT.
19. IF A BACTERIOLOGICAL TEST PROVES WATER TO BE ACCEPTABLE; REMOVE FEED LINE AND CORPORATION STOP. CORPORATION STOP WILL BE REPLACED WITH A THREADED BRASS PLUG UNLESS OTHERWISE DIRECTED BY ENGINEER.
20. SAMPLES MUST BE BACTERIOLOGICALLY SAFE BEFORE WATER MAIN IS PLACED IN SERVICE.



NOTES:

1. NON-RISING STEM GATE VALVE, OPERATING DIRECTION SHALL BE COUNTERCLOCKWISE TO OPEN.
2. MINIMUM DISTANCE TO JOINTS, FITTINGS, OR OTHER WET TAPS OR STOPS SHALL BE 3 FEET.
3. IF VALVE IS TO BE RODDED, PROVIDE VALVE WITH RODDING FLANGES OR EYEBOLTS. TWO (2) 3/4"ø GALVANIZED STEEL RODS WITH MALLEABLE IRON NUTS AT 180' SPACING SHALL BE USED FOR RODDING VALVES.
4. GATE VALVE SHALL BE IN ACCORDANCE WITH MUNICIPAL STANDARDS & AS MANUFACTURED BY MUELLER OR APPROVED EQUIVALENT.

1 / SD3 **TYPICAL GATE VALVE DETAIL**
SCALE: NOT TO SCALE



REQUIRED BEARING AREAS –B (SQFT) FOR BEARING BLOCKS*

PIPE SIZE (INCHES)	TEE	90° BEND	45° BEND	22 1/2 ° BEND	11 1/4 ° BEND
4	2.0	2.8	1.5	0.8	0.4
6	4.2	5.9	3.2	1.6	0.8
8	7.2	10.1	5.5	2.8	1.4
10	10.9	15.4	8.3	4.2	2.1
12	15.4	21.8	11.8	6.0	3.0
14	20.6	29.1	15.8	8.0	4.0
16	26.8	37.9	20.5	10.4	5.2
18	33.6	47.5	25.7	13.1	6.6
20	41.2	58.2	31.5	16.1	8.1
24	58.8	83.1	45.0	22.9	11.5
30	90.5	128.0	69.2	35.3	17.7
36	129.6	183.3	99.1	50.5	25.4

*FACTOR OF SAFETY=1.5 SOIL BEARING OF 3,000 PSF 225 PSI DESIGN PRESSURE

*BEARING ARE (B) = bxh

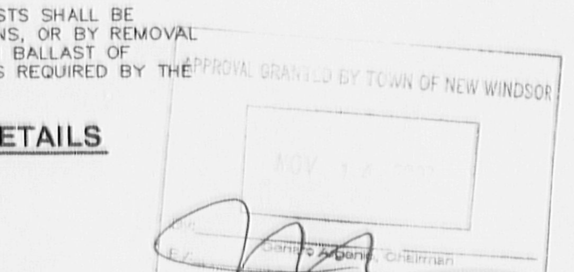
NOTES:

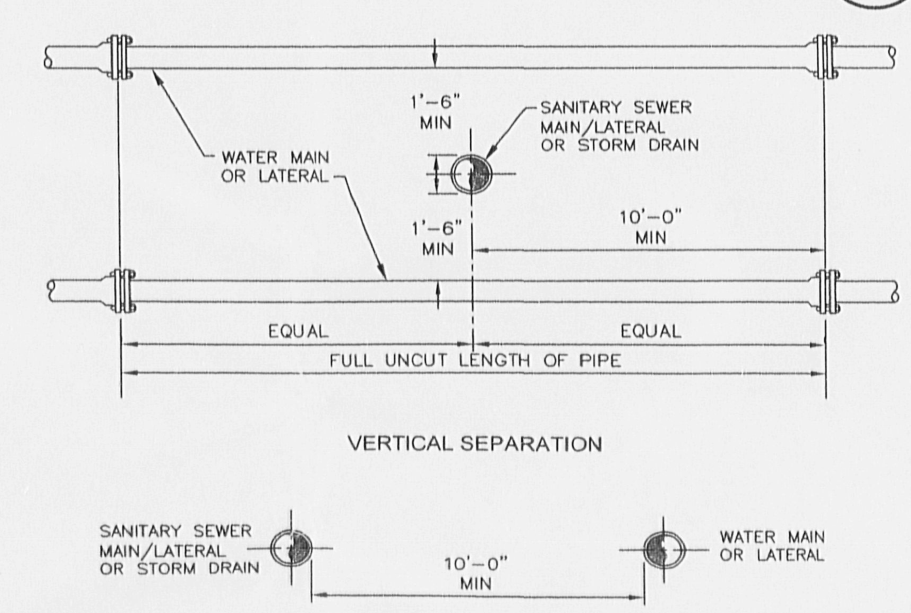
1. CONCRETE SHALL NOT TO OVERLAP ANY JOINT.
2. THRUST BLOCKS SHALL BE CONFIGURED IN A MANNER THAT DOES NOT INTERFERE WITH REMOVAL OR INSTALLATION OF ANY JOINTING COMPONENTS.
3. FOR REDUCERS, USE MECHANICAL JOINT FITTINGS WITH RETAINER GLANDS.
4. BEARING SURFACE SHALL, WHERE POSSIBLE, BE PLACED AGAINST UNDISTURBED SOIL. WHERE THAT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
5. BLOCK HEIGHT (h) SHALL BE EQUAL TO OR LESS THAN ONE-HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, (HT), BUT NOT LESS THAN THE PIPE DIAMETER (D).
6. BLOCK HEIGHT (h) SHALL BE ESTABLISHED SUCH THAT THE CALCULATED BLOCK WIDTH (b) VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT.
7. VALUES FOR TEES APPLY TO TEES, END PLUGS, CAPS, AND TAPPING SLEEVES.
8. REQUIRED BEARING AREAS ARE DEVELOPED TO RESIST THRUSTS RESULTING FROM 150 PSI WORKING PRESSURE PLUS 50%(75 PSI) SURGE ALLOWANCE RESULTING IN 225 PSI TOTAL INTERNAL PRESSURE. REQUIRED BEARING AREAS ARE BASED UPON AN ALLOWABLE SOIL BEARING CAPACITY OF 3,000 POUNDS PER SQUARE FOOT. IN RESPONSE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING ARES REQUIRED MAY BE MODIFIED BY THE ENGINEER.

SOIL	BEARING STRENGTH S_B (LB/SQ FT)
MUCK	0
SOFT CLAY	1,000
SILT	1,500
SANDY SILT	3,000
SAND	4,000
SANDY CLAY	6,000
HARD CLAY	9,000

9. IN MUCK, PEAT, OR RECENTLY PLACED FILL, ALL THRUSTS SHALL BE RESISTED BY PILES OR TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS; ALL AS REQUIRED BY THE ENGINEER.

6 / SD3 **CONCRETE THRUST BLOCK DETAILS**
SCALE: NOT TO SCALE

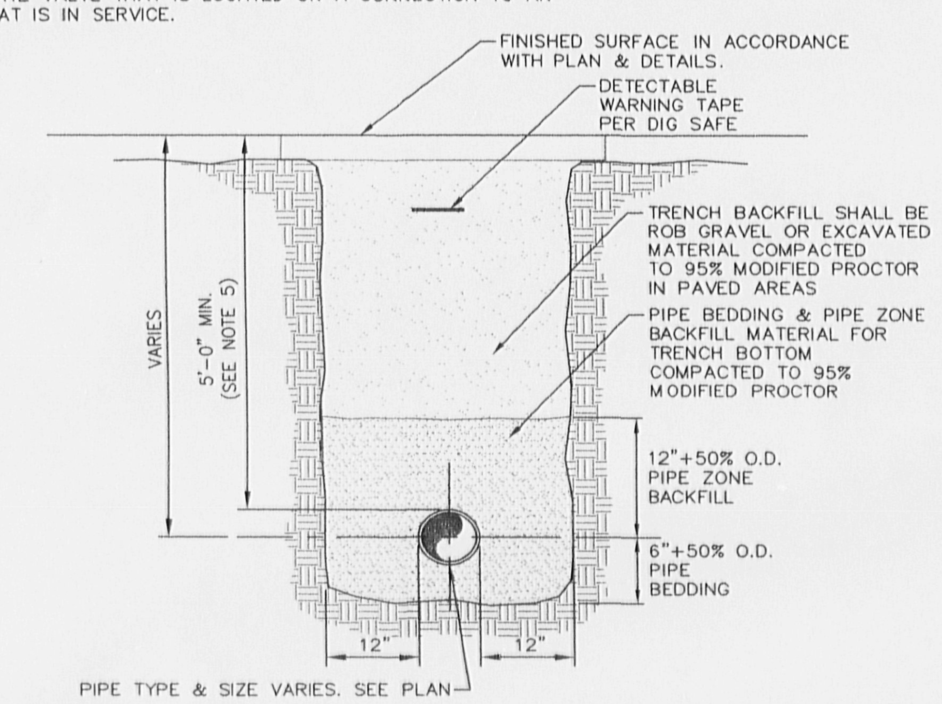




NOTE:

1. NO DEVIATION IN THE SEPARATION REQUIREMENTS WILL BE PERMITTED WITHOUT THE EXPRESS APPROVAL OF THE NYS HEALTH DEPARTMENT. CONCRETE ENCASEMENT OF WATERLINE OR OFFSETTING OF WATERLINE SHALL BE REQUIRED WHERE SEPARATION DISTANCES CANNOT BE MAINTAINED.

4 / SD3 **SANITARY/STORM SEWER AND WATERMAIN SEPARATION DETAIL**
SCALE: NOT TO SCALE



PIPE TYPE & SIZE VARIES. SEE PLAN

NOTES:

1. PIPE BEDDING & PIPE ZONE BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) SAND OR A MIXTURE OF CRUSHED STONE AND GRAVEL, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. BEDDING GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
3/4"	100%
NO. 40	0–70%
NO. 200	0–10%

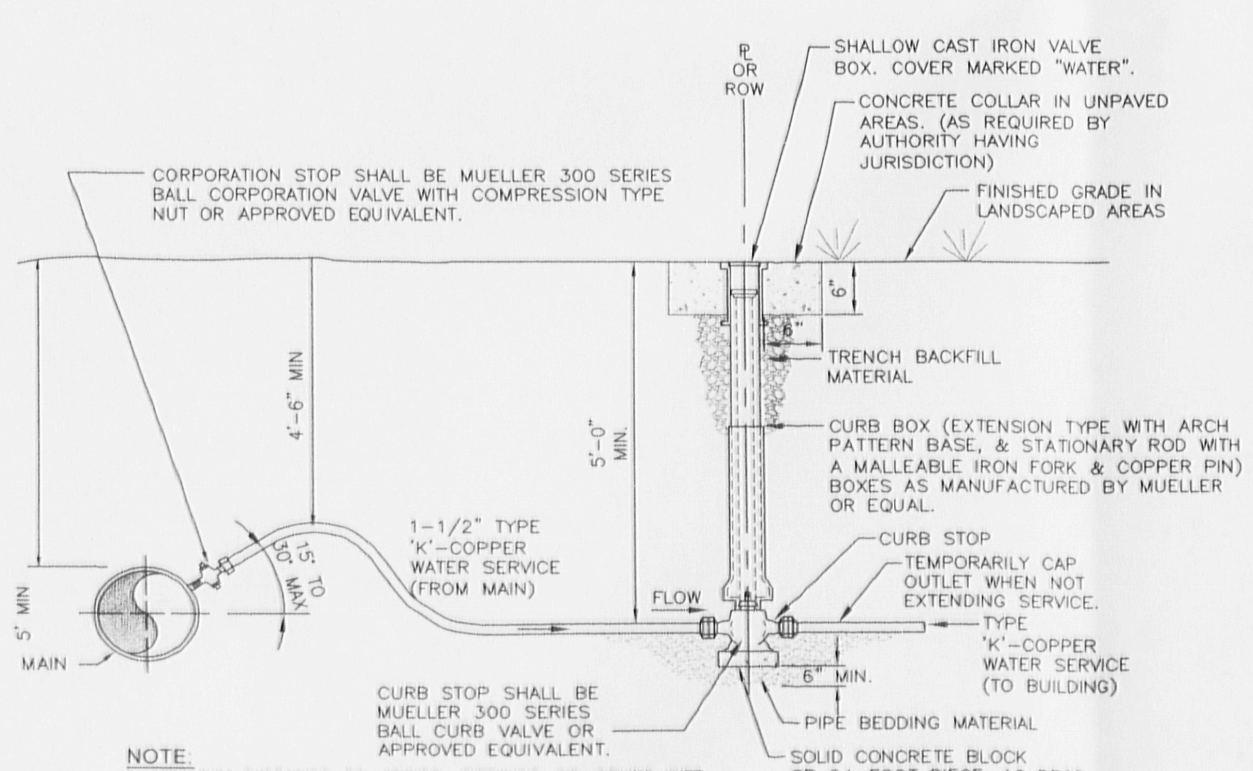
2. TRENCH BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) GRAVEL, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. TRENCH BACKFILL GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
4"	100%
NO. 40	0–70%
NO. 200	0–10%

IN UNPAVED AREAS TRENCH BACKFILL CAN BE MATERIALS EXCAVATED FROM THE TRENCH AS APPROVED BY THE ENGINEER.

3. INSTALL CONTINUOUS DETECTABLE MARKING TAPE DURING BACKFILLING OF TRENCH FOR UNDERGROUND PIPING. LOCATE TAPE 12" BELOW FINISHED GRADE, DIRECTLY OVER PIPING, EXCEPT 6" BELOW SUBGRADE UNDER PAVEMENTS & SLAB.
4. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.
5. 5'-0" MIN COVER SHALL BE APPLIED TO WATER MAIN OR SANITARY SEWER FORCE MAINS ONLY.

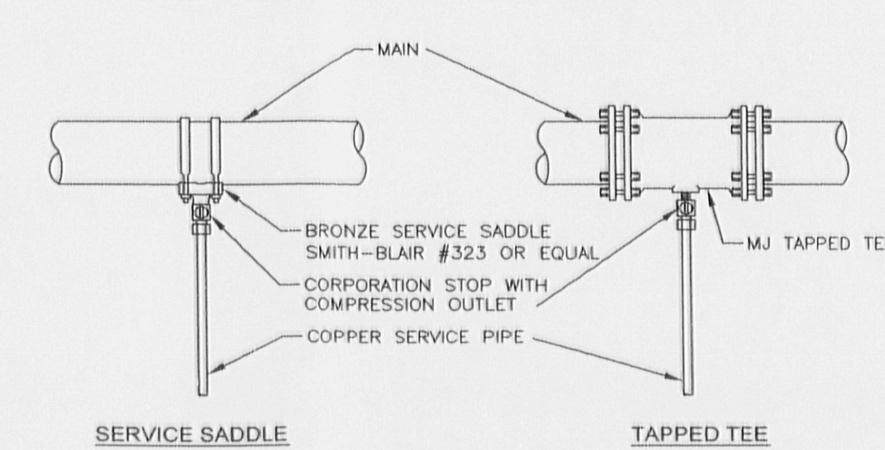
3 / SD3 **PIPE TRENCH DETAIL (TYPICAL)**
SCALE: NOT TO SCALE



NOTE:
1. MINIMUM DISTANCE TO JOINTS, FITTINGS OR OTHER WET TAPS OR STOPS SHALL BE MAINTAINED IN ACCORDANCE WITH REGULATORY AGENCY.

2 / SD3 **COPPER WATER SERVICE**
SCALE: NOT TO SCALE

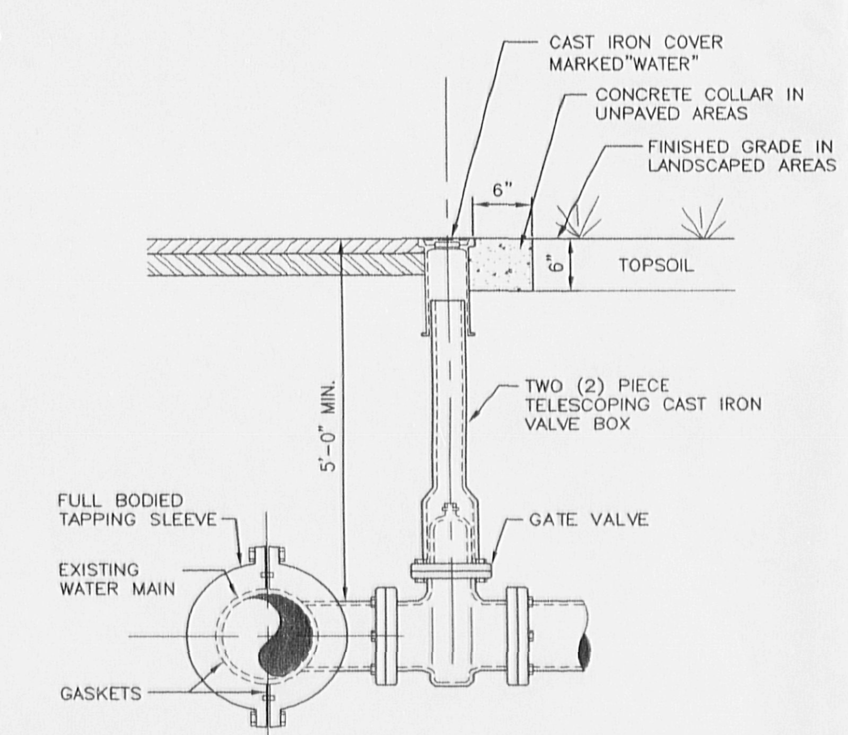
0 1 2 3
ORIGINAL SCALE IN INCHES



NOTES:

1. IF SERVICE TAP SIZE EXCEEDS LIMIT FOR DIRECT TAP AS SHOWN IN TABLE, USE SERVICE SADDLE OR MJ TAPPED TEE – MAX SIZE OF CORPORATION AND COPPER SERVICE IS 2".
2. SERVICE SADDLES SHALL BE DOUBLE STRAP BRONZE, NYLON COATED OR STAINLESS STEEL WITH RUBBER GASKETS, RATED AT 250 PSI AND CONFORMING WITH ANSI/AWWA C-800 STANDARDS.

7 / SD3 **TYPICAL COPPER WATER SERVICE TAPS**
SCALE: NOT TO SCALE

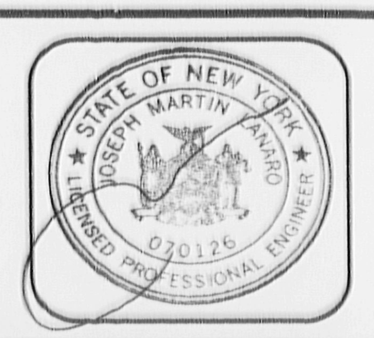


NOTES:

1. WET TAP OF PUBLIC WATER MAIN SHALL BE PERFORMED UNDER THE SUPERVISION OF THE ENGINEER, AND THE AUTHORITY HAVING JURISDICTION.
2. TAPPING SLEEVE AND VALVE SUPPORT SHALL BE COORDINATED WITH THE ENGINEER TO SUIT FIELD CONDITIONS.
3. MINIMUM DISTANCE TO JOINTS, FITTINGS, OR OTHER WET TAPS OR STOPS SHALL BE 3 FEET.
4. VALVE OPERATING DIRECTION SHALL BE COUNTERCLOCKWISE TO OPEN (TURNING LEFT).
5. TAPPING SLEEVE SHALL BE SELECTED TO FIT EXISTING PIPE MATERIAL (C.I., D.I., A.C.) AND OUTSIDE DIAMETERS.
6. TAPPING SLEEVE, VALVE & VALVE BOX SHALL BE IN ACCORDANCE WITH MUNICIPAL STANDARDS & AS MANUFACTURED BY (MUELLER, CLOW OR WATROUS) OR APPROVED EQUIVALENT.

5 / SD3 **TAPPING SLEEVE AND VALVE DETAIL**
SCALE: NOT TO SCALE

ISSUED FOR FINAL APPROVAL



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THE Chazen COMPANIES
Engineers/Surveyors
Planners
Environmental Scientists

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980
Capital District Office: 547 River Street, Troy, New York 12180, Phone: (518) 273-0055
Orange County Office: 356 Meadow Avenue, Newburgh, New York 12550, Phone: (845) 567-1133
North Country Office: 100 Glen Street, Glens Falls, New York 12801, Phone: (518) 812-0513

rev.	date	description
5	10/8/07	ISSUED TO TOWN FOR FINAL SIGNATURE
4	9/26/07	ISSUED TO TURNER FOR BIDDING
3	7/30/07	REV PER TDE COMMENT LETTER DATED 7/25/07
2	6/27/07	ISSUED TO TOWN
1	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE WATER DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
CAM	JML
date 3/17/06	scale AS NOTED
project no. 10512.02	
sheet no. SD3	

Drawing Name: S:\1\10500-10599\10512.02\ENG\DWG\SD3_10512_WATER.dwg
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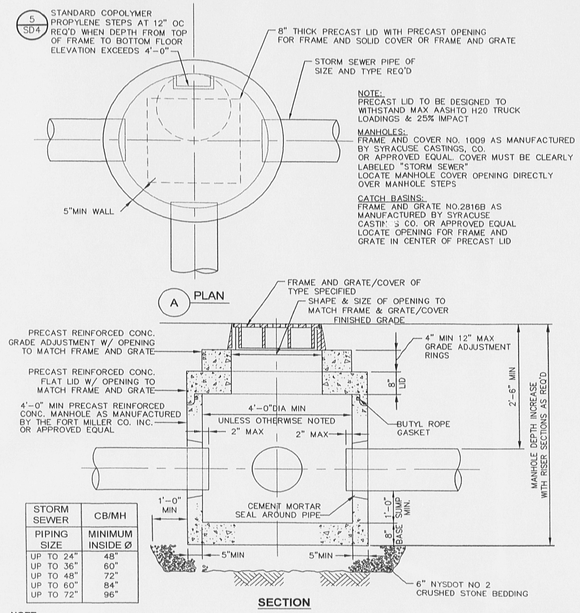
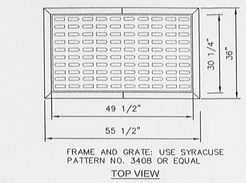


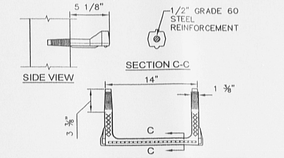
STORM SEWER	CB/MH
PIPING SIZE	MINIMUM INSIDE Ø
UP TO 24"	48"
UP TO 36"	60"
UP TO 48"	72"
UP TO 60"	84"
UP TO 72"	96"

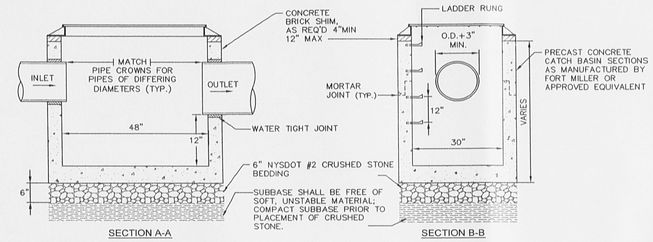
NOTE:
ALL PRECAST CONSTRUCTION IN ACCORDANCE W/ASTM C478

NOTES:
1. CATCH BASIN SHALL BE PRECAST CONCRETE. DESIGNED FOR H20-44 VEHICULAR LOADING AND 25% IMPACT.
2. FRAME AND COVER SHALL BE DESIGNED FOR H20-44 VEHICULAR LOADING & 25% IMPACT.
3. CONCRETE CATCH BASIN CASTING CLEAR OPENING DIMENSION MUST MATCH FRAME AND GRATE CLEAR OPENING DIMENSION.
4. CATCH BASINS HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE FLOOR OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.
5. BACKFILL USING TRENCH BACKFILL, COMPACTED IN 6" LIFTS.
6. SUMPS FOR CATCH BASINS SHALL BE 12".
7. ECCENTRIC CONE TOP CAN BE USED FOR MANHOLES DEPTH GREATER THAT 7 FEET.
8. SEE CHART FOR REQUIRED MANHOLES / CATCH BASINS DIAMETERS.

1 SD4 PRECAST CONCRETE CATCH BASIN/MANHOLE DETAIL
SCALE: NOT TO SCALE **LAST REVISED: 10/24/06**

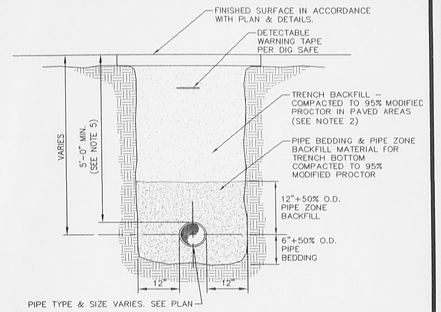






NOTES:
1. CATCH BASIN SHALL BE PRECAST CONCRETE. DESIGNED FOR H5 20-44 VEHICULAR LOADING.
2. FRAME AND COVER SHALL BE DESIGNED FOR H5 20-44 VEHICULAR LOADING.
3. CONCRETE CATCH BASIN CASTING CLEAR OPENING DIMENSION MUST MATCH FRAME AND GRATE CLEAR OPENING DIMENSION.
4. CATCH BASINS HAVING A DEPTH GREATER THAN 48" FROM FINISHED SURFACE TO THE TOP OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.
5. BACKFILL USING TRENCH BACKFILL, COMPACTED IN 6" LIFTS.
6. SUMPS FOR CATCH BASINS SHALL BE 12".

2 SD4 PRECAST CONCRETE CATCH BASIN DETAIL
SCALE: NOT TO SCALE **LAST REVISED: 1/8/06**



NOTES:
1. PIPE BEDDING & PIPE ZONE BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) SAND OR A MIXTURE OF CRUSHED STONE AND GRAVEL, FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. BEDDING GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
3/4"	100%
NO. 40	0-70%
NO. 200	0-10%

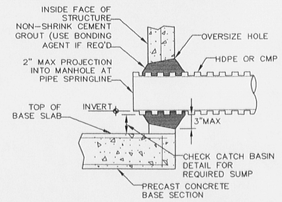
2. TRENCH BACKFILL SHALL BE A NATURAL RUN-OF-BANK (R.O.B.) OR PROCESSED GRAVEL, OR EXCAVATED MATERIAL FREE OF SOFT, NONDURABLE PARTICLES, ORGANIC MATERIALS AND ELONGATED PARTICLES, AND SHALL BE WELL GRADED FROM FINE TO COARSE PARTICLES. TRENCH BACKFILL GRADATIONS SHALL BE APPROVED BY THE ENGINEER AND SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
4"	100%
NO. 40	0-70%
NO. 200	0-10%

IN UNPAVED AREAS TRENCH BACKFILL CAN BE MATERIALS EXCAVATED FROM THE TRENCH AS APPROVED BY THE ENGINEER.

3. INSTALL CONTINUOUS DETECTABLE MARKING TAPE DURING BACKFILLING OF TRENCH FOR UNDERGROUND PIPING. LOCATE TAPE 12" BELOW FINISHED GRADE, DIRECTLY OVER PIPING, EXCEPT 6" BELOW SUBGRADE UNDER PAVEMENTS & SLAB.
4. TRENCHING SHALL BE IMPLEMENTED IN ACCORDANCE WITH O.S.H.A. STANDARDS.
5. 5'-0" MIN COVER SHALL BE APPLIED TO WATER MAIN OR SANITARY SEWER FORCE MAINS ONLY.

3 SD4 PIPE TRENCH DETAIL (TYPICAL)
SCALE: NOT TO SCALE **LAST REVISED: 5/17/06**

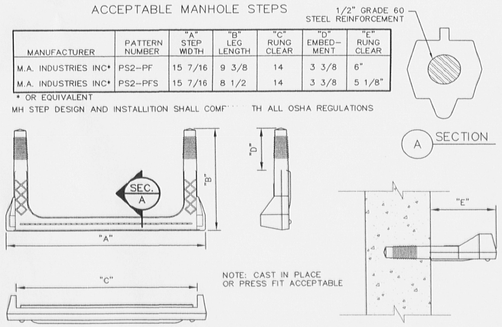


4 SD4 CEMENT GROUT SEAL, CORRUGATED CMP OR HDPE PIPE TO STRUCTURE JOINT DETAIL
SCALE: NOT TO SCALE **LAST REVISED: 9/9/05**

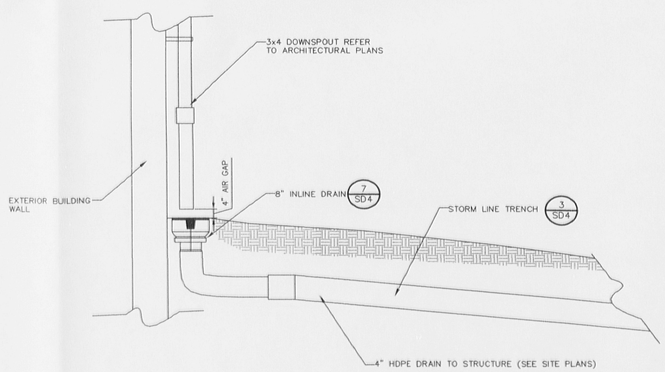
ACCEPTABLE MANHOLE STEPS

MANUFACTURER	PATTERN NUMBER	"A" STEP WIDTH	"B" LEG LENGTH	"C" RUNG CLEAR	"D" EMBED-MENT	"E" RUNG CLEAR
M.A. INDUSTRIES INC*	PS2-PF	15 7/16	9 3/8	14	3 3/8	6"
M.A. INDUSTRIES INC*	PS2-PFS	15 7/16	8 1/2	14	3 3/8	5 1/8"

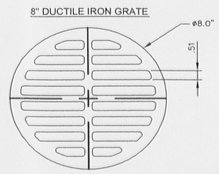
* OR EQUIVALENT
MH STEP DESIGN AND INSTALLITION SHALL COMP[illegible]TH ALL OSHA REGULATIONS

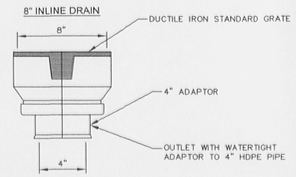


5 SD4 COPOLYMER POLYPROPYLENE MH STEP
SCALE: NOT TO SCALE **LAST REVISED: 12/5/05**



6 SD4 ROOF DOWNSPOUT INLINE DRAIN
SCALE: NOT TO SCALE **LAST REVISED: 12/5/05**





NOTE:
1. CASTINGS ARE RATED FOR LIGHT WHEEL LOAD TRAFFIC
2. QUALITY MATERIAL SHALL CONFORM TO ASTM A48-CLASS 30B
3. PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
4. INLINE DRAIN BY NYLOPLAST OR APPROVED EQUIVALENT

7 SD4 8" INLINE DRAIN
SCALE: NOT TO SCALE **LAST REVISED: 12/5/05**

STORM SEWER NOTES:

1. ALL STORM WATER MANAGEMENT STRUCTURES (I.E. CATCH BASIN, ETC.) SHALL BE REGULARLY INSPECTED FOR SEDIMENT ACCUMULATIONS. CATCH BASINS SHALL BE CLEANED WHEN SEDIMENT DEPTH REACHES A MAXIMUM OF 1/2 THE AVAILABLE SUMP DEPTH.
2. IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONSTRUCT A DEWATERING PIT (A.K.A. SUMP PIT) TO TRAP AND FILTER WATER FOR PUMPING TO A SUITABLE DISCHARGE AREA. THE DEWATERING PIT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR URBAN EROSION AND SEDIMENT CONTROL, LATEST EDITION.
3. ALL EROSION CONTROL MEASURES EMPLOYED DURING THE CONSTRUCTION PROCESS SHALL BE AS OUTLINED ON THE EROSION AND SEDIMENT CONTROL PLANS, DETAILS AND NOTES.

ORIGINAL SCALE IN INCHES 0 1 2 3

ISSUED FOR FINAL APPROVAL

STATE OF NEW YORK · JOSEPH MARTIN · 070126 · LICENSED PROFESSIONAL ENGINEER

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Dutchess County Office:
21 Fox Street
Poughkeepsie, New York 12601
Phone: (845) 454-3980

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547 River Street
Troy, New York 12180
Phone: (518) 273-0055

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356 Meadow Avenue
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Phone: (845) 567-1133

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rev.	date	description
5	10/8/07	ISSUED TO TOWN FOR FINAL SIGNATURE
4	9/26/07	ISSUED TO TURNER FOR BIDDING
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1	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE STORM SEWER DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn CAM	checked JML
date 3/17/06	scale AS NOTED
project no. 10512.02	
sheet no. SD4	

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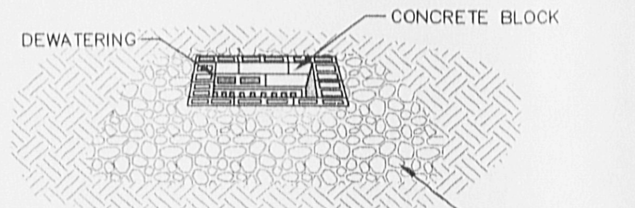
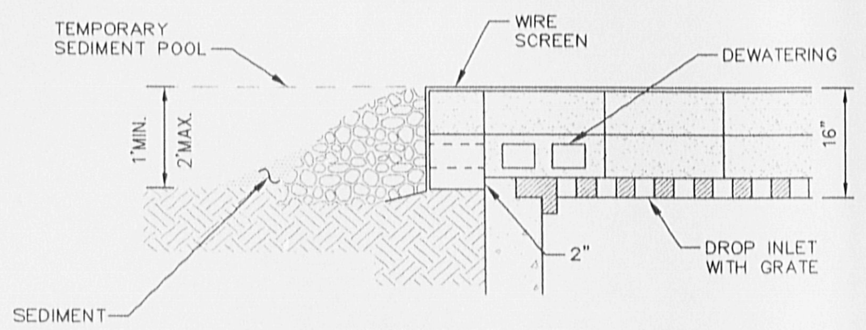
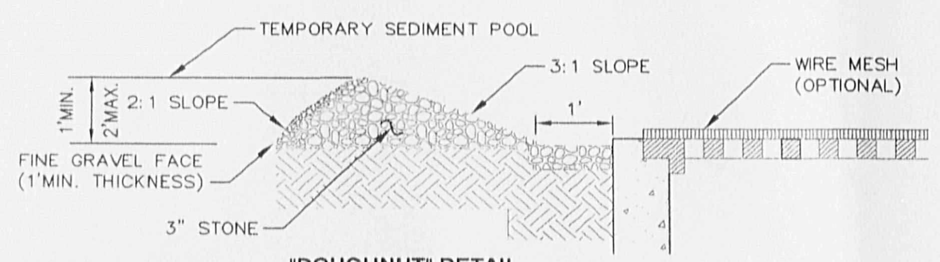
Date Plotted: Oct 08, 2007 11:46am



STONE & BLOCK PLAN VIEW



STONE & BLOCK DETAIL

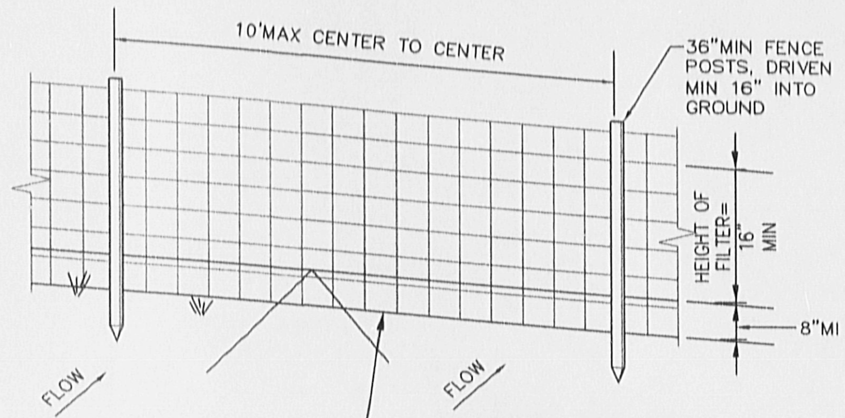


"DOUGHNUT" DETAIL

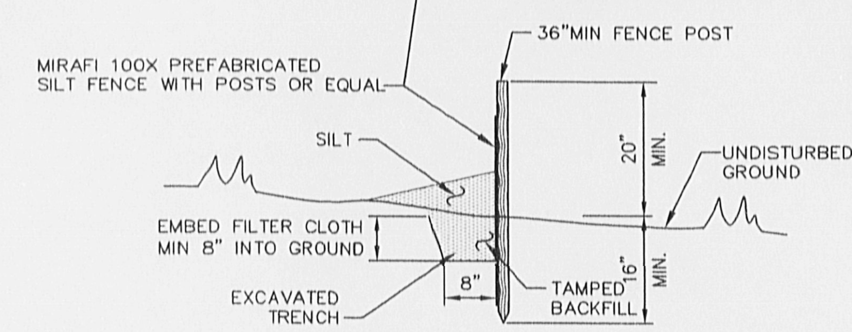
CONSTRUCTION SPECIFICATIONS:

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN NYSDOT NO. 1 AND NO. 2 STONE OR GRAVEL PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE SHALL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS. MAXIMUM DRAINAGE AREA 1 ACRE

1/SD5 CATCH BASIN STONE AND BLOCK INLET PROTECTION DETAIL
SCALE: NOT TO SCALE



PERSPECTIVE VIEW



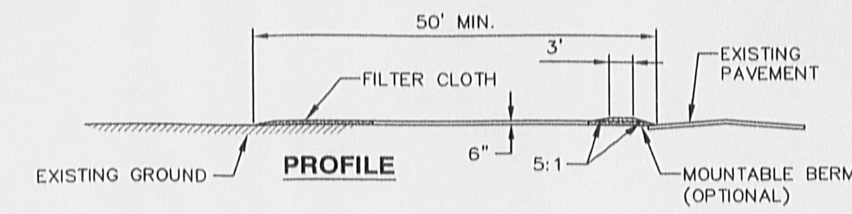
SECTION

NOTES:

1. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH SHALL BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIALS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
5. MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A SILT FENCE SHALL NOT EXCEED 1/2 ACRE PER 100 FEET OF FENCE.
6. SILT FENCE SHALL BE USED WHERE EROSION COULD OCCUR IN THE FORM OF SHEET EROSION.
7. SILT FENCE SHALL NOT BE USED WHEN A CONCENTRATION OF WATER IS FLOWING TO THE BARRIER.
8. MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUN-OFF TO A SILT FENCE ARE:

SLOPE STEEPNESS	MAXIMUM SLOPE LENGTH(FT)
2:1	50
3:1	75
4:1	125
5:1	175
FLATTER THAN 5:1	200

2/SD5 SILT FENCE INSTALLATION DETAIL
SCALE: NOT TO SCALE



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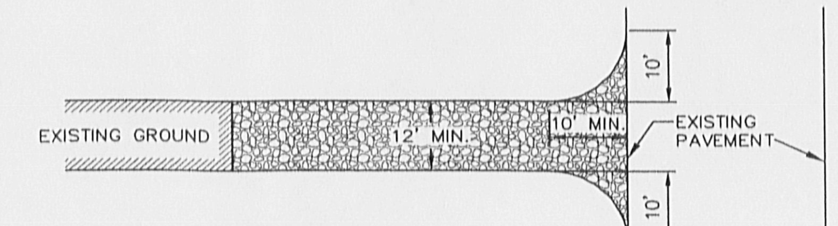
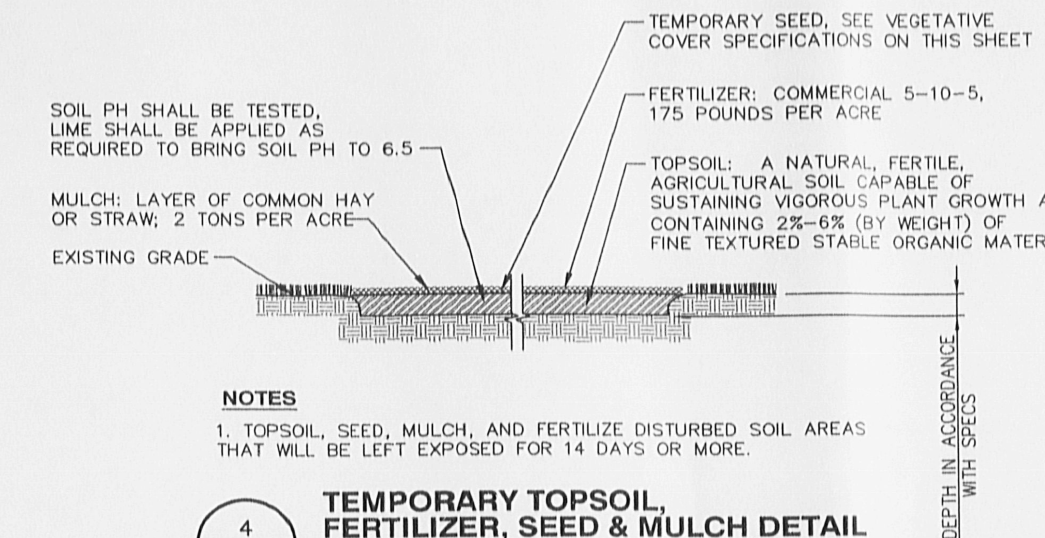


PLAN VIEW

CONSTRUCTION ENTRANCE SPECIFICATIONS:

1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. THICKNESS – NOT LESS THAN SIX (6) INCHES.
3. WIDTH – TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY FOUR FEET (24') IF SINGLE ENTRANCE TO SITE.
4. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50'.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

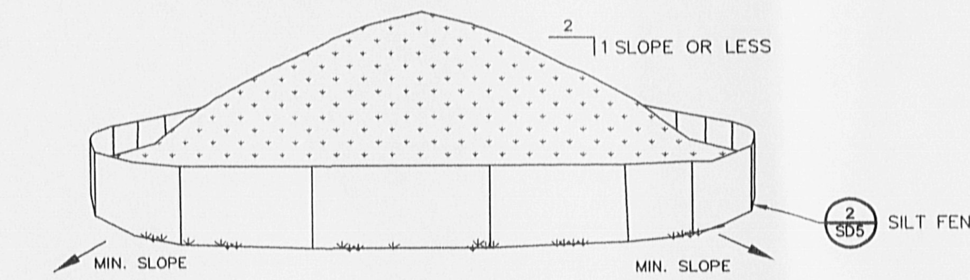
3/SD5 STABILIZED CONSTRUCTION ENTRANCE DETAIL
SCALE: NOT TO SCALE



NOTES

1. TOPSOIL, SEED, MULCH, AND FERTILIZE DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 14 DAYS OR MORE.

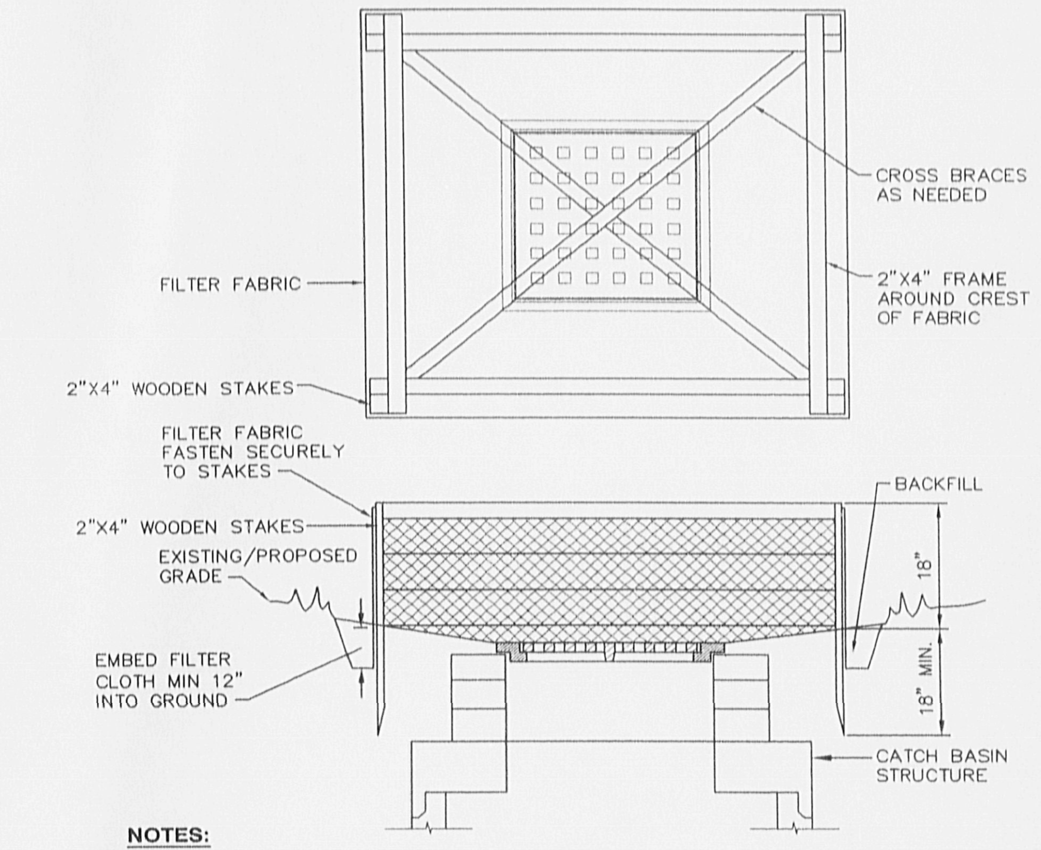
4/SD5 TEMPORARY TOPSOIL, FERTILIZER, SEED & MULCH DETAIL
SCALE: NOT TO SCALE



NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V: 2H.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.

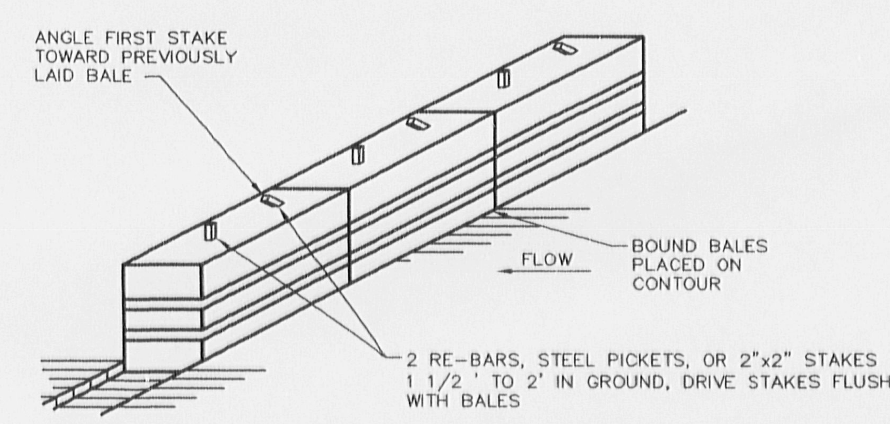
5/SD5 TEMPORARY SOIL STOCKPILE DETAIL
SCALE: NOT TO SCALE



NOTES:

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85.
2. CUT FABRIC FROM CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED, OVERLAP TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x4" WOOD OR EQUIVALENT, WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE MINIMUM 18" DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2"x4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVERFLOW STABILITY.
7. MAXIMUM DRAINAGE AREA IS 1 ACRE.
8. INLET PROTECTION SHALL REMAIN IN-PLACE UNTIL SITE HAS BEEN STABILIZED.

6/SD5 TEMPORARY OUT OF PAVEMENT FILTER FABRIC DROP INLET PROTECTION DETAIL
SCALE: NOT TO SCALE



NOTES:

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4)INCHES AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
6. MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO A HAY OR STAW BALE DIKE SHALL NOT EXCEED 0.25 ACRES PER 100 FEET OF DIKE.
7. HAY OR STAW BALE DIKES SHALL BE USED WHERE EROSION COULD OCCUR IN THE FORM OF SHEET EROSION.
8. HAY OR STRAW BALE DIKES SHALL NOT BE USED WHEN A CONCENTRATION OF WATER IS FLOWING TO THE BARRIER.
9. MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING TO A HAY OR STAW BALE DIKE ARE:

SLOPE STEEPNESS	MAXIMUM SLOPE LENGTH(FT)
2:1	25
2.5:1	50
3:1	75
3.5:1	100
4:1	125

7/SD5 HAY OR STRAW BALE DIKE DETAIL
SCALE: NOT TO SCALE

TEMPORARY PIPE OUTLET SEDIMENT TRAP CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. VOLUME OF SEDIMENT STORAGE SHALL BE 3600 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
4. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
5. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.
7. THE STRUCTURE SHALL BE REMOVED AND AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
8. ALL FILL SLOPES SHALL BE 2:1 OR FLATTER; CUT SLOPES 1:1 OR FLATTER.
9. ALL PIPE CONNECTIONS SHALL BE WATERTIGHT.
10. THE TOP 2/3 OF THE RISER SHALL BE PERFORATED WITH ONE (1) INCH DIAMETER HOLES OR SLITS SPACED SIX (6) INCHES VERTICALLY AND HORIZONTALLY AND PLACED IN THE CONCAVE PORTION OF PIPE. NO HOLES WILL BE ALLOWED WITHIN SIX (6) INCHES OF THE HORIZONTAL BARREL.
11. THE RISER SHALL BE WRAPPED WITH 1/4 TO 1/2 INCH HARDWARE CLOTH WIRE THEN WRAPPED WITH FILTER CLOTH (HAVING AN EQUIVALENT SIEVE SIZE OF 40-80). THE FILTER CLOTH SHALL EXTEND SIX (6) INCHES ABOVE THE HIGHEST HOLE AND SIX (6) INCHES BELOW THE LOWEST HOLE. WHERE ENDS OF THE FILTER CLOTH COME TOGETHER, THEY SHALL BE OVER-LAPPED, FOLDED AND STAPLED TO PREVENT BYPASS.
12. STRAPS OR CONNECTING BANDS SHALL BE USED TO HOLD THE FILTER CLOTH AND WIRE FABRIC IN PLACE. THEY SHALL BE PLACED AT THE TOP AND BOTTOM OF THE CLOTH.
13. FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE HAND COMPACTED IN FOUR (4) INCH LAYERS. A MINIMUM OF TWO (2) FEET OF HAND COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
14. THE RISER SHALL BE ANCHORED WITH EITHER A CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. FOR CONCRETE BASED THE DEPTH SHALL BE TWELVE (12) INCHES WITH THE RISER EMBEDDED NINE (9) INCHES. A 1/4 INCH MINIMUM THICKNESS STEEL PLATE SHALL BE ATTACHED TO THE RISER BY A CONTINUOUS WELD AROUND THE BOTTOM TO FORM A WATERTIGHT CONNECTION AND THEN PLACE TWO (2) FEET OF STONE, GRAVEL, OR TAMPED EARTH ON THE PLATE.

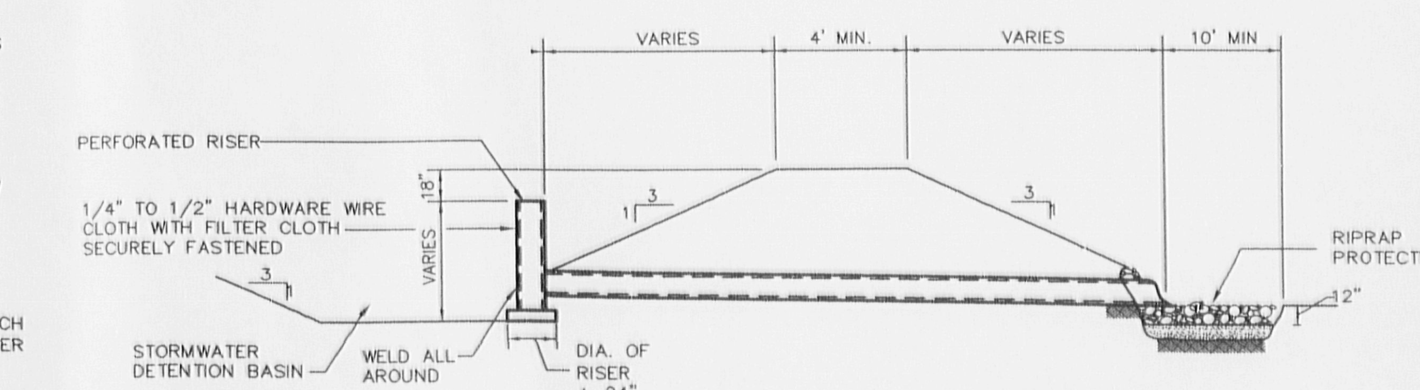
DESIGN AND CONSTRUCTION CRITERIA:

PIPE OUTLET SEDIMENT TRAP

1.614 ACRES TO BE TREATED BY A PIPE OUTLET SEDIMENT TRAP
REQUIRED STORAGE = 1.614AC X 3,600 CF/AC = 5,810 CF
STORAGE PROVIDED IN TEMPORARY PIPE OUTLET SEDIMENT TRAP = 7,711 CF

EXCAVATION OF BASIN TO BE INSTALLED AS PER GRADING PLAN AND GRADING FOR DETENTION BASIN

A TEMPORARY STAND PIPE AND OUTLET IS TO BE INSTALLED AS PER DETAIL PROVIDED.
TEMPORARY STAND PIPE SHALL CONSIST OF A PIPE BARREL DIAMETER OF 15-INCH MINIMUM, A PIPE RISER DIAMETER OF 18-INCH MINIMUM BASED ON THE DRAINAGE AREA BEING MORE THAN ONE ACRE BUT LESS THAN 2 ACRES PER NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL PAGE 5A.36 AUGUST 2005.



TEMP SEDIMENT TRAP PIPE OUTLET DETAIL

APPROVAL GRANTED BY TOWN OF NEW WINDSOR
NOV 14 2007
By: Genaro Argenio, Chairman
By: Neil Schlesinger, Secretary

8/SD5 PIPE OUTLET SEDIMENT TRAP AND CONSTRUCTION SPECIFICATIONS
SCALE: NOT TO SCALE

0 1 2 3
ORIGINAL SCALE IN INCHES

ISSUED FOR FINAL APPROVAL

STATE OF NEW YORK · JOSEPH MARTIN LANZO · 070126 · LICENSED PROFESSIONAL ENGINEER

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THE Chazen COMPANIES
Engineers/Surveyors
Planners
Environmental Scientists

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980
Capital District Office: 547 River Street, Troy, New York 12180, Phone: (518) 273-0055
Orange County Office: 356 Meadow Avenue, Newburgh, New York 12550, Phone: (845) 567-1133
North Country Office: 100 Glen Street, Glens Falls, New York 12801, Phone: (518) 812-0513

rev.	date	description
5	10/8/07	ISSUED TO TOWN FOR FINAL SIGNATURE
4	9/26/07	ISSUED TO TURNER FOR BIDDING
3	7/30/07	REV PER TDE COMMENT LETTER DATED 7/25/07
2	6/27/07	ISSUED TO TOWN
1	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE EROSION & SEDIMENT CONTROL DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
REK	JML
date 3/17/06	scale AS NOTED
project no. 10512.02	
sheet no. SD5	

Drawing Name: S:\1\10500-10599\10512.02 ENG\DWG\SD5-6_10512_EROSION_CONTROL.dwg
Xref's Attached: XTB_10512_24X36

5981

SPDES GENERAL PERMIT GP.02.01 COMPLIANCE NOTES:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE FOLLOWING:

1. THE CONTRACTOR AND HIS/HER SUBCONTRACTORS SHALL READ AND UNDERSTAND THE CONDITIONS OF THE "NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) STATE POLLUTANT DISCHARGE ELIMINATION (SPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITY", GP-02-01 FOR THIS PROJECT.
2. THE CONTRACTOR AND HIS/HER SUBCONTRACTORS SHALL SIGN A COPY OF THE GENERAL PERMIT, GP-02-01, CERTIFICATION STATEMENT AS IDENTIFIED IN APPENDICES OF THE STORM WATER POLLUTION PREVENTION PLAN.
3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS NECESSARY FOR THE WORK OUTLINED HEREIN.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL STORM WATER POLLUTION PREVENTION MEASURES OUTLINED IN THE STORM WATER POLLUTION PREVENTION PLAN AND PROJECT DRAWINGS.
5. THE CONTRACTOR SHALL HOLD A PRECONSTRUCTION CONFERENCE WITH THE OWNER'S REPRESENTATIVES AT LEAST ONE WEEK PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. THE CONTRACTOR/OWNER SHALL HAVE A QUALIFIED PROFESSIONAL, AS DEFINED WITHIN THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY PERMIT NO. GP-02-01, CONDUCT SITE INSPECTIONS PRIOR TO CONSTRUCTION, FOLLOWING THE COMMENCEMENT OF CONSTRUCTION, AT LEAST EVERY 7 CALENDAR DAYS, AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER. REFER TO SWPPP FOR WHAT EACH INSPECTION SHALL CONSIST OF.
7. PRIOR TO COMMENCEMENT OF CONSTRUCTION, A QUAILIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (HIRED BY CONTRACTOR/OWNER) SHALL CONDUCT AN ASSESSMENT OF THE SITE AND CERTIFY THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROL STRUCTURES AS DEPICTED ON THE PLANS HAVE BEEN ADEQUATELY INSTALLED AND IMPLEMENTED. CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER ONCE THE EROSION AND SEDIMENT CONTROL STRUCTURES HAVE BEEN INSTALLED. REFER TO 'STORMWATER POLLUTION PREVENTION PLAN' FOR WHAT EACH INSPECTION SHALL CONSIST OF.
8. THE OWNER/OPERATOR SHALL MAINTAIN A RECORD OF ALL EROSION AND SEDIMENT CONTROL INSPECTION REPORTS AT THE SITE IN A LOG BOOK. THE SITE LOG BOOK SHALL BE MAINTAINED ON-SITE AND BE MADE AVAILABLE TO THE PERMITTING AUTHORITY. THE OWNER/CONTRACTOR SHALL POST AT THE SITE, IN A PUBLICLY-ACCESSIBLE LOCATION, A SUMMARY OF THE SITE INSPECTION ACTIVITIES ON A MONTHLY BASIS.
9. THE OWNER/OPERATOR SHALL FILE A NOTICE OF INTENT (NOI) WITH THE NYSDEC AND LOCAL GOVERNING AUTHORITY PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES AND A NOTICE OF TERMINATION (NOT) WITH NYSDEC FOLLOWING CONSTRUCTION ACTIVITIES.

CONSTRUCTION SEQUENCING NOTES:

1. PRIOR TO COMMENCING ANY CLEARING, GRUBBING, EARTHWORK ACTIVITIES, ETC. AT THE SITE, THE CONTRACTOR SHALL FLAG THE WORK LIMITS AND SHALL INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (I.E. SILT FENCES, TREE PROTECTION/BARRIER FENCES, STABILIZED CONSTRUCTION ENTRANCES, STORM DRAIN SEDIMENT FILTERS, DRAINAGE DITCH SEDIMENT FILTERS, ETC.) INDICATED ON THE PROJECT DRAWINGS. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS.
2. PRIOR TO COMMENCING CLEARING, GRUBBING AND/OR EARTHWORK ACTIVITIES WITHIN THE SITE, THE CONTRACTOR SHALL INSTALL INLET AND OUTLET PROTECTION MEASURES (RIPRAP OVERFLOW WEIR(S), CULVERT INLET/OUTLET PROTECTION, ETC.)
3. THE CONTRACTOR SHALL COMMENCE SITE CONSTRUCTION ACTIVITIES AS REQUIRED.
4. IMMEDIATELY FOLLOWING COMPLETION OR SUSPENSION OF CONSTRUCTION ACTIVITIES IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
5. UPON ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON ALL DISTURBED AREAS OF THE SITE, THE CONTRACTOR SHALL REMOVE THE CONSTRUCTION FABRIC FROM THE PRIMARY INLET OF THE OUTLET CONTROL STRUCTURE. THIS SHALL ONLY BE DONE WHEN THE PRIMARY OUTLET IS NO LONGER SUBMERGED.
6. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND IMMEDIATELY ESTABLISH PERMANENT VEGETATION ON THE AREAS DISTURBED DURING THEIR REMOVAL.

EROSION AND SEDIMENT INSPECTION AND MAINTENANCE SCHEDULE

STRUCTURE	DAILY	WEEKLY	AFTER RAINFALL	NECESSARY TO MAINTAIN FUNCTION	AFTER COMPLETION OF CONSTRUCTION
SILT FENCE BARRIER	--	INSPECT	INSPECT	CLEAN/ REPLACE	REMOVE
STABILIZED CONSTRUCTION ENTRANCE	INSPECT	--	INSPECT	CLEAN/ REPLACE STONE AND FABRIC	REMOVE
DUST CONTROL	INSPECT	--	INSPECT	MULCHING/ SPRAYING WATER	N/A
VEGETATIVE ESTABLISHMENT	--	INSPECT	INSPECT	WATERING/ RE-SEEDING/ RE-MULCHING	PERMANENT
INLET PROTECTION	--	INSPECT	INSPECT	CLEAN/ REPAIR/ REPLACE	REMOVE

EROSION AND SEDIMENT CONTROL MEASURES:

GENERAL MEASURES:

1. SURFACE WATER DAMAGE RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
2. AS MUCH AS IS PRACTICAL, EXISTING VEGETATION SHALL BE PRESERVED. FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITIES IN ANY PORTIONOF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
3. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE SCOPE AND DURATION OF SOIL DISRUPTION.
4. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL POINTS OF ENTRY ONTO THE PROJECT SITE.

PARTICULAR MEASURES - CONSTRUCTION ENTRANCE

1. STABILIZED CONSTRUCTION ENTRANCE, UTILIZED DURING CONSTRUCTION, SHALL BE MAINTAINED IN A CONDITION THAT SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
2. SOIL STOCKPILES: SILT FENCES SHALL BE CONSTRUCTED AROUND ALL STOCKPILES OF FILL, TOPSOIL, AND EXCAVATED OVERBURDEN THAT ARE TO REMAIN EXPOSED FOR PERIODS LESS THAN 21 DAYS. SILT FENCES SHALL BE ANCHORED AND MAINTAINED IN GOOD CONDITION UNTIL SUCH TIME AS SAID STOCKPILES ARE REMOVED AND STOCKPILING AREAS ARE BROUGHT TO FINAL GRADE AND PERMANENTLY STABILIZED. TOPSOIL AND FILL THAT IS TO REMAIN STOCKPILED ON-SITE FOR PERIODS GREATER THAN 21 DAYS SHALL BE STABILIZED BY SEEDING. PRIOR TO THE SEEDING OPERATION, THE STOCKPILED MATERIAL SHALL BE GRADED AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY DITCH, STREAM, OR OTHER SURFACE WATER BODY.

TOPSOIL SPECIFICATIONS:

1. EXISTING EXCESS TOPSOIL TO BE REMOVED AND STORED IN TOPSOIL STOCKPILES SUFFICIENTLY REMOVED FROM OTHER EXCAVATION OR DISTURBANCE TO AVOID MIXING. SILT FENCE OR HAYBALES ARE TO BE INSTALLED AROUND TOPSOIL STOCKPILE AREAS.

SITE PREPARATION:

1. COMPLETE ROUGH GRADING AND FINAL GRADE, ALLOWING FOR DEPTH OF TOPSOIL TO BE ADDED.
2. SCARIFY ALL COMPACT, SLOWLY PERMEABLE, MEDIUM AND FINE TEXTURED SUBSOIL AREAS. SCARIFY AT APPROXIMATELY RIGHT ANGLES TO THE SLOPE DIRECTION IN SOIL AREAS THAT ARE STEEPER THAN 5%.
3. REMOVE REFUSE, WOODY PLANT PARTS, STONES OVER 3 INCHES IN DIAMETER, AND OTHER LITTER.

TOPSOIL MATERIALS:

1. NEW TOPSOIL SHALL BE BETTER THAN OR EQUAL TO THE QUALITY OF THE EXISTING ADJACENT TOPSOIL. IT SHALL MEET THE FOLLOWING CRITERIA:
   A. ORIGINAL LOAM TOPSOIL, WELL DRAINED HOMOGENEOUS TEXTURE AND OF UNIFORM GRADE, WITHOUT THE ADMIXTURE OF SUBSOIL MATERIAL AND FREE OF DENSE MATERIAL, HARDPAN, CLAY, STONES, SOD OR OTHER OBJECTIONABLE MATERIAL.
   B. CONTAINING NOT LESS THAN 5% NOR MORE THAN 20% ORGANIC MATTER IN THAT PORTION OF A SAMPLING PASSING A 1/4" SIEVE WHEN DETERMINED BY THE WET COMBUSTION METHOD ON A SAMPLE DRIED AT 105°C.
   C. CONTAINING A PH VALUE WITHIN THE RANGE OF 6.5 TO 7.5 ON THAT PORTION OF THE SAMPLE WHICH PASSES A 1/4" SIEVE.
   D. CONTAINING THE FOLLOWING WASHED GRADATIONS:

SIEVE DESIGNATION	% PASSING
1"	100
1/4"	97-100
NO 200	20-60

APPLICATION AND GRADING:

1. TOPSOIL SHALL BE DISTRIBUTED TO A UNIFORM DEPTH OF 4" OVER THE AREA. IT SHALL NOT BE PLACED WHEN IT IS PARTLY FROZEN, MUDDY, OR ON FROZEN SLOPES OR OVER ICE, SNOW, OR STANDING WATER.
2. TOPSOIL PLACED AND GRADED ON SLOPES STEEPER THAN 5% SHALL BE PROMPTLY FERTILIZED, SEEDED, MULCHED AND STABILIZED BY "TRACKING" WITH SUITABLE EQUIPMENT.

VEGETATIVE COVER SPECIFICATIONS:

TEMPORARY VEGETATIVE COVER (DURING CONSTRUCTION):

1. SITE PREPARATION

   (SAME AS PERMANENT VEGETATIVE COVER)

2. SEED MIX: (APPLY AT RATE OF 3 TO 4 LBS PER 1000 SF)

AMOUNT BY: WEIGHT	SPECIES OR VARIETY	MINIMUM % PURITY	GERMINATION
100%	ANNUAL RYEGRASS	98%	90%

3. SEEDING
   (SAME AS PERMANENT VEGETATIVE COVER)

PERMANENT VEGETATIVE COVER (AFTER CONSTRUCTION):

1. SITE PREPARATION
   A. BRING AREA TO BE SEEDED TO REQUIRED GRADE. A MINIMUM OF 4" OF TOPSOIL IS REQUIRED.
   B. PREPARE SEEDBED BY LOOSENING SOIL TO A DEPTH OF 4 INCHES.
   C. REMOVE ALL STONES OVER 1 INCH IN DIAMETER, STICKS AND FOREIGN MATTER FROM THE SURFACE.
   D. LIME TO PH OF 6.5.
   E. FERTILIZER: USE 5-10-5 (NPK) OR EQUIVALENT. APPLY AT RATE OF 4 LBS/1000 SF.
   F. INCORPORATE LIME AND FERTILIZER IN THE TOP 4 INCHES OF TOPSOIL.
   G. SMOOTH AND FIRM THE SEEDBED.
2. SEED MIXTURE FOR USE ON LAWN AREAS:
   PROVIDE FRESH, CLEAN, NEW-CROP SEED MIXED IN THE PROPORTIONS SPECIFIED FOR SPECIES AND VARIETY, AND CONFORMING TO FEDERAL AND STATE STANDARDS.

   LAWN SEED MIX: (APPLY AT RATE OF 5 TO 6 LBS PER 1000 SF)

AMOUNT BY: WEIGHT	SPECIES OR VARIETY	MINIMUM % PURITY	GERMINATION
40%	KENTUCKY BLUE GRASS	95%	60%
35%	PERENNIAL RYE	98%	90%
25%	RED FESCUE	97%	85%
100%			

3. SEEDING
   A. APPLY SEED UNIFORMLY BY CYCLONE SEEDER CULTI-PACKER OR HYDRO-SEEDER AT RATE INDICATED.
   B. ALL SEEDED AREAS SHALL BE PROTECTED FROM EROSION BY ONE OF THE FOLLOWING METHODS:
      i. A UNIFORM BLANKET OF STRAW APPLIED AT A RATE OF 2 TONS /ACRE MIN., TO BE APPLIED ONCE SEEDING IS COMPLETE.
      ii. WOOD FIBER CELLULOSE APPLIED WITH SEED MIX BY HYDROSEEDER AT RATE OF 2,000 LBS/ACRE.
   C. ALL SEEDED SLOPES 3:1 OR GREATER SHALL BE PROTECTED FROM EROSION WITH JUTE MESH OR APPROVED EQUAL.
   D. IRRIGATE TO FULLY SATURATE SOIL LAYER, BUT NOT TO DISLODGE PLANTING SOIL.
   E. UNLESS OTHERWISE DIRECTED IN WRITING, SEED FROM MARCH 15TH TO JUNE 15TH, AND FROM AUGUST 15TH TO OCTOBER 15TH.

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE IN STRICT COMPLIANCE WITH "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", AUGUST 2005.
2. ESTABLISH THE LIMIT OF DISTURBANCE FOR ANY PROPOSED SITE CLEARING OR GRADING.
3. ESTABLISH THE LOCATION OF PROPOSED EROSION AND SEDIMENT CONTROL MEASURES (STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, TOPSOIL STOCKPILE AREA, ETC.). CLEAR SAID LOCATION FOR INSTALLATION.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
5. INSTALL SEDIMENT BARRIERS AND TRAPS (SILT FENCE, BASIN TRAPS, OUTLET PROTECTION, ETC.). INSTALL ADDITIONAL TRAPS AND BARRIERS AS NEEDED DURING GRADING.
6. INSTALL RUNOFF CONTROL MEASURES (DIVERSIONS, OUTLET PROTECTION, ETC.). INSTALL ADDITIONAL RUNOFF CONTROL MEASURES AS NEEDED DURING GRADING.
7. CLEAR AND GRADE THE PROPOSED AREA OF DISTURBANCE.
8. EXCESS SOIL TO BE STOCKPILED WITHIN THE LIMITS OF SITE DISTURBANCE IF NOT USED IMMEDIATELY FOR GRADING PURPOSES. INSTALL SILT FENCE AROUND SOIL STOCKPILES.
9. APPLY SURFACE STABILIZATION AND RESTORATION MEASURES. AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS DELAYED, SUSPENDED, OR INCOMPLETE AND WILL NOT BE REDISTURBED FOR 21 DAYS OR MORE SHALL BE STABILIZED WITH TEMPORARY VEGETATIVE COVER WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS CEASED. (SEE SPECIFICATIONS FOR TEMPORARY VEGETATIVE COVER). AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE WORK IS COMPLETE AND WILL NOT BE REDISTURBED SHALL BE STABILIZED AND RESTORED WITH PERMANENT VEGETATIVE COVER AS SOON AS SITE AREAS ARE AVAILABLE AND WITHIN 14 DAYS AFTER WORK IS COMPLETE. (SEE SPECIFICATIONS FOR PERMANENT VEGETATIVE COVER). SEEDING FOR PERMANENT VEGATATIVE COVER SHALL BE WITHIN THE SEASONAL LIMITATIONS. PROVIDE STABILIZATION WITH TEMPORARY VEGATATIVE COVER WITHIN 14 DAYS AFTER WORK IS COMPLETE, FOR SEEDING OUTSIDE PERMITTED SEEDING PERIODS.
10. SEEDED AREAS TO BE MULCHED WITH STRAW OR HAY MULCH, SPREAD UNIFORMLY AT A RATE OF TWO (2) TONS PER ACRE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION.
12. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST BY SPRINKLING EXPOSED SOIL AREAS PERIODICALLY WITH WATER AS REQUIRED. THE CONTRACTOR IS TO SUPPLY ALL EQUIPMENT AND WATER.
13. WHEN ALL DISTURBED AREAS ARE STABLE, ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:

PERMANENT AND TEMPORARY VEGETATION:

THE CONTRACTOR SHALL INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT THAT EQUALS OR EXCEEDS 1/2 INCH. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED VEGETATION SHALL BE REPAIRED AND RESTABILIZED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE:

THE CONTRACTOR SHALL INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT THAT EQUALS OR EXCEEDS 1/2 INCH. CHECK FOR MUD, SEDIMENT BUILD-UP; AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING WET WEATHER. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL. WASH AND REPLACE STONE AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFF-SITE BY VEHICLES. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. REMOVE TEMPORARY CONSTRUCTION ENTRANCES AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE.

SILT FENCE:

THE CONTRACTOR SHALL INSPECT FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT THAT EQUALS OR EXCEEDS 1/2 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ⅓ THE HEIGHT OF THE FENCE. IF FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.

SOIL STOCKPILE:

THE CONTRACTOR SHALL INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE OR HAYBALE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS AND AFTER EVERY STORM EVENT THAT EQUALS OR EXCEEDS 1/2 INCH. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UP-SLOPE FACE OF THE SEDIMENT CONTROL BARRIER BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE SEDIMENT CONTROL BARRIER. IF SEDIMENT CONTROL BARRIER TEARS, BEGINS TO DECOMPOSE, OR IN ANYWAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF SEDIMENT CONTROL BARRIER IMMEDIATELY. REVEGETATE DISTURBED AREA TO STABILIZE SOIL STOCK PILE. REMOVE THE SEDIMENT CONTROL BARRIER WHEN THE SOIL STOCKPILE HAS BEEN REMOVED.

DUST CONTROL:

THE CONTRACTOR SHALL SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORK. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING (WATER). STRUCTURAL MEASURES (MULCH, SEEDING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPEAT AS NEEDED, BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.

DEWATERING PITS:

(IF REQUIRED) - THE CONTRACTOR SHALL INSPECT DAILY DURING OPERATION FOR CLOGGING OR OVERFLOW. CLEAR INLET AND DISCHARGE PIPES OF OBSTRUCTIONS. IF A FILTER MATERIAL BECOMES CLOGGED WITH SEDIMENT, PIT SHALL BE DISMANTLED AND NEW PITS CONSTRUCTED AS NEEDED.

SNOW AND ICE CONTROL:

PARKING LOTS, ROADWAYS, AND DRIVEWAYS ADJACENT TO WATER QUALITY FILTERS SHALL NOT BE SANDED DURING SNOW EVENTS DUE TO HIGH POTENTIAL FOR CLOGGING FROM SAND IN SURFACE WATER RUNOFF. USE SALT ONLY FOR SNOW AND ICE CONTROL.

APPROVAL GRANTED BY TOWN OF NEW WINDSOR

NOV 14 2007

By: [illegible], Chairman

By: Neil Schlesinger, Secretary

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ORIGINAL SCALE IN INCHES

ISSUED FOR FINAL APPROVAL

STATE OF NEW YORK
JOSEPH MARTIN LANARO
070126
LICENSED PROFESSIONAL ENGINEER

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THE Chazen COMPANIES
Engineers/Surveyors
Planners
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CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980
Capital District Office: 547 River Street, Troy, New York 12180, Phone: (518) 273-0055
Orange County Office: 356 Meadow Avenue, Newburgh, New York 12550, Phone: (845) 567-1133
North Country Office: 100 Glen Street, Glens Falls, New York 12801, Phone: (518) 812-0513

rev.	date	description
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HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE EROSION & SEDIMENT CONTROL DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

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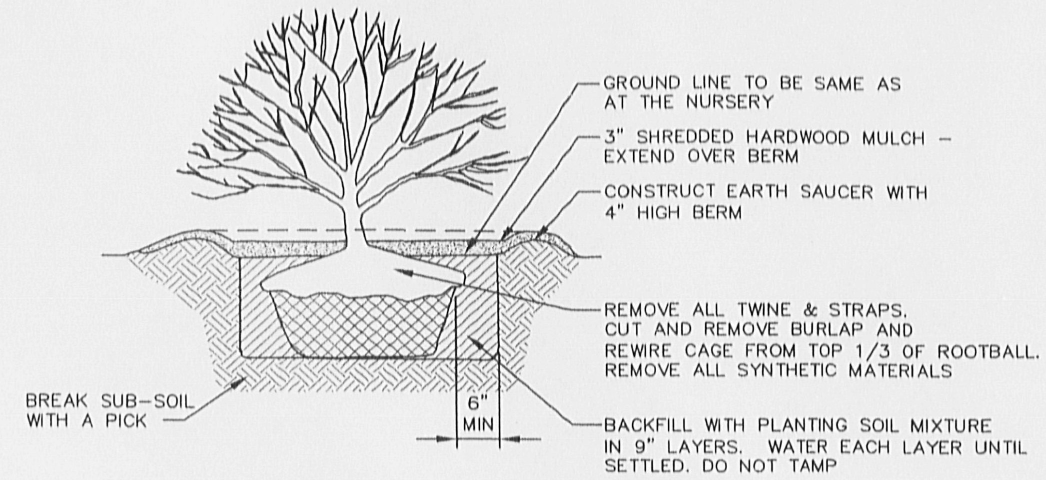
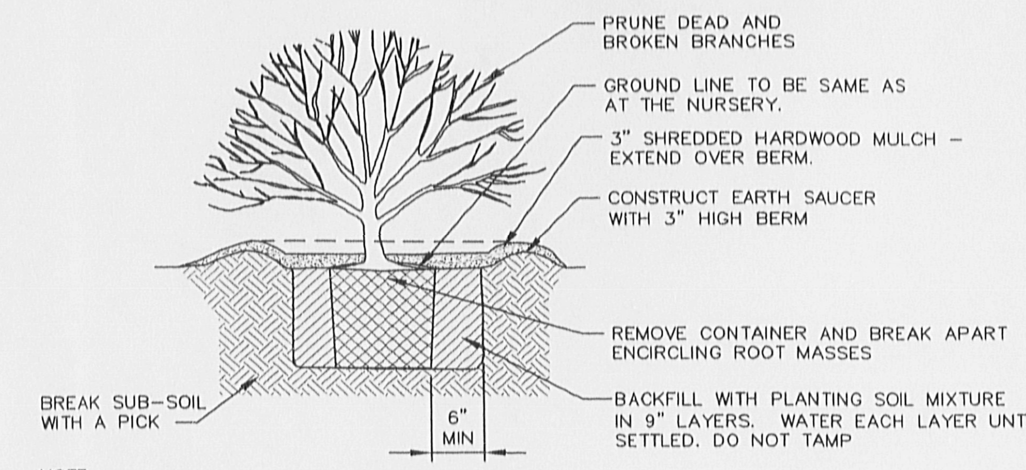


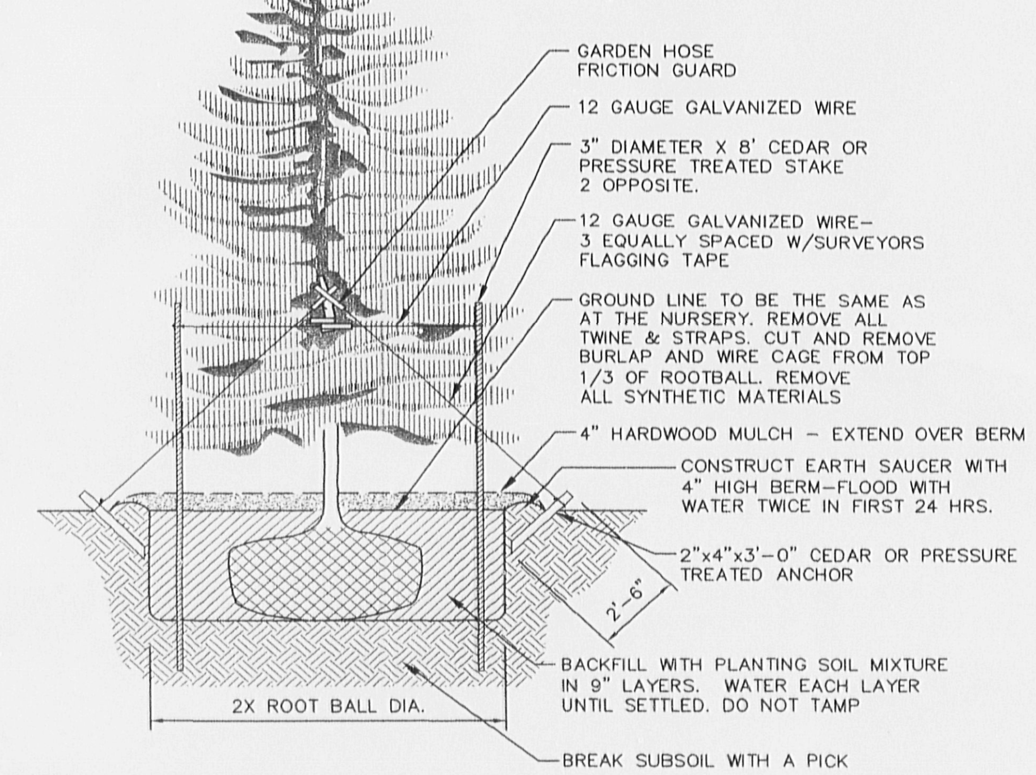
NOTE:
SPRAY WITH ANTIDESICCANT IN ACCORDANCE WITH MFG.'S RECOMMENDATIONS IF FOLIAGE IS PRESENT.

(1 / SD7) **SHRUB PLANTING DETAIL FOR ALL SHRUBS BALLED AND BURLAPPED**
SCALE: NOT TO SCALE



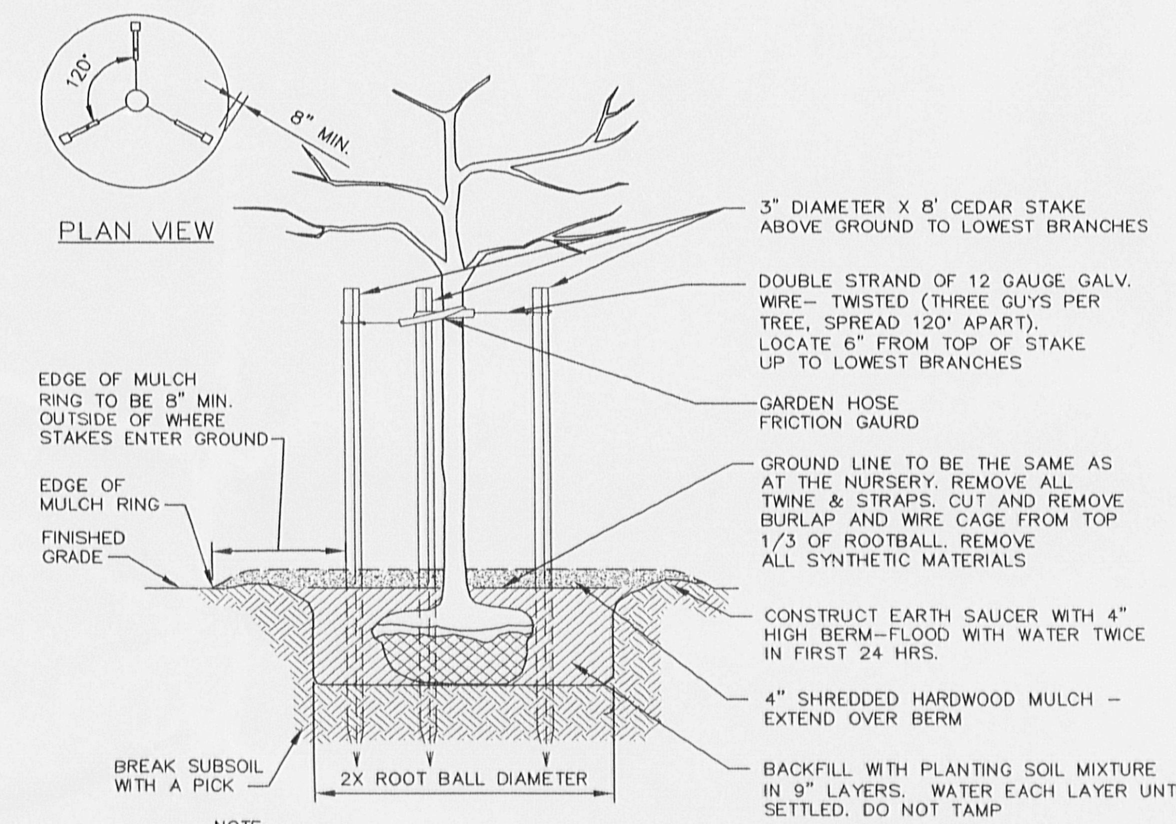
NOTE:
SPRAY WITH ANTI DESICCANT IN ACCORDANCE WITH MFG.'S RECOMMENDATIONS IF FOLIAGE IS PRESENT.

(2 / SD7) **SHRUB PLANTING DETAIL FOR CONTAINERIZED SHRUBS**
SCALE: NOT TO SCALE



NOTES:
1. SPRAY WITH ANTIDESICCANT IN ACCORDANCE WITH MFG.'S RECOMMENDATIONS.
2. TREES LESS THAN 3" CALIPER SHALL BE STAKED.
3. TREES GREATER THAN 3" CALIPER AND UP SHALL BE GUYED AND ANCHORED.
4. STAKES SHALL BE REMOVED AT THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

(3 / SD7) **EVERGREEN PLANTING DETAIL**
SCALE: NOT TO SCALE



NOTE:
STAKES SHALL BE REMOVED AT THE END OF THE FIRST GROWING SEASON AFTER PLANTING

(4 / SD7) **PLANTING AND GUYING DETAILS-FOR TREES SMALLER THAN 3" CALIPER, BALLED AND BURLAPPED**
SCALE: NOT TO SCALE

LANDSCAPING NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL CAREFULLY COORDINATE CONSTRUCTION ACTIVITIES WITH THAT OF THE EARTHWORK CONTRACTOR AND OTHER SITE DEVELOPMENT.

2. THE CONTRACTOR SHALL VERIFY DRAWING DIMENSIONS WITH ACTUAL FIELD CONDITIONS AND INSPECT RELATED WORK AND ADJACENT SURFACES. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL FINISH GRADES WITHIN THE WORK AREA. THE CONTRACTOR SHALL REPORT TO THE LANDSCAPE ARCHITECT/ENGINEER AND OWNER ALL CONDITIONS WHICH PREVENT PROPER EXECUTION OF THIS WORK.

3. THE EXACT LOCATION OF ALL EXISTING UTILITIES, STRUCTURES AND UNDERGROUND UTILITIES, WHICH MAY NOT BE INDICATED ON THE DRAWINGS, SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROTECT EXISTING STRUCTURES AND UTILITY SERVICES AND IS RESPONSIBLE FOR THEIR REPLACEMENT IF DAMAGED.

4. THE CONTRACTOR SHALL KEEP THE PREMISES FREE FROM RUBBISH AND ALL DEBRIS AT ALL TIMES AND SHALL ARRANGE MATERIAL STORAGE SO AS NOT TO INTERFERE WITH THE OPERATION OF THE PROJECT. ALL UNUSED MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED FROM THE SITE.

5. NO TREES OR SHRUBS SHALL BE PLANTED ON EXISTING OR PROPOSED UTILITY LINES.

6. QUALITY ASSURANCE:
   A. NOMENCLATURE: PLANT NAMES SHALL CONFORM TO THE LATEST EDITION OF "STANDARDIZED PLANT NAMES" AS ADOPTED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE.

   B. SIZE AND GRADING: PLANT SIZES AND GRADING SHALL CONFORM TO THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" AS SPONSORED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC (AAN), UNLESS OTHERWISE SPECIFIED.

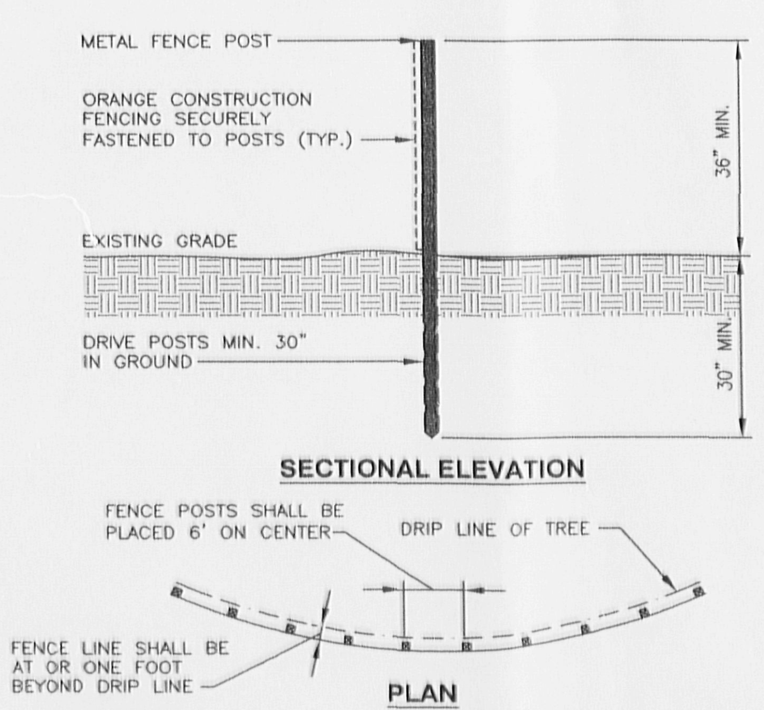
   C. NURSERY SOURCE: OBTAIN FRESHLY DUG, HEALTHY, VIGOROUS PLANTS NURSERY GROWN UNDER CLIMACTIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR A MINIMUM OF 2 YEARS. PLANTS SHALL HAVE BEEN LINED OUT IN ROWS, ANNUALLY CULTIVATED, SPRAYED, PRUNED AND FERTILIZED IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. ALL PLANTS SHALL HAVE BEEN TRANSPLANTED OR ROOT PRUNED AT LEAST ONCE IN THE PAST 3 YEARS. BALLED AND BURLAPPED PLANTS MUST COME FROM SOIL WHICH WILL HOLD A FIRM ROOT BALL. HEELED IN PLANTS AND PLANTS FROM COLD STORAGE ARE NOT ACCEPTABLE.

   D. SUBSTITUTIONS: DO NOT MAKE SUBSTITUTIONS OF TREES AND/OR SHRUB MATERIALS. IF REQUIRED LANDSCAPE MATERIAL IS NOT OBTAINABLE, SUBMIT PROOF OF NON–AVAILABILITY AND PROPOSAL FOR USE OF EQUIVALENT MATERIAL. WHEN AUTHORIZED, ADJUSTMENTS OF CONTRACT AMOUNT (IF ANY) WILL BE MADE BY CHANGE ORDER.

7. SEEDING & PLANTING SEASONS AND TIMING CONDITIONS:
   A. UNLESS OTHERWISE DIRECTED IN WRITING, SEED LAWNS FROM MARCH 15 TO JUNE 15, AND FROM AUGUST 15 TO OCTOBER 15.

   B. UNLESS OTHERWISE DIRECTED IN WRITING PLANT TREES AND SHRUBS FROM MARCH 15 TO JUNE 1, AND FROM AUGUST 15 TO OCTOBER 30.

   C. AREAS UNDERGOING CLEARING OR GRADING AND ANY AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WHERE LAWNS OR PLANTINGS ARE TO BE ESTABLISHED AND WORK IS COMPLETE, SHALL BE RESTORED WITH PERMANENT VEGETATIVE COVER AS SOON AS SITE AREAS ARE AVAILABLE AND WITHIN 14 DAYS AFTER WORK IS COMPLETE; WORK SHALL BE WITHIN THE SEASONAL LIMITATIONS FOR EACH KIND OF LANDSCAPE WORK REQUIRED. PROVIDE STABILIZATION WITH TEMPORARY VEGETATIVE COVER (TOPSOIL AND TEMPORARY COVER SEED MIX) WITHIN 14 DAYS AFTER WORK IS COMPLETE, FOR SEEDING OUTSIDE PERMITTED SEEDING PERIODS.



NOTES:
SEE LANDSCAPING PLAN FOR ADDITIONAL TREE PROTECTION NOTES.

(5 / SD7) **TREE PROTECTION FENCING DETAIL**
SCALE: NOT TO SCALE

8. PRODUCTS:
   A. IMPORTED TOPSOIL: PROVIDE TOPSOIL CONFORMING TO THE FOLLOWING:
      i. ORIGINAL LOAM TOPSOIL, WELL DRAINED HOMOGENEOUS TEXTURE AND OF UNIFORM GRADE, WITHOUT THE ADMIXTURE OF SUBSOIL MATERIAL AND FREE OF DENSE MATERIAL, HARDPAN, CLAY, STONES, SOD OR OTHER OBJECTIONABLE MATERIAL.

      ii. CONTAINING NOT LESS THAN 5% NOR MORE THAN 20% ORGANIC MATTER IN THAT PORTION OF A SAMPLING PASSING A 1/4" SIEVE WHEN DETERMINED BY THE WET COMBUSTION METHOD ON A SAMPLE DRIED AT 105°C.

      iii. CONTAINING A PH VALUE WITHIN THE RANGE OF 6.5 TO 7.5 ON THAT PORTION OF THE SAMPLE WHICH PASSES A 1/4" SIEVE.

      iv. CONTAINING THE FOLLOWING WASHED GRADATIONS:

SIEVE DESIGNATION	% PASSING
1"	100
1/4"	97–100
NO 200	20–60

   B. SEED MIXTURE:
   PROVIDE FRESH, CLEAN, NEW–CROP SEED MIXED IN THE PROPORTIONS SPECIFIED FOR SPECIES AND VARIETY, AND CONFORMING TO FEDERAL AND STATE STANDARDS. PROVIDE THE FOLLOWING MIXTURES:

   LAWN SEED MIX

AMOUNT BY: WEIGHT	SPECIES OR VARIETY	MINIMUM % PURITY	GERMINATION
40%	KENTUCKY BLUE GRASS	95%	60%
35%	PERENNIAL RYE	98%	90%
25%	RED FESCUE	97%	85%
100%			

   TEMPORARY COVER SEED MIX

AMOUNT BY: WEIGHT	SPECIES OR VARIETY	MINIMUM % PURITY	GERMINATION
100%	ANNUAL RYEGRASS	98%	90%

   C. LIME: NATURAL LIMESTONE CONTAINING AT LEAST 85% OF TOTAL CARBONATES, GROUND TO SUCH FINENESS THAT AT LEAST 90% PASSES A 10–MESH SIEVE AND AT LEAST 50% PASSES A 100–MESH SIEVE.

   D. FERTILIZER:
      i. FOR STARTER FERTILIZING: COMMERCIAL STARTER FERTILIZER, GRANULAR, NONBURNING PRODUCT CONTAINING 5% NITROGEN, 10% AVAILABLE PHOSPHOROUS, AND 5% WATER SOLUABLE POTASH (5–10–5).

      ii. FOR FINAL FERTILIZING: IF APPLIED IN SPRING SEASON, SHALL BE A SLOW RELEASE COMMERCIAL FERTILIZER, GRANULAR, WITH 3–1–2 NPK. IF APPLIED IN FALL SEASON, SHALL BE AS SPECIFIED IN (3.D.i) ABOVE.

   E. TREES, SHRUBS, GROUND COVERS, PERENNIALS, ANNUALS:
      i. PLANTING SOIL MIXTURE: SHALL BE PREMIXED IN BULK, AND CONTAIN THE FOLLOWING BY VOLUME:
         30 PARTS TOPSOIL
         10 PARTS PEAT
         1 PART BONE MEAL

      ii. PEAT: BROWN TO BLACK IN COLOR, WEED AND SEED FREE. DRIED SPHAGNUM PEAT, CONTAINING NOT MORE THAN 9% MINERAL ON A DRY BASIS AND CONFORMING TO NYSDOT 713–20.

      iii. BONE MEAL: FINELY GROUND, RAW, MINIMUM 4% NITROGEN AND 20% PHOSPHORIC ACID. IT SHALL BE DELIVERED IN SEALED BAGS SHOWING THE MANUFACTURER'S GUARANTEED ANALYSIS.

   F. STAKES: 8 FEET LONG, 3 INCH DIA. CEDAR OR P.T. WOOD STAKES.

   G. HOSE: NEW, 2–PLY GARDEN HOSE NOT LESS THAN 1/2 INCH IN DIAMETER.

   H. WEED CONTROL FABRIC: SOIL CHECK AS MANUFACTURED BY BRIGHTON BYPRODUCTS CO. INC, NEW BRIGHTON, PA; MIRASCAPE OR MIRAFI GEOSYNTHETIC PRODUCTS, NORCROSS, PA, OR APPROVED EQUIVALENT.

   I. MULCH:
      i. LAWN AREAS
      OAT OR WHEAT STRAW, FREE OF WEEDS. AN ALTERNATIVE IS WOOD FIBER CELLULOSE IF HYDROSEEDING IS USED.

      ii. PLANT BED AREAS
      GROUND OR SHREDDED HARDWOOD BARK, UNCOLORED. NO PIECES OVER 2 INCHES GREATEST DIMENSION. FREE FROM SAWDUST.

9. EXECUTION:
   A. LANDSCAPE WORK SHALL BE UNDERTAKEN AS SOON AS SITE AREAS ARE AVAILABLE.

   B. TOPSOIL SHALL BE SPREAD NO LESS THAN 4" OVER SUB–GRADE MATERIAL. SOIL AMENDMENTS SHALL BE THOROUGHLY MIXED INTO THE TOP 4" OF TOPSOIL, FOLLOWING THE SPECIFICATIONS STATED BELOW.

   C. PERFORM FINE GRADING TO FINISHED ELEVATION ONLY IMMEDIATELY PRIOR TO PLANTING. PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN SURFACE, FREE OF DEPRESSIONS OR RIDGES WITH A UNIFORM LOOSE, FINE TEXTURE.

   D. FERTILIZING:
      i. THE SOIL SHALL BE TESTED FOR PH AND LIME ADDED AS NECESSARY. ALL AMENDMENTS SHALL BE CHECKED AND APPROVED BY LANDSCAPE ARCHITECT BEFORE AMENDMENTS ARE MADE.

      ii. APPLY FERTILIZER AT RATE OF 4 LBS/1000 SF FOR LAWN AREAS.

   E. LAWN:
      i. LAWN SEED MIX: SEED AT THE RATE OF 5 TO 6 LBS PER 1,000 SF.

      ii. TEMPORARY COVER SEED MIX: SEED AT THE RATE OF 3 TO 4 LBS PER 1,000 SF.

      iii. TEMPORARY COVER SEED MIX TO BE APPLIED ONLY FOR LATE FALL OR SUMMER SOIL STABILIZATION OUTSIDE ALLOWED SEEDING PERIODS.

   F. ALL SEEDED AREAS SHALL BE PROTECTED FROM EROSION BY ONE OF THE FOLLOWING METHODS:
      i. A UNIFORM BLANKET OF STRAW APPLIED AT A RATE OF 2 TONS/ACRE MIN, TO BE APPLIED ONCE SEEDING IS COMPLETE.

      ii. WOOD FIBER CELLULOSE APPLIED WITH SEEED MIX BY A HYDROSEEDER AT A RATE OF 2,000 LBS/ACRE.

   G. ALL SEEDED SLOPES 3:1 OR GREATER SHALL BE PROTECTED FROM EROSION WITH JUTE MESH OR APPROVED EQUAL.

   H. ALL NEWLY PLANTED AREAS SHALL BE KEPT MOIST BY WATERING UNTIL GRASSES AND GROUND COVERS ARE WELL ESTABLISHED. THE LANDSCAPE CONTRACTOR MUST WATER PLANT MATERIAL WHEN NECESSARY FOR 60 DAYS AFTER INSTALLATION.

   I. LAWNS ARE TO BE WARRANTED UNTIL THEY BECOME ESTABLISHED, UNTIL FINAL ACCEPTANCE, AND NOT LESS THAN 60 DAYS AFTER COMPLETION OF ALL WORK. TREES, SHRUBS, GROUND COVERS, AND PERENNIALS SHALL BE WARRANTED AGAINST DEFECTS INCLUDING POOR GROWTH AND DEATH, EXCEPT WHEN RESULTING FROM OWNER NEGLECT, INCIDENTS THAT ARE BEYOND THE CONTROL OF THE LANDSCAPE INSTALLER AND DAMAGE OR ABUSE BY OTHERS, FOR AT LEAST ONE FULL YEAR AFTER PROJECT COMPLETION.

APPROVAL GRANTED BY TOWN OF NEW WINDSOR
By:

ISSUED FOR FINAL APPROVAL

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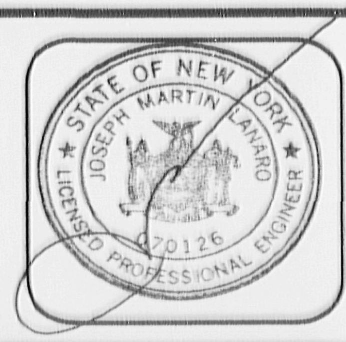
ORIGINAL SCALE IN INCHES



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HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE LANDSCAPING DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

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REK	JML
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sheet no.: SD7	

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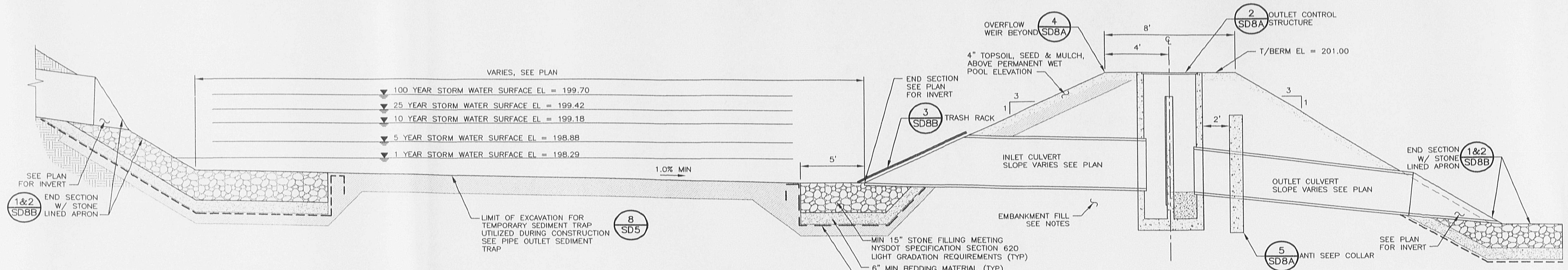

1/SD8A **TYPICAL SECTION THRU STORM WATER MANAGEMNT BASIN**
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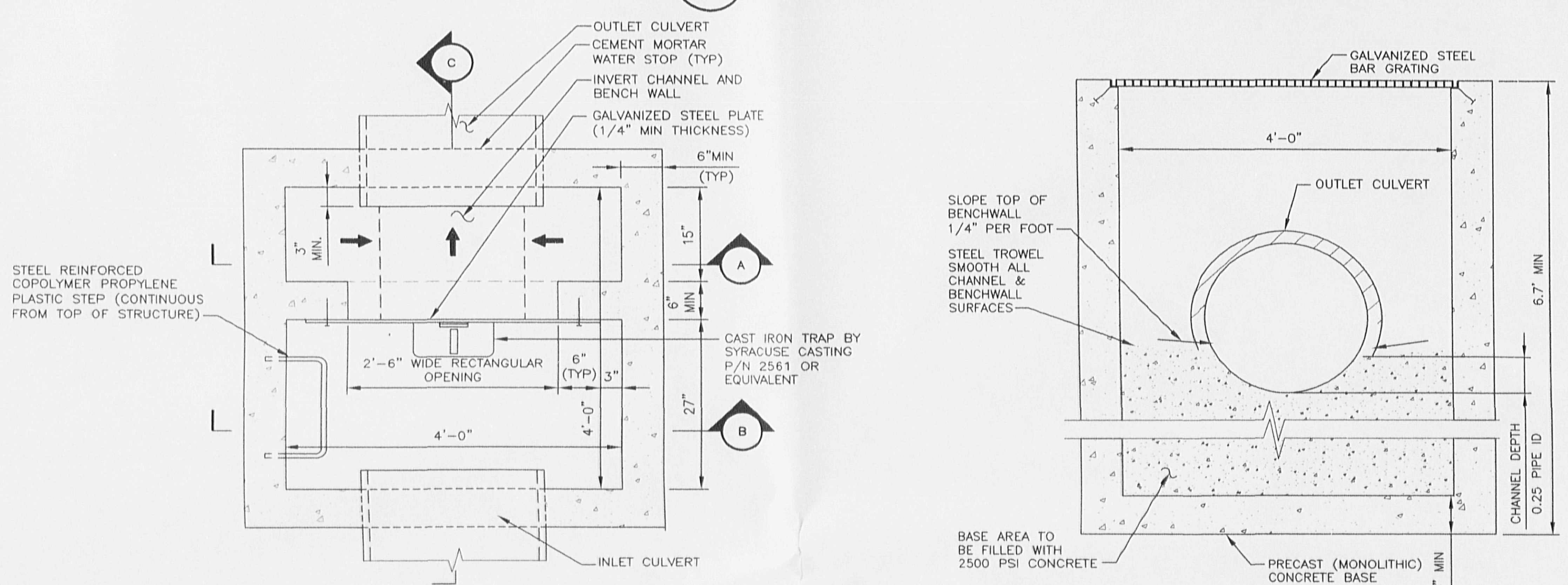
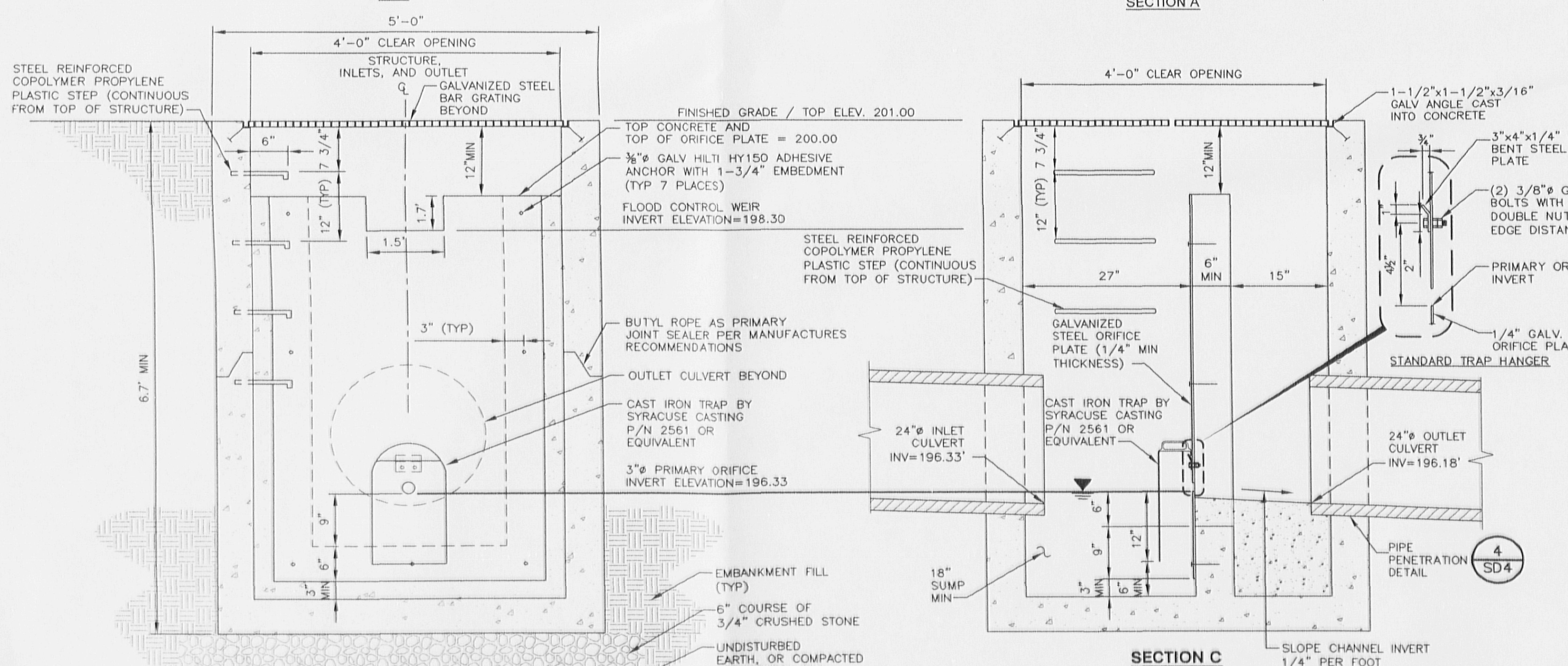
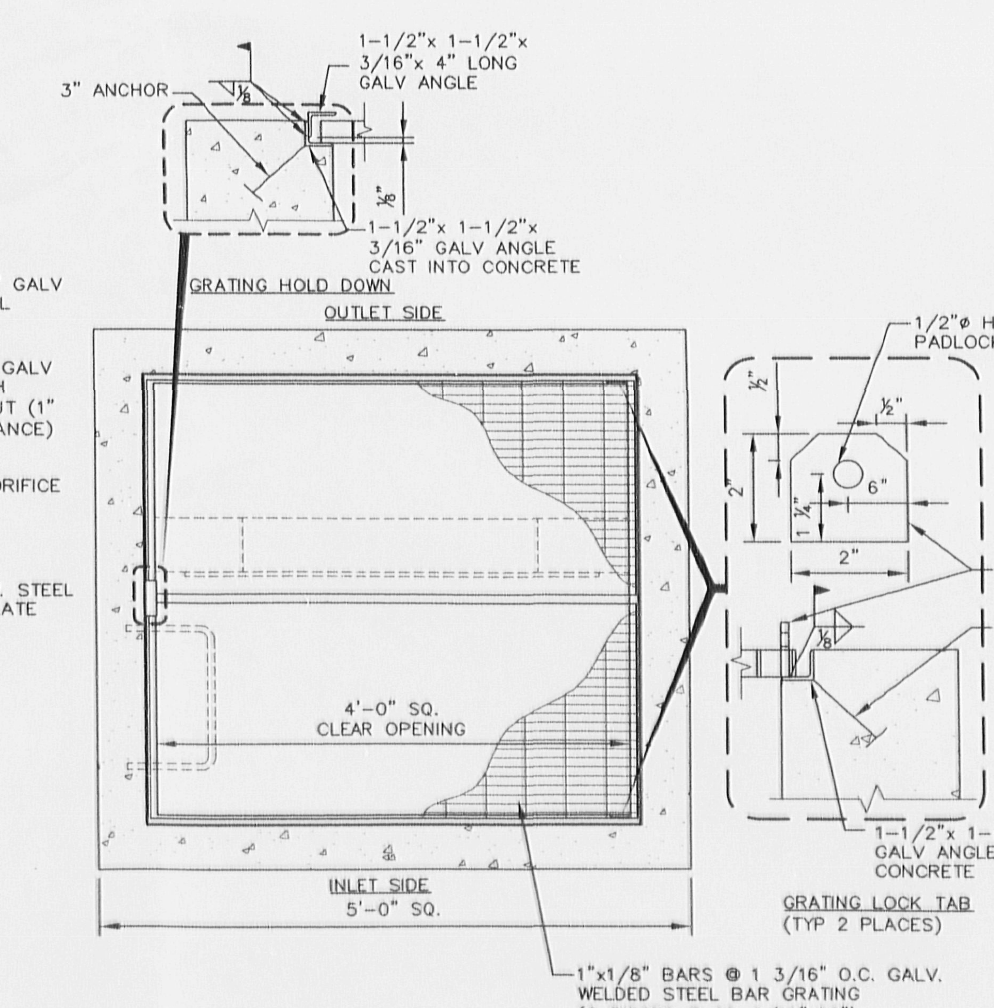


NOTES:
1. OUTLET CONTROL STRUCTURE SHALL BE PRECAST REINFORCED CONCRETE AS MANUFACTURED BY FORT MILLER CO. OR APPROVED EQUIVALENT. REINFORCEMENT FOR OUTLET CONTROL STRUCTURE SHALL BE DESIGNED BY A LICENSED NEW YORK STATE PROFESSIONAL ENGINEER PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. STRUCTURE SHALL BE DESIGNED FOR HS20-44 VEHICULAR LOADING PLUS 25% IMPACT.
2. OUTLET CONTROL STRUCTURES HAVING A DEPTH GRATER THAN 48" FROM FINISHED SURFACE TO THE TOP OF THE CONCRETE BASE SHALL BE PROVIDED WITH STEPS.
3. BACKFILL USING EMBANKMENT FILL, COMPACTED IN 8" LIFTS.
4. CONTRACTOR TO PROVIDE PADLOCKS & KEYS(KEYED ALIKE) FOR ALL STORM WATER MANAGEMENT BASIN OUTLET CONTROL STRUCTURES INSTALLED ON THIS PROJECT. CONTRACTOR MAY SUBMIT ALTERNATE CONFIGURATION FOR LOCKING GRATE.

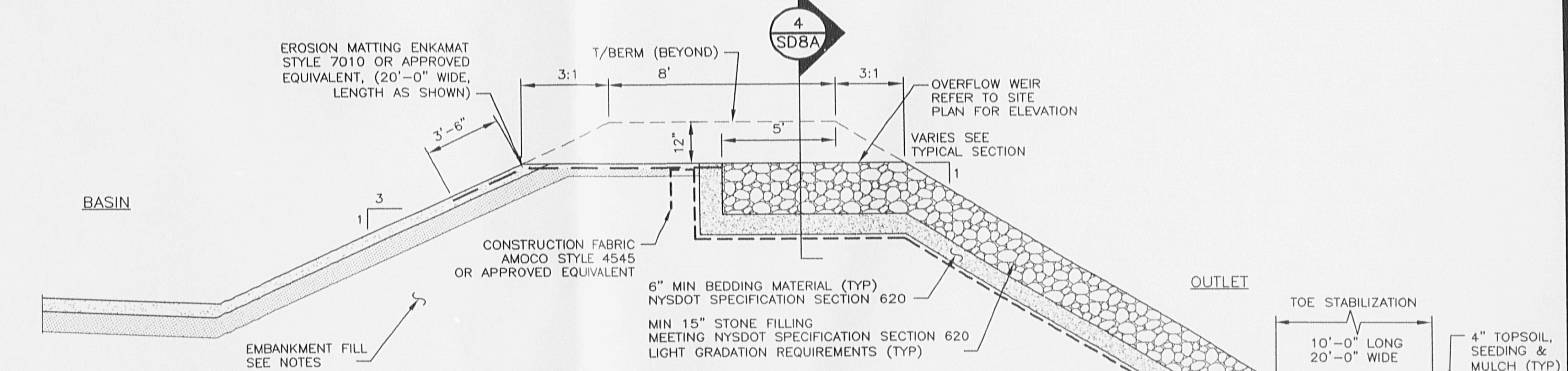




OUTLET STRUCTURE GRATE

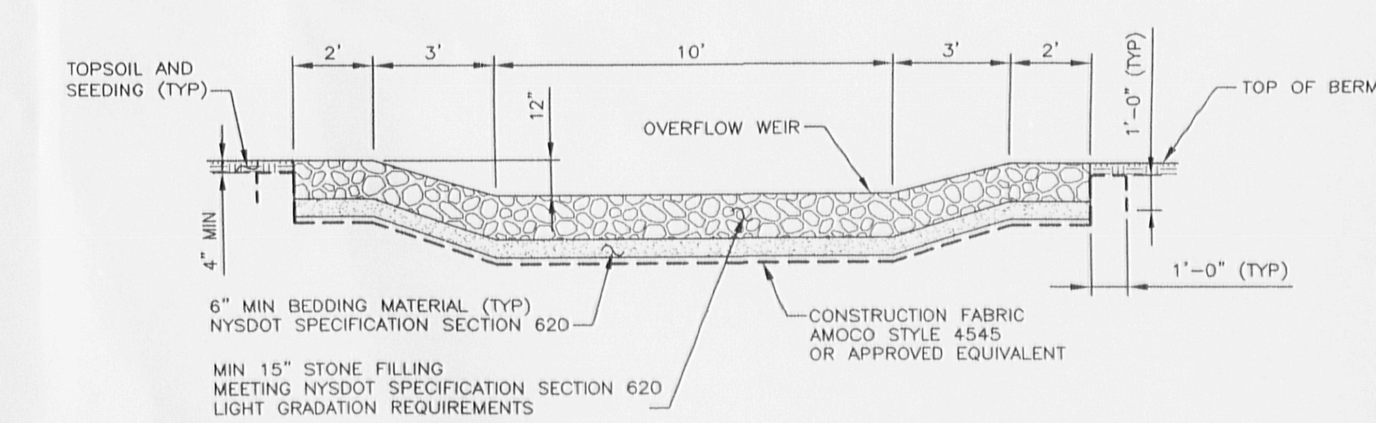
2/SD8A **DETENTION BASIN OUTLET CONTROL STRUCTURE DETAIL**
SCALE: 3/4" = 1'-0"

ORIGINAL SCALE IN INCHES

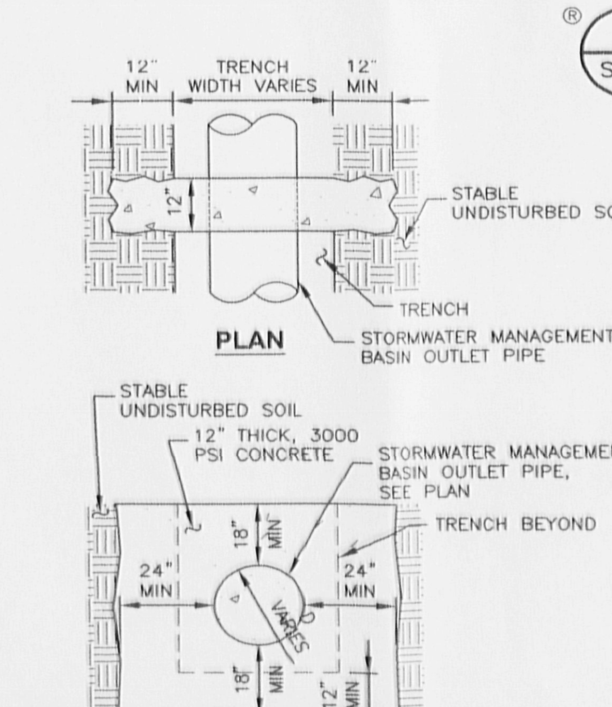


NOTES:
1. EMBANKMENT FILL FOR THE STORM WATER BASIN BERM SHALL CONSIST OF A CLEAN WELL GRADED MIXTURE OF SILT, CLAY,SAND AND GRAVEL WITH NO PARTICLES LARGER THAN 6 INCHES. IF SUITABLE, EXCAVATED ON SITE SOILS SHALL BE SELECTIVELY STOCKPILED FOR USE AS EMBANKMENT FILL IN AREAS DESIGNATED BY THE ENGINEER. SOIL SUITABLE FOR USE AS EMBANKMENT FILL SHALL HAVE AT LEAST 40 PERCENT BY WEIGHT FINER THAN THE No. 200 SIEVE AND NO MORE THAN 15 PERCENT BY WEIGHT COARSER THAN THE No. 4 SIEVE. THE FILL SHALL BE FREE OF VEGETATION, ORGANIC MATERIAL AND FROZEN SOIL.
2. ALL AREAS TO BE FILLED SHALL BE FIRST PREPARED BY STRIPPING ALL TOPSOIL AND REMOVING ALL SOFT, WET OR ORGANIC SOIL THAT CANNOT BE COMPACTED BY PROOFROLLING WITH A VIBRATOR ROLLER WEIGHING AT LEAST 10 TONS.PROOFROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER AND SOIL WHICH CANNOT BE COMPACTED SHALL BE REMOVED.
3. ALL FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS WHEN LOOSE AND BE COMPACTED TO A DENSITY OF AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM-1557. ROUGH UP SUBGRAE TO BLEND WITH FIRST LIFT. ALL FILL SHALL BE PLACED UNDER THE FULL TIME OBSERVATION OF THE ENGINEER.

3/SD8A **TYPICAL SECTION THRU STORM WATER BASIN OVERFLOW WEIR**
SCALE: NOT TO SCALE



4/SD8A **SECTION STORM WATER BASIN OVERFLOW WEIR SECTION**
SCALE: NOT TO SCALE



5/SD8A **ANTI-SEEP COLLAR DETAIL**
SCALE: 3/4"=1'-0"

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rev.	date	description
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2	6/27/07	ISSUED TO TOWN
1	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06

HUDSON VALLEY FEDERAL CREDIT UNION

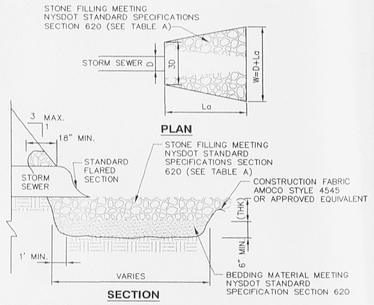
STORM WATER MANAGEMENT BASIN DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

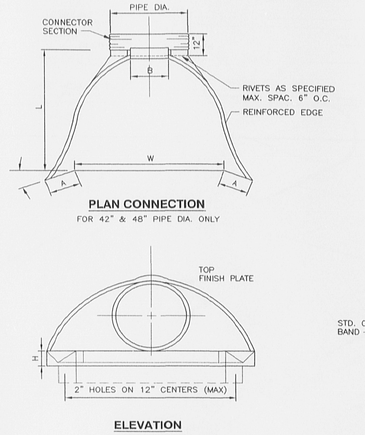
drawn	checked
REK	JML
date 3/17/06	scale NTS
project no. 10512.02	
sheet no. SD8A	

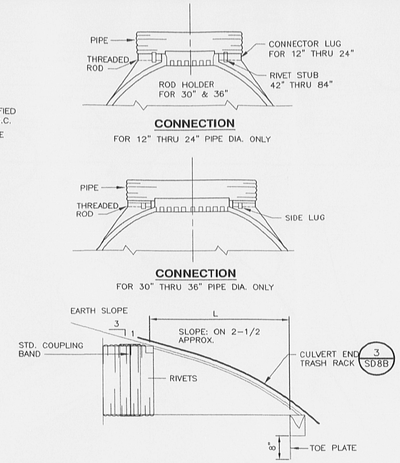
Drawing Name: S:\1\10500-10599\10512.02\ENG\DWG\SD8_SWM BASIN.dwg
Xref's Attached: XTB_XXXX-XX_24X36; XTB_10512_24X36
Date Printed: Oct 08, 2007, 11:57am

STONE APRON SIZING REQUIREMENT TABLE "A"				
CULVERT DIA. (D)	CULVERT SLOPE, %	STONE FILLING APRON MATERIAL	MINIMUM APRON THICKNESS (IN)	MINIMUM OUTLET APRON LENGTH(FT) (La)
24"	< 3	LIGHT	18	12
	3-4	MEDIUM	24	16
	4-8	HEAVY	36	24



1 / SD8B **END SECTION WITH STONE LINED APRON DETAIL**
SCALE: NOT TO SCALE



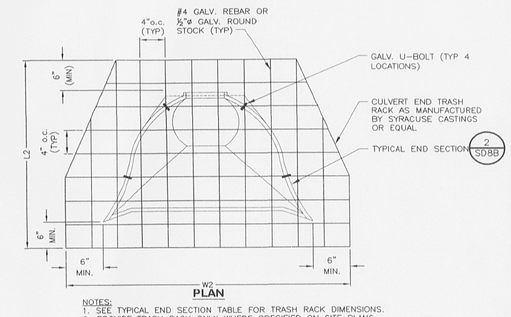


2 / SD8B **TYPICAL END SECTION CIRCULAR CORRUGATED METAL PIPE**
SCALE: NOT TO SCALE

TYPICAL END SECTION								
TABLE OF DIMENSIONS								
PIPE DIA.	GAGE	END SECTION DIMENSIONS (WITH TOLERANCE)					TRASH RACK DIMENSIONS	
		A 1" TOL	B MAX.	H 1" TOL.	L 1-1/2"	W 2" TOL.	L2	W2
24"	16 212"	10"	13"	6"	41"	48"	56"	80"

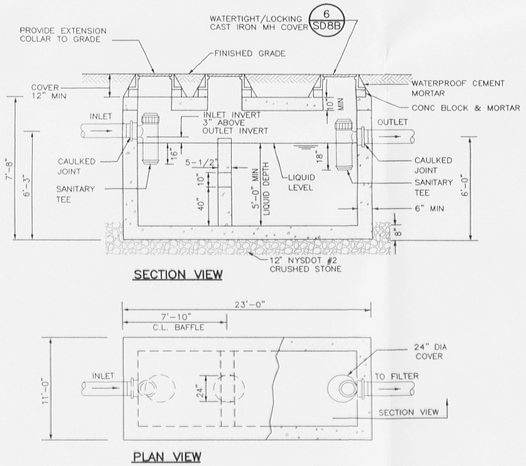
END SECTION SHALL BE FURNISHED WITH A GAGE EQUAL TO THE GAGE OF THE PIPE BEING ATTACHED TO OR AS SHOWN ABOVE, WHICHEVER IS THE LARGEST GAGE.

NOTES:
1. TOE PLATE TO BE PUNCHED TO MATCH HOLE IN SKIRT LIP. 3/8" GALV. BOLTS TO BE FURNISHED. LENGTH OF TOE PLATE = W + 10 FOR 12" DIA. PIPE.
2. SKIRT SECTION FOR 12" THRU 24" DIA. PIPE TO BE MADE IN ONE PIECE.
3. SKIRT SECTION FOR 30" THRU 48" DIA. PIPE MAY BE MADE FROM TWO SHEETS BY RIVETING OR BOLTING ON CENTER LINE.
4. CONNECTOR SECTION, CORNER PLATE TO BE SAME GAGE AS SKIRT.
5. TOE PLATE TO BE FURNISHED IN ALL END SECTIONS UNLESS OTHERWISE NOTED.
6. DETAILS ON TABLE SHOWN ARE BASED UPON METAL PIPE. CONTRACTOR TO VERIFY DIMENSIONS FOR HDPE END SECTIONS. PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER.
7. PROVIDE TRASH RACK ONLY WHERE SPECIFIED ON SITE PLANS.



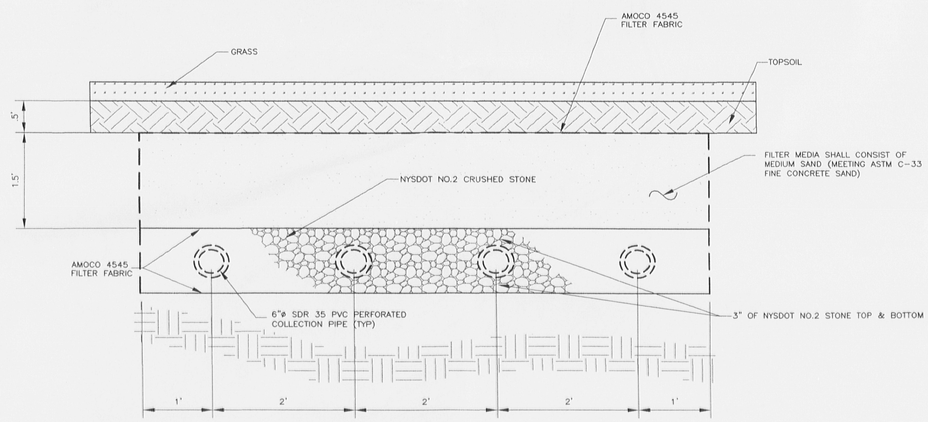
NOTES:
1. SEE TYPICAL END SECTION TABLE FOR TRASH RACK DIMENSIONS.
2. PROVIDE TRASH RACK ONLY WHERE SPECIFIED ON SITE PLANS.

3 / SD8B **CULVERT END TRASH RACK**
SCALE: NOT TO SCALE



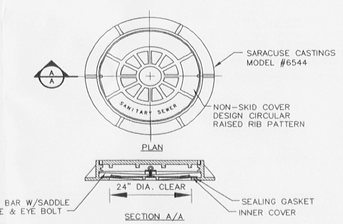
NOTE:
1. PRETREATMENT STRUCTURE SHALL BE A SEPTIC TANK AS MANUFACTURED BY THE FORT MILLER CO. OR APPROVED EQUIVALENT.
2. DIMENSIONS SHOWN ARE PER STRUCTURES MANUFACTURED BY FORT MILLER CO.

4 / SD8B **8000 GAL SEAMLESS CONCRETE PRE-TREATMENT STRUCTURE**
SCALE: NOT TO SCALE



NOTE:
1. PERCOLATION TESTS FOR THE BASE MATERIAL SHALL BE CONDUCTED BY THE CONTRACTOR AT THE BORROW PIT IN AREAS REPRESENTATIVE OF THE SOIL TO BE UTILIZED. ONLY SOILS WITH A PERCOLATION RATE BETWEEN 15 & 30 MINUTES PER INCH SHALL BE USED FOR THE BASE MATERIAL.
2. THE BASE MATERIAL SHALL BE COMPACTED IN LIFTS AND PERCOLATION TESTS PERFORMED AT A FREQUENCY OF 1 TEST PER 1,800 SQUARE FEET FOR EVERY TWO (2) FEET OF MATERIAL PLACED. THE PERCOLATION TESTS SHALL BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY THE ENGINEER. ONLY SOILS WITH AN IN PLACE PERCOLATION RATE BETWEEN 15 & 30 MINUTES PER INCH SHALL BE ACCEPTED.

5 / SD8B **SURFACE SAND FILTER CROSS SECTION**
SCALE: NOT TO SCALE



6 / SD8B **WATERTIGHT/LOCKING CAST IRON MH COVER**
SCALE: NOT TO SCALE

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By: Secretary

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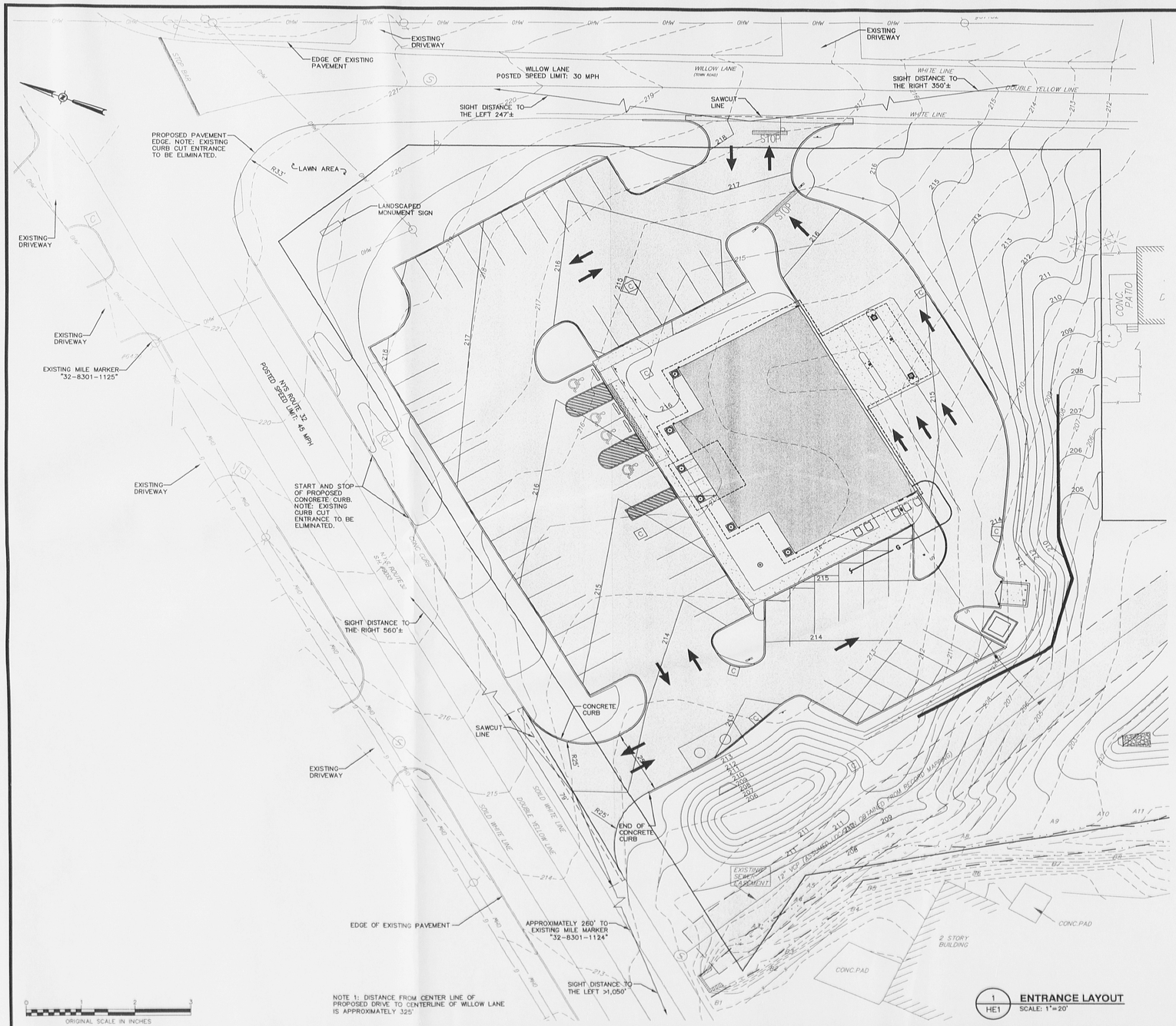
STORM WATER MANAGEMENT SAND FILTER & SPECIALTY DETAILS

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn REK	checked JML
date 3/17/06	scale NTS
project no. 10512.02	
sheet no. SD8B	

Drawing Name: S:\10500-10599\10512.02\ENG\DWG\SD8_SWM BASIN.dwg
Xrefs Attached: XTB_XXXX-XX_24X36; XTB_10512_24X36
Date Printed: Oct 08, 2007 11:49am



1 HE1 **ENTRANCE LAYOUT**
SCALE: 1"=20'

GENERAL NOTES FOR ALL CONSTRUCTION PHASES

1. ALL SIGNING WILL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES MARCH 3, 2001 EDITION, AS REVISED.
2. THE CONTRACTOR SHALL NOTIFY THE OWNER AND NYSDOT RESIDENT ENGINEER IN WRITING WHEN CONSTRUCTION WILL BEGIN, AT LEAST TWO (2) WEEKS PRIOR TO THE START OF WORK
3. PRIOR TO LEAVING THE WORK SITE EACH DAY, THE CONTRACTOR SHALL REMOVE OR PROTECT ANY PART OF THE WORK SITE THAT MAY BE CONSIDERED HAZARDOUS TO THE TRAVELING PUBLIC.
4. DURING ALL CONSTRUCTION OPERATIONS THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE SITE. IF CONDITIONS REQUIRE THAT ACCESS BE TEMPORARILY CLOSED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 24 HOURS IN ADVANCE. ALL ACCESS DRIVES WILL BE OPEN FOR SAFE USE AT THE END OF EACH WORK DAY.
5. ONLY ONE LANE OF TRAFFIC WILL BE CLOSED AT ANY ONE TIME. CONTRACTOR TO CONTACT NYSDOT RESIDENT ENGINEER TO COORDINATE TIMES OF LANE CLOSURES.
6. REPLACE BARRICADES WITH LIGHTED PLASTIC DRUMS DURING ALL NON-WORKING HOURS, WHEN NEW SHOULDER MATCHES EXISTING PAVEMENT ELEVATION OR AS REQUIRED BY THE NYSDOT.
7. ALL STRIPING SHALL BE PLACED IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
8. WHILE PAVING WITHIN WORK ZONE, THE CONTRACTOR SHALL FOLLOW FIGURE 302-9B ON PAGE 2532 OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. PAVEMENT RESURFACING OPERATIONS SHALL BE SCHEDULED SO AS TO MINIMIZE THE LONGITUDINAL LENGTH OF EXPOSED PAVEMENT EDGE LEFT OVERNIGHT. REFER TO N.Y.S.D.O.T. STANDARD SPECIFICATION SECTION 401-3.13 JOINTS.

NEW YORK STATE STANDARD SHEETS :
203-1, 203-2R1, 608-3R3, 609-3, 619-4R2, 645-9,

PAVING NOTES:

1. REMOVE LOOSE AND FOREIGN MATERIAL FROM SUBBASE SURFACE BEFORE PAVING. USE POWER BROOMS, BLOWERS OR HAND BROOMING.
2. WHEN USING PRIME COAT ALLOW IT TO PENETRATE AND SEAL. ALLOW IT TO CURE AND DRY FOR 24 HOURS MINIMUM.
3. APPLY PRIME COAT WHENEVER SUBBASE SURFACE IS EXPOSED TO WEATHER FOR MORE THAN EIGHT WEEKS, OR IF VEHICULAR TRAFFIC IS ALLOWED ON THE SURFACE FOR MORE THAN ONE WEEK OR AS ORDERED BY THE ENGINEER.
4. TACK COAT TO BE DILUTED WITH WATER AND APPLIED TO CONTACT SURFACES OF EXISTING CONCRETE (ASPHALT OR PORTLAND CEMENT).
5. BRUSH TACK COAT ONTO SURFACES OF CURBS, GUTTERS, MANHOLES AND OTHER STRUCTURES PROJECTING INTO OR ABUTTING PAVEMENT. DRY TO A "TACKY" CONSISTENCY BEFORE PAVING.
6. TACK COAT SHALL BE APPLIED TO ALL END TRANSITIONS TO EXISTING PAVEMENT, WHEN TRAFFIC IS DRIVEN ON LOWER PAVED SURFACES, FOR ALL PAVEMENT OVERLAYS OR AS ORDERED BY THE ENGINEER.
7. PLACE ASPHALT CONCRETE MIXTURE ON PREPARED SURFACE, SPREAD AND STRIKE-OFF USING A SELF-PROPELLED PAVING MACHINE, WITH VIBRATING SCREED. SPREAD BETWEEN TEMPERATURE OF 225° F (107.2° C), MIN. AND 325° (168.8° C) MAX. INACCESSIBLE AND SMALL AREAS MAY BE PLACED BY HAND BUT MIXTURE SHALL CONFORM WITH ABOVE TEMPERATURE REQUIREMENTS.
8. MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS OR BETWEEN SUCCESSIVE DAYS WORK.
9. CONSTRUCT JOINTS TO HAVE SAME TEXTURE, DENSITY AND SMOOTHNESS AS ADJACENT SECTIONS.
10. COMPACT TO OBTAIN REQUIRED DENSITY AND THICKNESS.
11. AFTER COMPLETION OF PAVING AND SURFACE OPERATIONS, CLEAN SURFACES OF EXCESS OR SPILLED ASPHALT, GRAVEL OR STONE MATERIALS TO THE SATISFACTION OF THE ENGINEER.

GENERAL NOTES:

1. GENERAL : ALL SIGNS, CONES, BARRELS, BARRICADES AND CONCRETE BARRIERS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS OR AS INDICATED IN THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
2. SIGN SUPPORT : THE CONTRACTOR SHALL SUPPLY ADEQUATE SUPPORTS SO THAT THE SIGNS ARE IN PROPER POSITION AND ALIGNMENT AS SHOWN IN THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, ALL WOOD SUPPORTS SHALL BE PAINTED WITH TWO(2) COATS OF WHITE PAINT.
3. SIGN PANELS : THE SIGN PANELS MAY BE MADE OF ALUMINUM, STEEL, OR PLYWOOD THE BACKS OF ALL WOOD SIGN PANELS SHALL RECEIVE TWO(2) COATS OF WHITE PAINT.
4. SIGN FACE : COLOR – THE COLOR OF THE BACKGROUND AND THE LEGEND OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE MARGIN SHALL BE OF THE SAME COLOR AS SPECIFIED FOR THE BACKGROUND. THE BORDER SHALL BE OF THE SAME COLOR AS THE LEGEND.
   SHAPE – THE SHAPE OF ALL SIGNS SHALL BE AS SHOWN ON THIS SHEET. CORNERS OF SIGNS SHALL HAVE ROUNDED CORNERS.
   REFLECTORIZATION – ALL SIGNS SHALL BE REFLECTORIZED USING HIGH INTENSITY REFLECTORIZED TAPE OR PAINT. ALL SIGNS SHALL BE CLEANED AND MAINTAINED REGULARLY. ALL SIGNS SHALL BE REVIEWED AT NIGHT AFTER ERECTION. ANY SIGNS NOT MEETING PROPER REFLECTION REQUIREMENTS WILL BE REPLACED.
   LETTERING AND BORDERS – SIGN LETTERING, BORDERS AND MARGINS SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LOCATION : ALL SIGNS SHALL BE LOCATED AS SHOWN ON THE CONTRACT PLANS OR AS SPECIFIED BY N.Y.S.D.O.T. STANDARDS, SIGNS SHALL BE GENERALLY LOCATED ON THE RIGHT SIDE OF THE HIGHWAY FACING APPROACHING TRAFFIC. THE NEAR EDGE OF THE SIGN SHALL BE BETWEEN 6 AND 12 FEET FROM NEAREST EDGE OF THE TRAVELED ROADWAY OR BETWEEN 2 AND 12 FEET FROM THE FACE OF THE VERTICAL CURB. SIGNS SHOULD GENERALLY BE PLACED AT RIGHT ANGLES TO TRAFFIC. ROADSIDE SIGNS SHOULD BE MOUNTED SO THAT THE BOTTOM OF THE SIGN IS APPROXIMATELY 5 FEET ABOVE THE EDGE OF PAVEMENT. SIGNS MOUNTED ON BARRICADES OR TEMPORARY SIGNS IN THE ROADWAY MAY BE AT LOWER HEIGHTS. ALL SIGNS SHALL BE LOCATED SO AS TO BE PLAINLY VISIBLE TO TRAFFIC.
6. MAINTENANCE : THE CONTRACTOR SHALL KEEP SIGNS CLEANED AND CLEARED AT ALL TIMES. ALL TEMPORARY SIGNS SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE MAINTAINED IN GOOD CONDITION FOR THE DURATION OF THE CONTRACT. ALL TEMPORARY SIGNS SHALL BE REMOVED FROM THE WORK SITE WHEN THE CONTRACT WORK IS ACCEPTED.

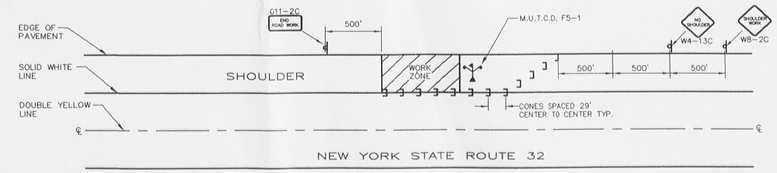
LAYOUT NOTES:

1. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MONUMENTATION, ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER, SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND UNDER THE SUPERVISION OF A NEW YORK STATE LICENSED LAND SURVEYOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD LAYOUT. THE CONTRACTOR SHALL TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING TIES TO CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND THE ENGINEER AND THE CONTRACTOR SHALL PROVIDE ANY CORRECTION OR ADMISSIONS TO THE SATISFACTION OF THE OWNER AND THE ENGINEER BEFORE UTILITIES WILL BE ACCEPTED.
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT PRIOR REVIEW BY THE ENGINEER.

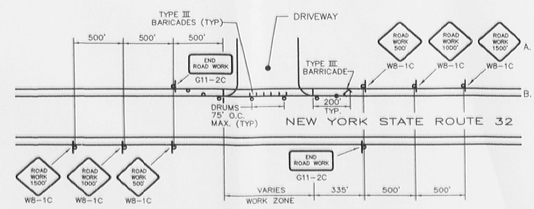
UTILITY NOTES:

1. THE GAS SERVICE FOR THE PROPOSED BUILDING SHALL CONNECT TO THE EXISTING GAS MAIN LOCATED ON THE OPPOSITE SIDE OF NYS ROUTE 32. EXACT LOCATION OF CONNECTION AND BORING UNDERNEATH ROUTE 32 SHALL BE DETERMINED BY CENTRAL HUDSON GAS & ELECTRIC CORP.

*A HIGHWAY WORK PERMIT WILL BE REQUIRED BY THE NYSDOT.



2 HE1 **SHORT DURATION LANE CLOSURE PLAN FOR CONSTRUCTION ACTIVITIES**
SCALE: N.T.S.



3 HE1 **TRAFFIC MAINTENANCE PLAN BETWEEN CONSTRUCTION ACTIVITIES**
SCALE: N.T.S.

TRAFFIC MAINTENANCE NOTES:

A. DRUMS MAY BE USED AS A SUBSTITUTE FOR TYPE III BARRICADES AS ORDERED BY THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION.
B. LIGHTS ON FIRST BARRICADE FLASHING, ALL OTHERS WITH BE STEADY BURNING.

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APPLICANT:
HUDSON VALLEY FEDERAL CREDIT UNION
159 BARNEGAT ROAD
POUGHKEEPSIE, NY 12601

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4	8/17/06	REV PER TOWN WORKSHOP AND DRAINAGE UPDATE
3	6/27/06	REV PER TOWN COMMENTS
2	6/16/06	ADDED LOCATION OF EASEMENTS AND RESTRICTIONS
1	4/25/06	REV PER TOWN COMMENTS

HUDSON VALLEY FEDERAL CREDIT UNION

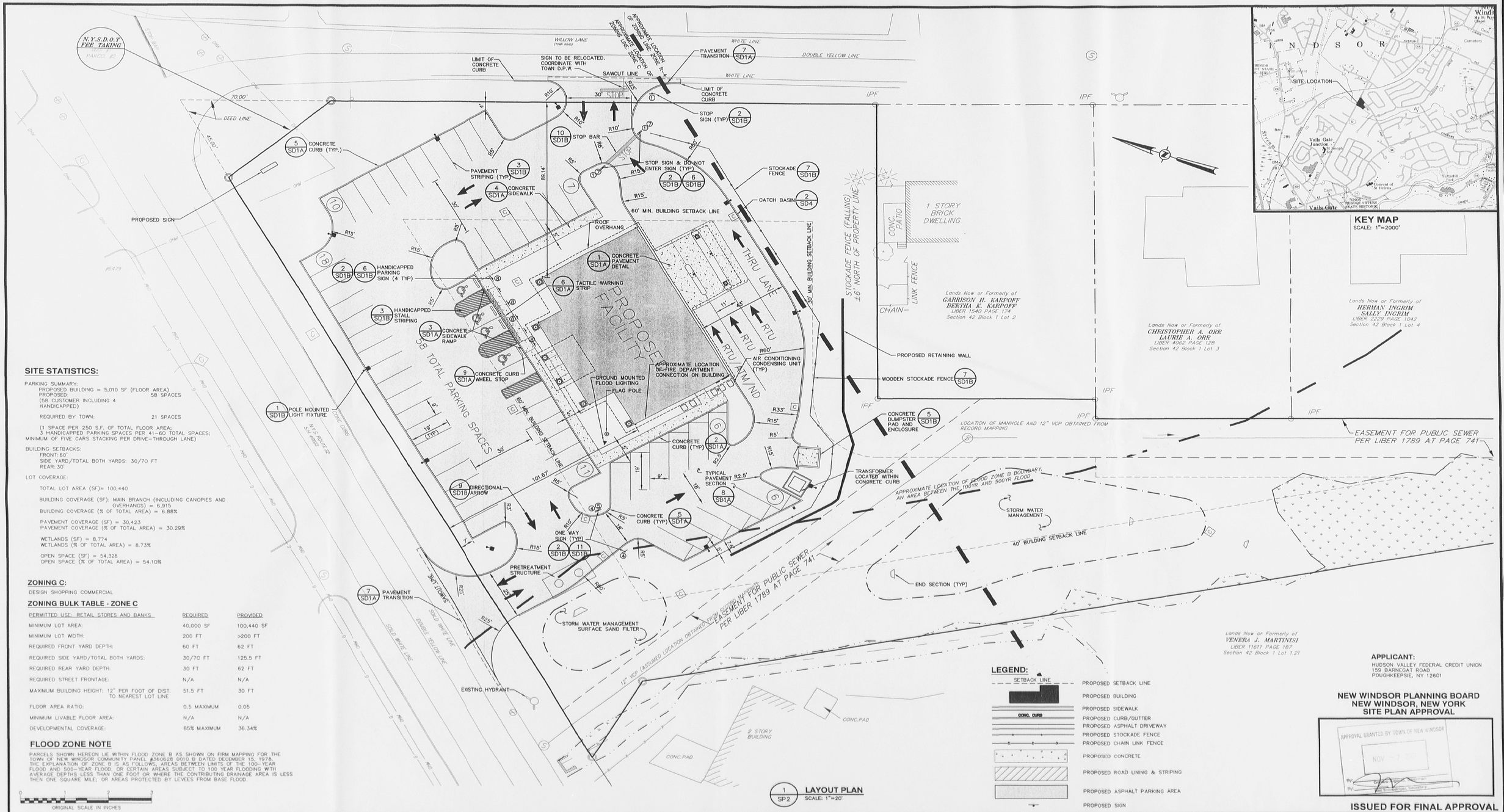
PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE NYSDOT ENTRANCE PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn	checked
REK	JML
date 3/17/06	scale 1"=20'
project no. 10512.02	
sheet no. HE1	

Drawing Name: S:\10500-10599\10512.02 END OWG\HE1_NYSDOT Entrance_10512_02.dwg
Xref's Attached: XTB_10512_24X36; XLAYOUT_10512; XBM_10512.02
Date Printed: Oct 08, 2007, 11:59am

5981



SITE STATISTICS:

PARKING SUMMARY:
PROPOSED BUILDING = 5,010 SF (FLOOR AREA)
PROPOSED: 58 SPACES
(58 CUSTOMER INCLUDING 4 HANDICAPPED)

REQUIRED BY TOWN: 21 SPACES

(1 SPACE PER 250 S.F. OF TOTAL FLOOR AREA; 3 HANDICAPPED PARKING SPACES PER 41-60 TOTAL SPACES; MINIMUM OF FIVE CARS STACKING PER DRIVE-THROUGH LANE)

BUILDING SETBACKS:
FRONT: 60'
SIDE YARD/TOTAL BOTH YARDS: 30/70 FT
REAR: 30'

LOT COVERAGE:

TOTAL LOT AREA (SF)= 100,440

BUILDING COVERAGE (SF): MAIN BRANCH (INCLUDING CANOPIES AND OVERHANGS) = 6,915

BUILDING COVERAGE (% OF TOTAL AREA) = 6.88%

PAVEMENT COVERAGE (SF) = 30,423
PAVEMENT COVERAGE (% OF TOTAL AREA) = 30.29%

WETLANDS (SF) = 8,774
WETLANDS (% OF TOTAL AREA) = 8.73%

OPEN SPACE (SF) = 54,328
OPEN SPACE (% OF TOTAL AREA) = 54.10%

ZONING C:

DESIGN SHOPPING COMMERCIAL

ZONING BULK TABLE - ZONE C

PERMITTED USE: RETAIL STORES AND BANKS	REQUIRED	PROVIDED
MINIMUM LOT AREA:	40,000 SF	100,440 SF
MINIMUM LOT WIDTH:	200 FT	>200 FT
REQUIRED FRONT YARD DEPTH:	60 FT	62 FT
REQUIRED SIDE YARD/TOTAL BOTH YARDS:	30/70 FT	125.5 FT
REQUIRED REAR YARD DEPTH:	30 FT	62 FT
REQUIRED STREET FRONTAGE:	N/A	N/A
MAXIMUM BUILDING HEIGHT: 12" PER FOOT OF DIST. TO NEAREST LOT LINE	51.5 FT	30 FT
FLOOR AREA RATIO:	0.5 MAXIMUM	0.05
MINIMUM LIVABLE FLOOR AREA:	N/A	N/A
DEVELOPMENTAL COVERAGE:	85% MAXIMUM	36.34%

FLOOD ZONE NOTE

PARCELS SHOWN HEREON LIE WITHIN FLOOD ZONE B AS SHOWN ON FIRM MAPPING FOR THE TOWN OF NEW WINDSOR COMMUNITY PANEL #360628 0010 B DATED DECEMBER 15, 1978. THE EXPLANATION OF ZONE B IS AS FOLLOWS: AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100 YEAR FLOODING WITH AVERAGE DEPTHS LESS THAN ONE FOOT OR WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THEN ONE SQUARE MILE; OR AREAS PROTECTED BY LEVEES FROM BASE FLOOD.

APPLICANT:
HUDSON VALLEY FEDERAL CREDIT UNION
159 BARNEGAT ROAD
POUGHKEEPSIE, NY 12601

NEW WINDSOR PLANNING BOARD
NEW WINDSOR, NEW YORK
SITE PLAN APPROVAL

STATE OF NEW YORK · JOSEPH MARTIN LAZARD · LICENSED PROFESSIONAL ENGINEER · 060126

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THE Chazen COMPANIES
Engineers/Surveyors
Planners
Environmental Scientists

CHAZEN ENGINEERING & LAND SURVEYING CO., P.C.

Dutchess County Office: 21 Fox Street, Poughkeepsie, New York 12601, Phone: (845) 454-3980
Capital District Office: 547 River Street, Troy, New York 12180, Phone: (518) 273-0055
Orange County Office: 356 Meadow Avenue, Newburgh, New York 12550, Phone: (845) 567-1133
North Country Office: 100 Glen Street, Glens Falls, New York 12801, Phone: (518) 812-0513

rev.	date	description
10	10/8/07	ISSUED TO TOWN FOR FINAL SIGNATURE
9	9/26/07	ISSUED TO TURNER FOR BIDDING
8	7/30/07	REV PER TDE COMMENT LETTER DATED 7/25/07
7	6/27/07	ISSUED TO TOWN
6	2/28/07	UPDATES FOR PLANNING BOARD MEETING
5	10/5/06	ISSUED PER TOWN COMMENT LETTER DATED 9/5/06
4	8/17/06	REV PER TOWN WORKSHOP AND DRAINAGE UPDATE
3	6/27/06	REV PER TOWN COMMENTS
2	6/16/06	ADDED LOCATION OF EASEMENTS AND RESTRICTIONS
1	4/25/06	REV PER TOWN COMMENTS

HUDSON VALLEY FEDERAL CREDIT UNION

PROPOSED BRANCH - NYS ROUTE 32 & WILLOW LANE LAYOUT PLAN

TOWN OF NEW WINDSOR, ORANGE COUNTY, NEW YORK

drawn REK	checked JML
date 3/17/06	scale 1"=20'
project no. 10512.02	
sheet no. SP2	

Drawing Name: S:\10500-10599\10512.02\ENG\DWG\SP2_Layout_10512_02.dwg
Xref's Attached: XBM_10512.02, XTB_10512_24X36, XLAYOUT_10512

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