Level II Unified Permit Application

112 Barnum Street
Devens, Massachusetts

Prepared for:
AD BARNUM OWNER, LLC
c/o Seyon Management, LLC
43 Broad Street
Suite C404
Hudson, MA 01749

Prepared by:
R.J. O'Connell & Associates, Inc.
80 Montvale Ave, Suite 201
Stoneham, MA 02180

Date:
August 13, 2020

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Introduction

R.J. O'Connell & Associates, Inc. (RJOC) has prepared this Level II Unified Permit Application on behalf of AD BARNUM OWNER, LLC (Project Proponent), for the proposed addition of two loading docks and an access drive to an existing roll-up door at 112 Barnum Street in Devens, Massachusetts. The site modifications are requested to facilitate the operational needs of a new tenant, VulcanForms, moving into the building. VulcanForms is a manufacturer of printed metal parts and will occupy approximately 155,000 sf of the existing 402,000 sf building. The existing tenant Jabil/Nypro occupies the remaining 247,000 sf and is a manufacturer of injected molded plastic medical devices. The site is located in the Rail, Industrial and Trade Related District (RIT). The proposed project includes additional paved area that is minimal compared to the total impervious area on the site. There will be no loss of parking on the site and no additional building area.

The Project Proponent is submitting this application for a Level II Unified Permit as required under Devens Regional Enterprise Zone Zoning By-laws, Chapter III, Permitting Procedures, and Rules and Regulations 974 CMR 3.00 Site Plan Approval. This application has been prepared to address the submission requirements listed in 974 CMR 3.00, Subsection 3.02.

A. Permit Application Form and Checklist

See next page

DEVENS ENTERPRISE COMMISSION

DEC NO. _____
DATE: _____
FEE: _____

DEVENS REGIONAL ENTERPRISE ZONE PERMIT APPLICATION LEVEL 2

==========

ESTIMATED COST OF CONSTRUCTION / IMPROVEMENTS $400,000

OWNER AD BARNUM OWNER LLC
ADDRESS c/o Seyon Management, LLC
43 Broad Street, Suite C404
TOWN/STATE Hudson, MA 01749
PHONE 781-462-7612
FAX _____

DocuSigned by:
49E4E2E47E0548D...
SIGNATURE

Greg Hughes Partner
Type or print name and title

APPLICANT Same as Owner
ADDRESS _____
TOWN/STATE _____
PHONE _____
FAX _____

SIGNATURE

Type or print name and title

If appropriate, attach a separate sheet with the name(s), address(es), and telephone/fax numbers for the project engineer, attorney, or other "development team" personnel.

SITE / LOCATION / STREET 112 Barnum Road

LOT SIZE / TOTAL PARCEL / ZONING DISTRICT: 25.16 Acres / Rail, Industrial & Trade Related

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STATEMENT OF PROPOSED WORK OR ACTIVITY: Site work to add loading docks and access to roll-up door

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SCOPE OF WORK (pick the actions that best fit your project or application)

- [X] Site Plan
- [ ] Reconsideration
- [ ] Wetlands NOI
- [ ] Zoning Variance
- [ ] Minor amendment or modification of an approved plan
- [ ] Historic District renovations/addition/alternations
- [ ] Other (Specify) _____

Explain work to be performed: Site work to add two loading docks on southwest side of building and add an approximate 75' long porous pavement access drive to an existing roll-up door on the side of the building

Comments from Notifying Agencies: _____

LEVEL TWO UNIFIED PERMIT –
CHECKLIST FOR DETERMINATION OF COMPLETENESS
[Devens Enterprise Commission Rules and Regulations 2018]

Name of applicant and project: AD BARNUM OWNER LLC. 112 Barnum Road

Date of Issuance of this DOC: _____

List Regulatory Components of this Unified Permit: _____

Signature of LUA or Authorized Agent: _____

1. Submission Requirements

☒ (a) A completed Permit application form.

☒ (b) The required Administrative, Processing, and Peer Review Fee.

☒ (c) One (1) original and Six (6) copies of the application, supporting plans and materials and one (1) digital copy of the full submission.

☒ (d) A List of Abutters, certified if abutters are not located in Devens and a sketch plan showing the proximity of the abutters to the site.

☒ (e) Drainage calculations prepared by an Engineer complying with 974 CMR 3.04(4).

☐ (f) Request for Determination of Applicability (RFD) or a Notice of Intent (NOI) shall be submitted in accordance with Article XII of the By-Laws and 974 CMR 4.06 .

☒ (g) Copies of all existing easements, covenants, restrictions and Institutional Controls applying to the lot.

☐ (h) Soil suitability tests and analysis.

☒ (i) A list of Waivers requested by the applicant, identified as Waivers of Submission and Plan Form and Contents requirements or Design Standards, with the applicable section of the Regulations clearly identified or a statement that no waivers are being requested.

☐ (j) Copy of any variance applying to the land, granted or filed concurrently with the Site Plan.

☐ (k) A narrative demonstrating compliance with the Reuse Plan and By-Laws meeting the specifications of 974 CMR 1.02.

☐ (l) If proposed by the applicant, a plan for the phasing of the construction of the required improvements, including a description, schedule, and plan showing the location of each phase.

☐ (m) A written statement of compliance with the Devens Open Space and Recreation Plan (DOSRP) and the Devens Main Post Trails report dated July 2001, to determine the effects, if any, of proposed development on resource areas, proposed trail rights-of-way, active and passive recreation areas, and other amenities included in the DOSRP.

☐ (n) If an applicant proposes parking lot construction phasing, a written statement demonstrating that the portion to be constructed is sufficient for the needs of the users of the proposed structure, comparing the number of spaces required by the By-Laws to the number the applicant believes are adequate, written certification that no building or permanent accessory structure will be placed on the area reserved for additional parking spaces, and a draft covenant that the parking will be built when the DEC determines it is required.

☐ (o) An estimate of the number of vehicle trips daily and for the morning and evening peak periods (trip generation rates shall be based on the ITE "Trip Generation Manual" most recent edition, and if applicable, data about similar developments in Massachusetts) and a description of traffic mitigation measures proposed including traffic management plans, trip reduction methods, and car/vanpooling preferential parking.

☒ (p) An erosion and sedimentation plan.

☐ (q) A landscaping maintenance and water management plan.

☐ (r) A narrative demonstrating compliance with the Industrial Performance Standards.

☐ (s) The Sustainable Sites section of the LEED Green Building Rating System Checklist.

☒ (t) Building elevations or perspectives of those portions of the building visible from public ways and residential and open space zoning districts showing the general appearance, massing, building materials, proposed colors, and relationship to abutting premises and, prior to the public hearing, the design review letter from Mass Development.

☒ (u) Building design review materials and if located within the Viewshed District, viewshed impact analysis.

☐ (v) All Slope Resource Areas as identified in 974 CMR 3.06 Appendix B Figures (13) Figure M within the proposed plan area shall be shown on the site plan.

☐ (w) Climate change mitigation, adaptation and greenhouse gas emissions mitigation measures in accordance with the requirements of 974 CMR 4.11.

2. Surveying and Drafting Plan Requirements

☒ (a) Site plans shall be 24”x36” and at a scale of 1”= 40’ unless alternate size is approved by the Director. All Site Plans must also conform to the Registry of Deeds requirements for recording.

☒ (b) The names and addresses of the record owner of the land and the applicant and the name, seal, and address of the designer, Engineer, Surveyor, and Registered Landscape Architect who made the plan, all of which shall appear in the lower right-hand corner.

☒ (c) The name of the development, scale, date of plan, and legend.

☒ (d) A locus plan indicating the general location of the site in relation to all adjacent and nearby roads, railroads, and waterways.

☐ (e) Ties from the development site to the nearest town and county bounds if within 1000 feet of the site. Bearings and curve data/distances of all lot lines, names of all adjoining property owners as they appear in the most recent tax list, and the location of easements, rights-of-way, and public and private ways.

☒ (f) Devens Lot number of the site, if available.

☒ (g) Topography for the entire site in two-foot intervals with contours and principal elevations of significant existing and proposed features related to the National Geodetic Vertical Datum (NGVD) of 1929. Existing contours shall be shown as dashed lines and, along with all other existing features, shall be screened. Proposed contours are to be shown as solid lines.

☒ (h) A space for the DEC's endorsement of the Site Plan by a majority of the members of the DEC on the front sheet and space for the chairperson or designee to sign all other sheets.

☒ (i) Lines of existing abutting Streets and Roads showing drainage and driveway locations and curb cuts.

☒ (j) Surveyed property lines showing distances and monument locations, all existing and proposed Easements, Rights-of-Way, utilities and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed.

3. Administrative Plan Requirements

☒ (a) Zoning district(s) and any boundary of zoning districts within the site, along any existing or proposed lot line, or within 50 feet.

☒ (b) The location, dimensions (including height), and general use of all existing and proposed buildings and structures to remain, including ground coverage, gross floor area, open area uses, and other facilities and improvements. Location of buildings existing on the site to be developed and on adjacent land under the same ownership within 500 feet of the lot line, indicating whether existing buildings are to be retained, modified or removed.

☒ (c) A statement noting the area of the site, the percentage of the site to be covered by impervious surfaces (such as buildings and parking areas), the area to be devoted to open space, the area to be paved for parking, driveways, loading spaces, and sidewalks, the number of proposed parking spaces and the number required by the By-Laws, the number of employees expected per shift, and the gross floor area of each proposed (commercial, industrial, office, or other) use. This data shall be tabulated to show the relationship of the required versus the proposed quantities.

☒ (d) Existing and proposed front, side, and rear setback dimensions.

☒ (e) Parking lots and loading docks, showing driveway entrances and exits designed for safe ingress and egress, curb cuts, layout of parking spaces, aisles, off-street loading facilities, pedestrian walks, bicycle racks or storage facilities, handicap ramps, and representative cross-sections of service and parking areas and driveways.

☒ (f) Existing and proposed landscape features such as fences, walls, planting areas, wooded areas, and walks. Scattered trees to be preserved shall also be shown as well as all "specimen trees" (trees exceeding a minimum caliper of twelve inches) within 100 feet of existing or proposed lot lines have been identified and indicated on the plan. All existing landscape features, especially existing trees and woodland to remain are shown on ALL site plan sheets. Planting details setback, screens, and other landscaped areas including quantities, species, and spacing of plantings, shown at sufficient scale to illustrate clearly the landscaping design. Plans for walks, walls, and fences including dimensions, materials, and finishes. Landscaping Plans, Irrigation Design plans, Planting Plans, Planting Detail sheets, and Planting Specifications shall be prepared by a Landscape Architect registered in the Commonwealth of Massachusetts and shall bear the seal and signature of the Registered Landscape Architect who prepared them.

☒ (g) Planting Plans shall indicate the locations of proposed Street, Road and site lighting, even if site lighting is shown elsewhere on a separate plan and designed by separate consultant. Planting plans shall also include details and locations for walks, walls, and fences including dimensions, materials, and finishes.

☒ (h) Quantities, species, and spacing of plantings in lot setback areas, screens, parking and loading areas, and other landscaped areas shall be shown at a minimum scale of 1"=40'. Detail plans for areas such as landscape treatments adjacent to buildings, tree clusters or shrub beds, landscaped islands in parking areas, or other densely landscaped areas shall be shown at a scale of 1"=20'.

☐ (i) If an irrigation system is proposed, the Submission shall include an irrigation plan complying with 974 CMR 8.09(11) showing the complete layout and of all components, complete schematic diagrams of all systems, a functional and sequential description of all systems, and irrigation details for installation of all components, including but not limited to piping, valves, valve boxes, sprinkler heads, backflow preventers, automatic control systems, pumps, meters, associated cabinets, and all appurtenances as needed.

☒ (j) Proposed means of fire equipment access**.**

☒ (k) Proposed traffic circulation systems, including the volume and proposed direction of traffic flows into, out of, and within the site for both vehicles and pedestrians for an average day and for peak hours.

☐ (l) Location and dimensions (including height) of all storage facilities for equipment, material, and other like items. Location of all underground and aboveground fuel, combustible, and flammable liquid storage tanks greater than 250 gallons.

☐ (m) Location and dimensions (including height) of facilities for garbage, rubbish, recycling, and other waste collection and disposal. Location and dimensions (including height) of facilities for garbage, rubbish, recycling, composting and other waste collection and disposal. **Note: Applicants should be aware of MA waste ban materials and plan for storage/reuse accordingly.** Info. on waste ban items can be found at http://goo.gl/Qrea5

☒ (n) Garage and pedestrian entrances and exits.

☒ (o) Maximum size vehicle, including trailers, expected to use the site after construction, by length, width, height, and American Association of State Highway and Transportation Officials (AASHTO) designation.

☐ (p) Location and dimensions (including height) of existing and/or proposed free-standing signs and the manner of illumination. All proposed signs shall conform with Article XIII of the By-Laws and 974 CMR 6.00: Sign Control as most recently amended.

☒ (q) Existing and proposed public and private utilities, above and below grade, along with their type, size, and class

☐ (r) If the project is to be phased, a plan for the phasing of the construction of the required improvements, including a description, schedule, and plan of affected areas

☐ (s) Any additional details that may be pertinent or required by the Director during the scoping or Pre-Permitting sessions

4. Industrial Performance Standards Plan Requirements. Not Applicable per email on 08/04/20 from Peter Lowitt

☐ (a) The site lighting information shall be provided on the Site Plan, including types of fixtures, heights, wattage, foot candle output directly under the light source, foot candle output at the lot line, and a photometric layout/diagram showing direction and intensity of outdoor lighting.

☐ (b) Notes shall be provided on the Site Plan stating:
(1) Existing or proposed use will not generate electromagnetic interference to any sensitive receptor. Interference with the Harvard-Smithsonian radio telescope (1400-1720 MHz) is specifically prohibited.
(2) Proposed or existing use will not cause pronounced, multiple patterns of noise or vibration nuisance to, or interfere with, any sensitive receptor.
(3) Either "A Massachusetts Department of Environmental Protection (DEP) air quality permit application has been made" or "A DEP air quality permit is not required."

☐ (c) Locations or uses deemed by the Director to be sensitive receptors in any given area of impact may be subject to field identification of the receptor and/or special

documentation or field data that helps to clarify the existence or absence of subject impacts. This documentation and data includes existing secondary data and studies, limited field testing by the applicant, or in the worst case scenario, retention of additional professional consultants to conduct further testing. Specifications for any additional information will be identified by the Director during the pre-permitting conference and shall be incorporated in the Site Plan.

☐ (d) A Copy of the completed Industrial Performance Standards Checklist shall be included: http://www.devensec.com/forms/Industrial_Performance_Standards_Checklist.pdf .

5. Wetlands/Water Resources/Flood Plain Plan Requirements.

☒ (a) All Resource Areas as defined by 974 CMR 4.06, including existing natural features (ponds, brooks, wetlands, etc.), Federal Emergency Management Agency (FEMA) flood plain elevations on and/or adjacent to the lot, Flood Insurance Rate Map (FIRM) panel number, zone designation, and base flood elevation.

☒ (b) Erosion, siltation, and dust control measures before and during construction, in accordance with 974 CMR 3.02(3)(e).

☐ (c) Location of all private wells on or within 200 feet of the boundaries of the property, if any

☐ (d) Location of all public and community water supply wells on or within 1,000 feet of the boundaries of the property, if any.

☐ (e) Proposed conservation restrictions and easements.

☐ (f) For any site plan that stores fuel, combustible and flammable liquids, as defined by 42 U.S.C. section 6901-6922i, G.L. c. 148, and 527 CMR 9.00, compliance with 974 CMR 4.09 and an addendum to the DSPCC and the location of on-site materials and equipment for spill response in accordance with its specific DSPCC are required.

6. Schedule:

Transmitted to Nitsch and other consultants
Pre-Permitting conference
Date of Determination of Completeness
Mail to Towns (30-day comment period begins)
Advertisements
Notification of abutters
Public hearing
End of 30-day comment period
Tentative vote

7. Notes/Comments

B. List of Abutters

See next page.

300 foot Abutters List Report

Devens, MA
August 04, 2020

Subject Property:

Parcel Number:	027.0-0017-0500.0	Mailing Address:	AD BARNUM OWNER, LLC C/O ARTEMIS REAL ESTATE PARTNERS 5404 WISCONSIN AVENUE, SUITE 1150 CHEVY CHASE, MD 20815
CAMA Number:	027.0-0017-0500.0		
Property Address:	112 BARNUM ROAD		

Abutters:

Parcel Number:	022.0-0017-0600.0	Mailing Address:	AD BARNUM OWNER C/O ARTEMIS REAL ESTATE PARTNERS 5404 WISCONSIN AVENUE, SUITE 1150 CHEVY CHASE, MD 20815
CAMA Number:	022.0-0017-0600.0		
Property Address:	138 BARNUM ROAD LOT 2		
Parcel Number:	022.0-0017-0601.0	Mailing Address:	AD BARNUM OWNER C/O ARTEMIS REAL ESTATE PARTNERS 5404 WISCONSIN AVENUE, SUITE 1150 CHEVY CHASE, MD 20815
CAMA Number:	022.0-0017-0601.0		
Property Address:	130 BARNUM ROAD LT 2A		
Parcel Number:	022.0-0017-0700.0	Mailing Address:	MDFA 99 HIGH STREET 11TH FLOOR BOSTON, MA 02110
CAMA Number:	022.0-0017-0700.0		
Property Address:	160 BARNUM ROAD		
Parcel Number:	027.0-0016-0200.0	Mailing Address:	USA DEPT OF DEFENSE C/O DEPT OF THE ARMY DEVENS RESERVE FORCES TRAINING AREA ATTN: AFRC-FAD-PWE, UNIT 10 (DEBI QUINN) 30 QUBEC ST., DEVENS, MA 01434
CAMA Number:	027.0-0016-0200.0		
Property Address:	111 BARNUM ROAD TDA BLDG		
Parcel Number:	027.0-0016-0300.0	Mailing Address:	GUILFORD TRANSPORTATION C/O GUILFORD MOTOR EXPRESS IRON HORSE PARK NORTH BILLERICA, MA 01862
CAMA Number:	027.0-0016-0300.0		
Property Address:	133 BARNUM ROAD		
Parcel Number:	028.0-0017-0100.0	Mailing Address:	78 BARNUM ROAD, LLC 9 PEQUOT WAY CANTON, MA 02021
CAMA Number:	028.0-0017-0100.0		
Property Address:	78 BARNUM ROAD		
Parcel Number:	034.0-0016-0100.0	Mailing Address:	COMMONWEALTH OF MASSACHUSETTS - ANG ARMY NATIONAL GUARD 50 MAPLE STREET MILFORD, MA 01757
CAMA Number:	034.0-0016-0100.0		
Property Address:	67 BARNUM ROAD ANG		

N

Devens, MA

1 inch = 555 Feet

0 555 1110 1665

July 30, 2020

CAI Technologies
Precision Mapping. Geospatial Solutions.

032.0-0099-1800.0
026.0-0013-1300.0
032.0-0013-1801.0
033.0-0013-0900.0
027.0-0013-0800.0
026.0-0013-0200.0
026.0-0013-0600.0
026.0-0013-0300.0
021.0-0013-0500.0
021.0-0013-0400.0
020.0-0013-1000.0
021.0-0013-1400.0
021.0-0013-0100.0
015.0-0099-0100.0
034.0-0016-0100.0
028.0-0017-0100.0
027.0-0016-0200.0
027.0-0017-0500.0
027.0-0016-0300.0
022.0-0017-0700.0
021.0-0016-0400.0

C. Drainage Calculations

The proposed project will result in a net increase in impervious area of 9,252 sf. The total existing impervious area on the site is 727,700 sf. So, the proposed impervious increase is 1.2%.

The existing drainage system consists of a piped network of catch basins, water quality treatment devices, subsurface detention and infiltration systems and surface detention basins. All the runoff from the on-site impervious areas is directed into the existing detention pond located on the adjacent lot to the southwest which is under the same ownership as the subject property.

As noted, the increase in impervious area amounts to 1.2% of the existing impervious. We completed a hydrology analysis of the existing condition and then added in the additional impervious area. The result of this analysis shows that the minimal increase in impervious area has no impact on the peak flow of stormwater from the site and the peak flow remains the same for all storm events including the 2-year, 10-year, 25-year, 50-year and 100-year events. See hydrology calculations in Appendix A.

The proposed drainage system from the new loading docks will consist of a 12" wide trench drain connected to a deep sump catch basin with oil/trap hood. The stormwater will then be directed through a CDS Hydrodynamic Particle Separator before connecting to the existing on-site drainage system. These devices will provide water quality treatment that achieves greater than 44% TSS removal prior to discharge to the main detention basin. The deep sump catch basin provides 25% TSS removal and the CDS Unit performance analysis indicates it can achieve up to 80% TSS removal. See CDS performance information in Appendix B. However, assuming only 25% TSS removal for the CDS, 44% pretreatment removal is achieved.

Pre-Treatment TSS Removal Calculation – Treatment Train from Loading Dock

	BMP (A)	TSS Removal Rate (B)	Starting TSS Load (C)	Amount Removed (BxC) (D)	Remaining Load (C-D) (E)
Pre-Treatment	Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
Pre-Treatment	Contech CDS Treatment Unit*	0.25	0.75	0.19	0.56
	Total TSS Removal = Summation of (D) = 44.0%				

A TSS Removal Rate of 0.25 has been utilized, however a significantly larger amount of TSS removal is anticipated from the proposed Contech CDS Treatment Units.

The proposed drainage system from the new driveway to the existing roll-up door will consist of a CDS Hydrodynamic Particle Separator catch basin unit before connecting to the existing on-

site drainage system. The on-site piped system from this location is directed through an existing water quality treatment structure prior to discharge to the on-site intermediate detention basin. These devices will provide water quality treatment that achieves greater than 44% TSS removal prior to discharge to the main detention basin. The CDS Unit performance analysis indicates it can achieve up to 80% TSS removal. See CDS performance information in Appendix B. However, assuming only 25% TSS removal for the CDS and 25% TSS removal for the existing water quality structure, 44% pretreatment removal is achieved.

Pre-Treatment TSS Removal Calculation – Treatment Train from Roll-Up Door Driveway

	BMP (A)	TSS Removal Rate (B)	Starting TSS Load (C)	Amount Removed (BxC) (D)	Remaining Load (C-D) (E)
Pre-Treatment	Contech CDS Catch Basin Treatment Unit*	0.25	1.00	0.25	0.75
Pre-Treatment	Existing Water Quality Treatment Structure	0.25	0.75	0.19	0.56
	Total TSS Removal = Summation of (D) = 44.0%				

A TSS Removal Rate of 0.25 has been utilized, however a significantly larger amount of TSS removal is anticipated from the proposed Contech CDS Treatment Units.

Compliance with MassDEP Stormwater Handbook

This redevelopment includes an extension of the existing stormwater management system that will collect, treat, and control stormwater runoff in conformance with MassDEP's Stormwater Management Policy. Stormwater Best Management Practices (BMPs) have been incorporated into the design to comply with all the Stormwater Management Standards as described below.

Standard 1 – No Untreated Discharges or Erosion to Wetlands: No new stormwater conveyances may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

No new stormwater conveyances discharging untreated stormwater to wetlands or waters of the Commonwealth are proposed.

Standard 2 – Peak Rate Attenuation: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

The analysis discussed previously shows that the proposed project will not result in any increase in peak rates of runoff discharged from the site under redevelopment conditions compared to existing rates for all storms analyzed.

Standard 3 – Stormwater Recharge: Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

The minimal increase in impervious area (1.2%) will be captured, treated as required and routed through the existing stormwater management system. The existing stormwater system includes detention and infiltration basins that provide groundwater recharge.

Standard 4 – Water Quality: Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS).

Runoff from the new paved areas will be collected in deep sump hooded catch basins and/or CDS water quality treatment units prior to entering the existing detention and infiltration systems. As noted in this report, pretreatment devices will achieve the required 44% TSS removal prior to discharge to the primary treatment device in the existing stormwater management system where additional treatment is provided.

Standard 5 – Land Uses with Higher Potential Pollutant Loads: For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable.

The project is the addition of two truck loading docks and an internal driveway to an existing development. This project does not constitute a land use with higher potential pollutant loads.

Standard 6 – Critical Areas: Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook.

The site is located within a Zone II and the proposed minor modification to the site includes stormwater best management practices as provided in the Massachusetts Stormwater Handbook.

Standard 7 - Redevelopment: A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pre-treatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only

to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

The new pavement area has been designed to include stormwater best management practices to provide the required pretreatment prior to discharge to the existing stormwater management system where additional treatment, similar to the existing development will be provided.

Standard 8 – Construction Period Controls: A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentations, and pollution prevention plan) shall be developed and implemented.

An Erosion and Sediment Control Plan is included in the site plan set.

Standard 9: A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

The proposed modification to the existing development will be inspected and maintained as part of the existing development Operation and Maintenance Plan (O&M) to ensure the long term, post-construction operation of the stormwater management system.

Standard 10: All illicit discharges to the stormwater management system are prohibited.

No illicit discharges to the stormwater management system are proposed.

D. Copies of Existing Easements, Covenants & Restrictions

Appendix C of this report includes copies of covenants and previous Unified Permit Record of Decisions for this property.

The ALTA/ACSM Land Title Survey for this property, prepared by The BSC Group, Inc., dated August 18, 2015, is included in Appendix D, shows the easements on the property.

E. List of Requested Waivers

The applicant respectfully requests waivers from the following Submission and Plan Requirements:

974 CMR 3.02 (2) Submission Requirements

(f) Request for Determination of Applicability or a Notice of Intent. The work for the proposed project will be located over 300' from the wetlands. The wetland line and 100' buffer zone is shown on the existing conditions survey included in Appendix D. The 100' buffer does not extend onto the property.

(h) Soil Suitability Tests and analysis. The proposed work does not include building construction or stormwater infiltration, so soil tests are not needed.

(k) A narrative demonstrating compliance with the Reuse Plan and By-laws. The site is already developed, and the project consists of just adding two loading docks.

(m) A statement of compliance with the Devens Open Space and Recreation Plan and the Devens Main Post Trails Report. The site is already developed, and the project consists of just adding two loading docks.

(o) An estimate of the number of vehicles trips daily and traffic mitigation. The site is already developed, and the project consists of just adding two loading docks. We will include number of additional truck trips per day and number of additional employees.

(q) A landscape maintenance and water management plan. The site is already developed, and the project does not impact the existing maintenance and water management plan.

(r) A narrative demonstrating compliance with the Industrial Performance Standards. The site is already developed, and the project consists of just adding two loading docks which will not impact the development compliance with the Industrial Performance Standards.

(s) The Sustainable Sites Section of US Green Building Council LEED Green Building Rating System Checklist. The site is already developed, and the project consists of just adding two loading docks.

974 CMR 3.02 (3) (a) Surveying and Drafting Plan Requirements

The Site Plan shall be 24" x 36" and at a scale of 1" = 40' unless an alternative scale is authorized by the Director. The Site Plan must comply with 974 CMR 2.04 (3) and conform to the Registry of Deeds requirements for recording. The survey plan has been prepared by other and is on a 30" x 42" sheet at 1"=40'. We request a waiver for the sheet size of the survey. Regarding the Registry of Deeds requirements, it is our understanding that these site plans do not have to be recorded so we request a waiver from those requirements.

(4) Ties from the development site to the nearest town and county bounds if within 1,000' of the site. The site is already developed, and the project consists of just adding two loading docks. The ties to the bounds are not necessary.

F. Estimated number of truck trips and employees

The new tenant moving into the building, VulcanForms will occupy approximately 155,000 sf of the existing building. The total leasable area of the building is approximately 402,000 sf and the existing tenant Jabil/Nypro occupies the remaining area of approximately 247,000 sf.

VulcanForms will have approximately 60 to 70 employees at the facility when it is fully operational and anticipates approximately 4 to 5 truck deliveries per week. The site has more than sufficient parking to accommodate Vulcan's 60 to 70 employees and the additional truck traffic will not impact the local roads.

FIGURES

AREA CALCULATIONS

EXISTING PAVED AREA = 336,108 SF
EXISTING BUILDING AREA = 391,592 SF
EXISTING TOTAL IMPERVIOUS AREA = 727,700 SF
LOT AREA = 1,006,455 SF
EXISTING PERCENT IMPERVIOUS = 72.3%

Drawing name: G:\MA\Devens\The Seyon Group\112 Barnum Road\Engineer\Drainage\Watershed\20066_Watershed Exhibits.dwg
Aug 13, 2020 - 14:00pm

RJOC

NO.	REVISION	DATE

PREPARED BY:

RJO'CONNELL
& ASSOCIATES, INC.
CIVIL ENGINEERS, SURVEYORS
& LAND PLANNERS
80 MONTVALE AVENUE, SUITE 201
STONEHAM, MA 02180
PHONE: 781.279.0180
RJOCONNELL.COM

PREPARED FOR:

AD BARNUM
OWNER, LLC
C/O SEYON MANAGEMENT, LLC
43 BROAD STREET, SUITE C404
HUDSON, MA 01749
PHONE: (978) 407-5248

PROJECT NAME:

112 BARNUM ROAD
DEVENS, MA 01434

DESIGNED BY:	TRG
DRAWN BY:	TRG
REVIEWED BY:	BJM
SCALE:	1" = 150'
DATE:	08/12/2020

DRAWING NAME:

EXISTING
IMPERVIOUS AREA
EXHIBIT

DRAWING NUMBER:

EX-1

PROJECT NUMBER:

20066

AREA CALCULATIONS

PROPOSED PAVED AREA = 345,360 SF
PROPOSED BUILDING AREA = 391,592 SF
PROPOSED TOTAL IMPERVIOUS AREA = 736,952 SF
LOT AREA = 1,006,455 SF
PROPOSED PERCENT IMPERVIOUS = 73.2%
PROPOSED NET INCREASE TO IMPERVIOUS = 9,252 SF

Drawing name: G:\MA\Devens\The Seyon Group\112 Barnum Road\Engineer\Drainage\Watershed\20066_Watershed Exhibits.dwg
Aug 13, 2020 - 14:01pm

RJOC

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43 BROAD STREET, SUITE C404
HUDSON, MA 01749
PHONE: (978) 407-5248

PROJECT NAME:

112 BARNUM ROAD
DEVENS, MA 01434

DESIGNED BY:	TRG
DRAWN BY:	TRG
REVIEWED BY:	BJM
SCALE:	1" = 150'
DATE:	08/12/2020

DRAWING NAME:

PROPOSED
IMPERVIOUS AREA
EXHIBIT

DRAWING NUMBER:

EX-2

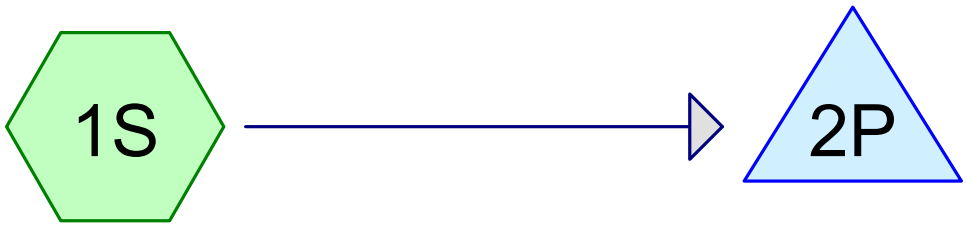
PROJECT NUMBER:

20066

APPENDIX A

HydroCAD Hydrology Calculations

Existing Hydrology



Site - Existing Conditions

Existing Basin

Subcat Reach Pond Link

Routing Diagram for 20066_EC
Prepared by {enter your company name here}, Printed 8/12/2020

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Yr	Type III 24-hr		Default	24.00	1	3.03	2
2	10-Yr	Type III 24-hr		Default	24.00	1	4.49	2
3	25-Yr	Type III 24-hr		Default	24.00	1	5.63	2
4	50-Yr	Type III 24-hr		Default	24.00	1	6.68	2
5	100-Yr	Type III 24-hr		Default	24.00	1	7.93	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
278,755	39	>75% Grass cover, Good, HSG A (1S)
336,108	98	Paved parking, HSG A (1S)
391,592	98	Roofs, HSG A (1S)
1,006,455	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
1,006,455	HSG A	1S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
1,006,455		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
278,755	0	0	0	0	278,755	>75% Grass cover, Good	
336,108	0	0	0	0	336,108	Paved parking	
391,592	0	0	0	0	391,592	Roofs	
1,006,455	**0**	**0**	**0**	**0**	**1,006,455**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	2P	232.10	230.10	75.0	0.0267	0.013	36.0	0.0	0.0

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Existing Runoff Area=1,006,455 sf 72.30% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=82 Runoff=37.07 cfs 117,641 cf

Pond 2P: Existing Basin Peak Elev=233.34' Storage=41,195 cf Inflow=37.07 cfs 117,641 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=10.40 cfs 115,207 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 117,641 cf Average Runoff Depth = 1.40"
27.70% Pervious = 278,755 sf 72.30% Impervious = 727,700 sf

Summary for Subcatchment 1S: Site - Existing Conditions

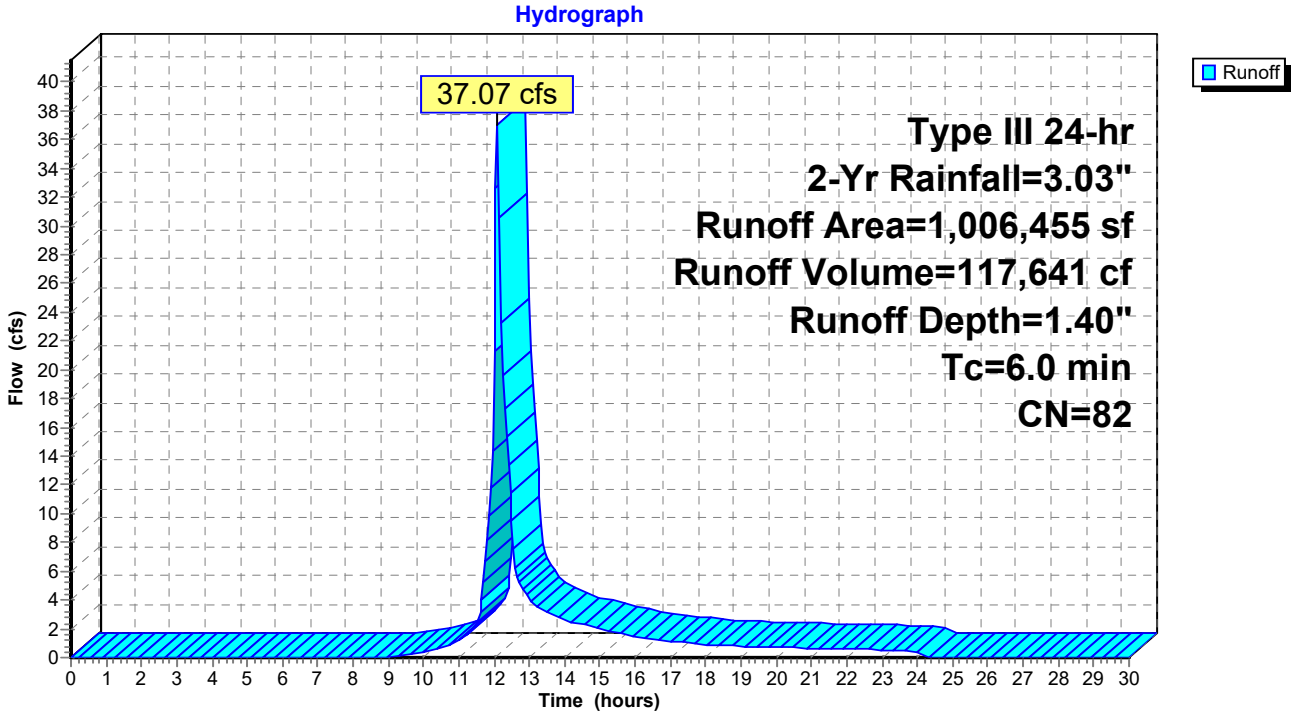
Runoff = 37.07 cfs @ 12.10 hrs, Volume= 117,641 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.03"

Area (sf)	CN	Description
336,108	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
278,755	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
278,755		27.70% Pervious Area
727,700		72.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Existing Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 72.30% Impervious, Inflow Depth = 1.40" for 2-Yr event
Inflow = 37.07 cfs @ 12.10 hrs, Volume= 117,641 cf
Outflow = 10.40 cfs @ 12.48 hrs, Volume= 115,207 cf, Atten= 72%, Lag= 23.0 min
Primary = 10.40 cfs @ 12.48 hrs, Volume= 115,207 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 233.34' @ 12.48 hrs Surf.Area= 46,347 sf Storage= 41,195 cf

Plug-Flow detention time= 93.1 min calculated for 115,207 cf (98% of inflow)
Center-of-Mass det. time= 81.2 min (920.1 - 838.9)

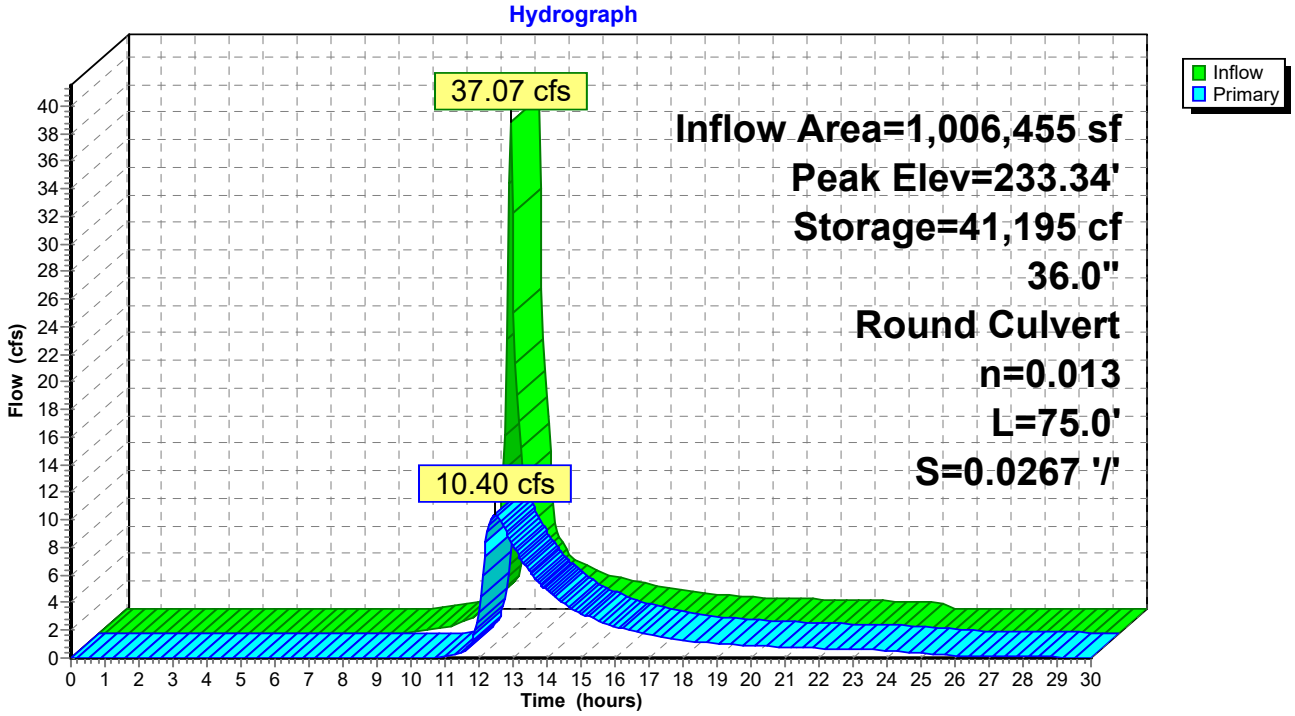
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=10.38 cfs @ 12.48 hrs HW=233.34' (Free Discharge)
1=Culvert (Inlet Controls 10.38 cfs @ 3.78 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Existing Runoff Area=1,006,455 sf 72.30% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=82 Runoff=69.69 cfs 220,355 cf

Pond 2P: Existing Basin Peak Elev=234.01' Storage=74,170 cf Inflow=69.69 cfs 220,355 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=22.26 cfs 217,807 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 220,355 cf Average Runoff Depth = 2.63"
27.70% Pervious = 278,755 sf 72.30% Impervious = 727,700 sf

Summary for Subcatchment 1S: Site - Existing Conditions

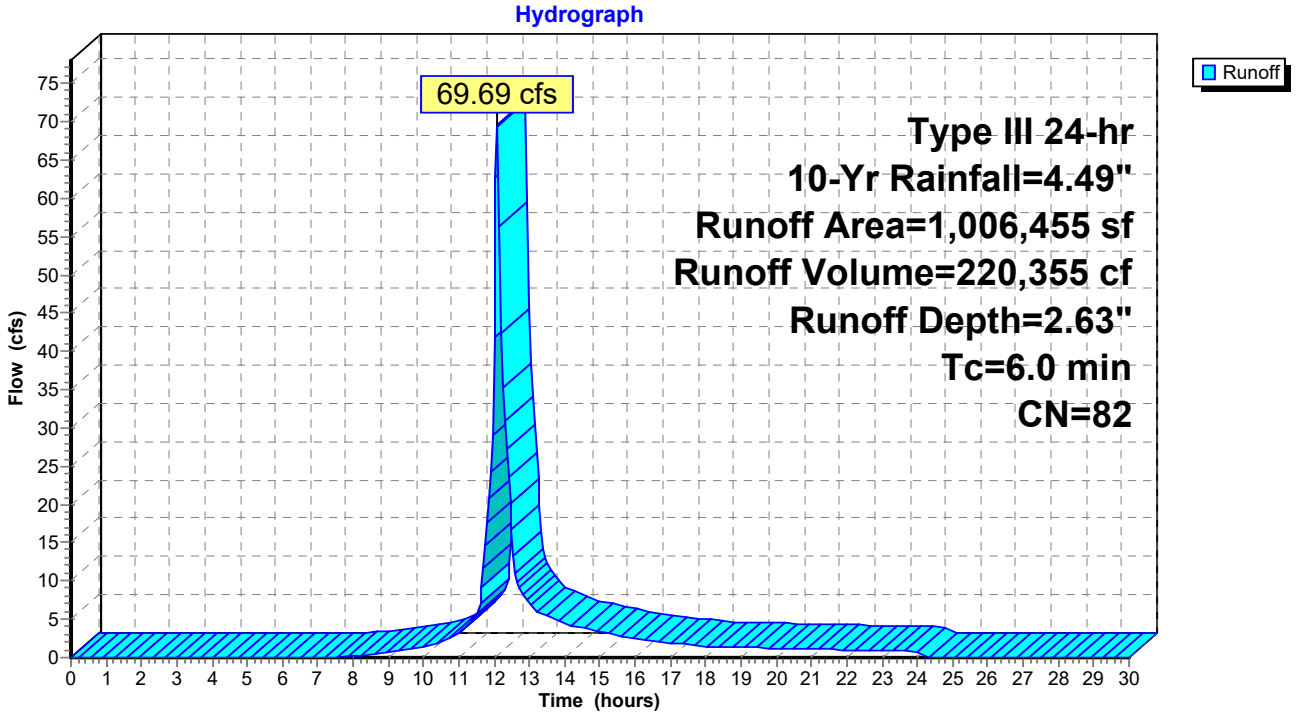
Runoff = 69.69 cfs @ 12.09 hrs, Volume= 220,355 cf, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.49"

Area (sf)	CN	Description
336,108	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
278,755	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
278,755		27.70% Pervious Area
727,700		72.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Existing Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 72.30% Impervious, Inflow Depth = 2.63" for 10-Yr event
Inflow = 69.69 cfs @ 12.09 hrs, Volume= 220,355 cf
Outflow = 22.26 cfs @ 12.42 hrs, Volume= 217,807 cf, Atten= 68%, Lag= 19.7 min
Primary = 22.26 cfs @ 12.42 hrs, Volume= 217,807 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 234.01' @ 12.42 hrs Surf.Area= 52,229 sf Storage= 74,170 cf

Plug-Flow detention time= 77.9 min calculated for 217,807 cf (99% of inflow)
Center-of-Mass det. time= 70.9 min (891.8 - 820.8)

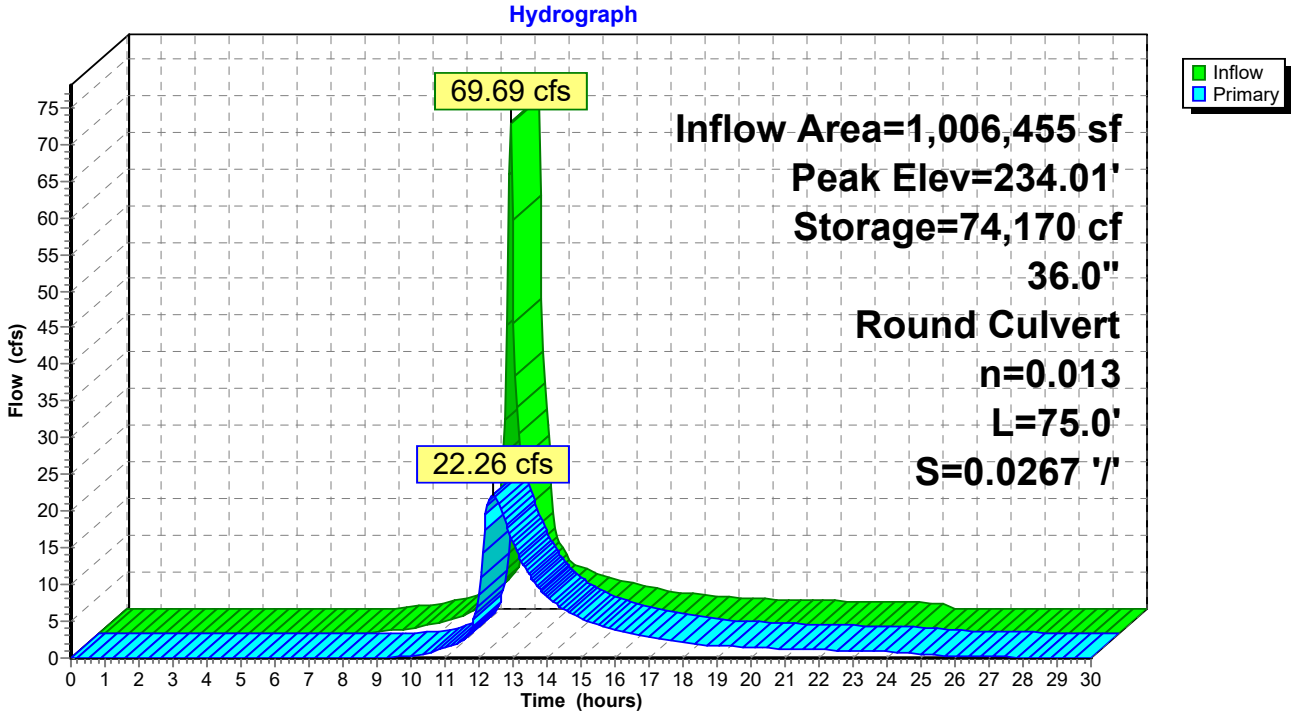
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=22.23 cfs @ 12.42 hrs HW=234.00' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 22.23 cfs @ 4.70 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Existing Runoff Area=1,006,455 sf 72.30% Impervious Runoff Depth=3.65"
Tc=6.0 min CN=82 Runoff=96.14 cfs 305,982 cf

Pond 2P: Existing Basin Peak Elev=234.48' Storage=100,408 cf Inflow=96.14 cfs 305,982 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=31.67 cfs 303,370 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 305,982 cf Average Runoff Depth = 3.65"
27.70% Pervious = 278,755 sf 72.30% Impervious = 727,700 sf

Summary for Subcatchment 1S: Site - Existing Conditions

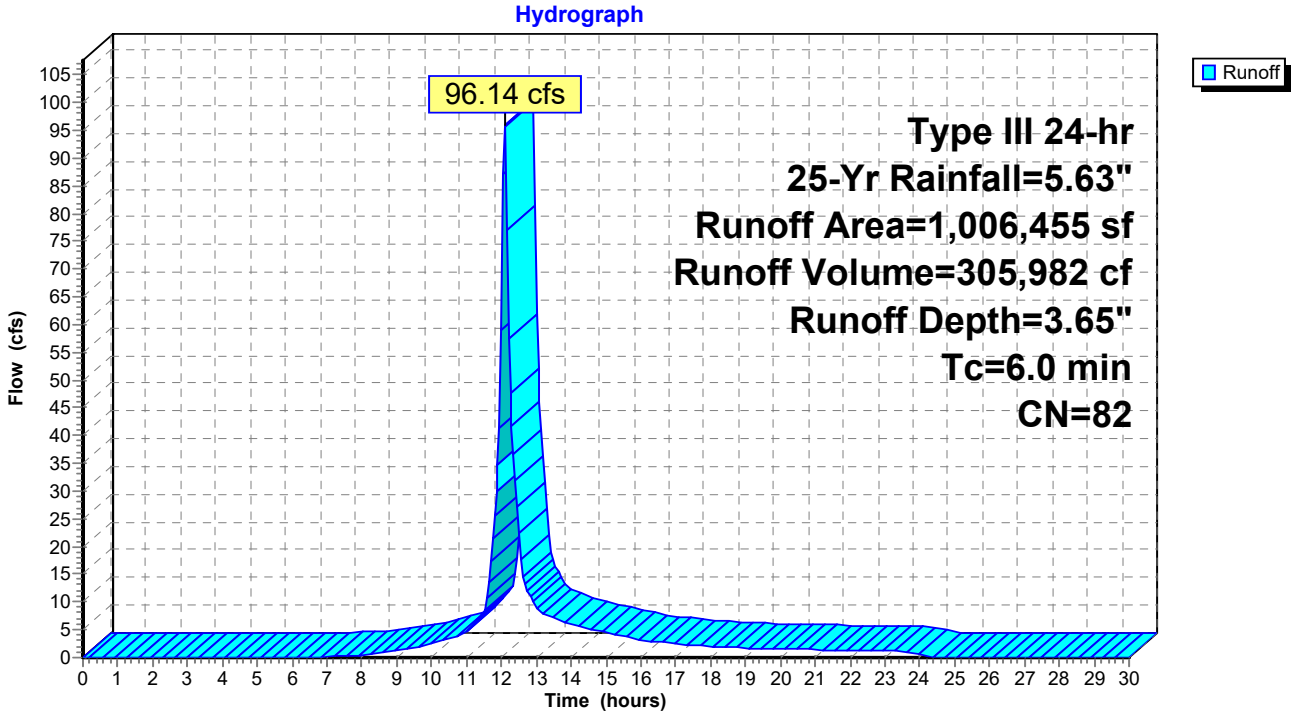
Runoff = 96.14 cfs @ 12.09 hrs, Volume= 305,982 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=5.63"

Area (sf)	CN	Description
336,108	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
278,755	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
278,755		27.70% Pervious Area
727,700		72.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Existing Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 72.30% Impervious, Inflow Depth = 3.65" for 25-Yr event
Inflow = 96.14 cfs @ 12.09 hrs, Volume= 305,982 cf
Outflow = 31.67 cfs @ 12.40 hrs, Volume= 303,370 cf, Atten= 67%, Lag= 18.7 min
Primary = 31.67 cfs @ 12.40 hrs, Volume= 303,370 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 234.48' @ 12.40 hrs Surf.Area= 57,431 sf Storage= 100,408 cf

Plug-Flow detention time= 71.4 min calculated for 302,866 cf (99% of inflow)
Center-of-Mass det. time= 66.7 min (878.1 - 811.5)

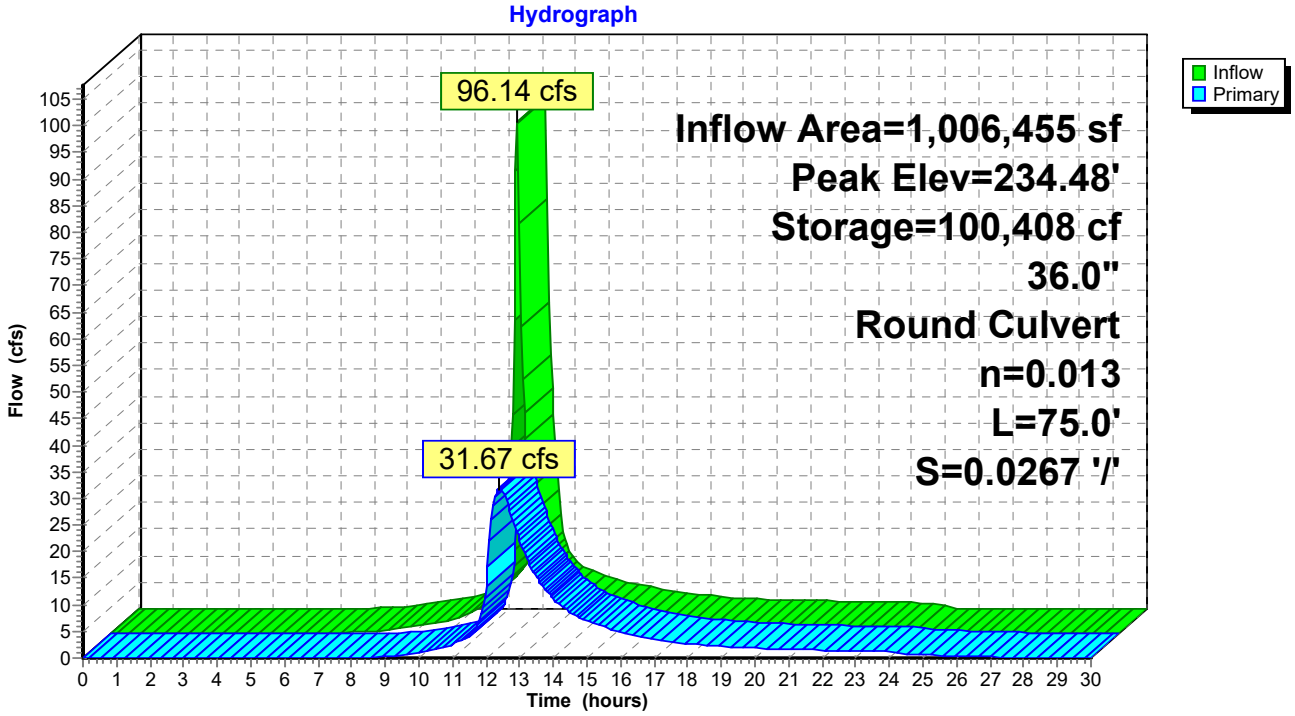
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=31.67 cfs @ 12.40 hrs HW=234.48' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 31.67 cfs @ 5.26 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Existing Runoff Area=1,006,455 sf 72.30% Impervious Runoff Depth=4.62"
Tc=6.0 min CN=82 Runoff=120.72 cfs 387,237 cf

Pond 2P: Existing Basin Peak Elev=234.91' Storage=125,660 cf Inflow=120.72 cfs 387,237 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=39.21 cfs 384,576 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 387,237 cf Average Runoff Depth = 4.62"
27.70% Pervious = 278,755 sf 72.30% Impervious = 727,700 sf

Summary for Subcatchment 1S: Site - Existing Conditions

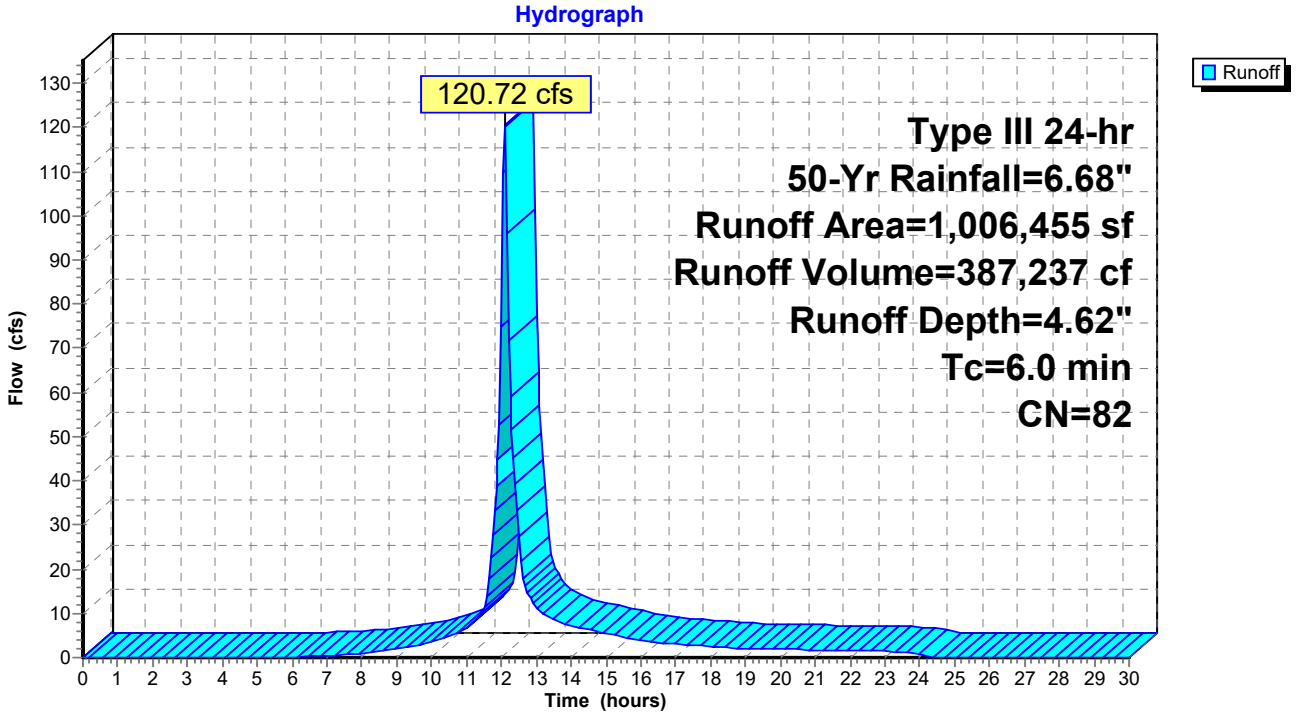
Runoff = 120.72 cfs @ 12.09 hrs, Volume= 387,237 cf, Depth= 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Yr Rainfall=6.68"

Area (sf)	CN	Description
336,108	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
278,755	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
278,755		27.70% Pervious Area
727,700		72.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Existing Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 72.30% Impervious, Inflow Depth = 4.62" for 50-Yr event
Inflow = 120.72 cfs @ 12.09 hrs, Volume= 387,237 cf
Outflow = 39.21 cfs @ 12.40 hrs, Volume= 384,576 cf, Atten= 68%, Lag= 18.7 min
Primary = 39.21 cfs @ 12.40 hrs, Volume= 384,576 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 234.91' @ 12.40 hrs Surf.Area= 62,225 sf Storage= 125,660 cf

Plug-Flow detention time= 68.6 min calculated for 384,576 cf (99% of inflow)
Center-of-Mass det. time= 64.4 min (869.2 - 804.8)

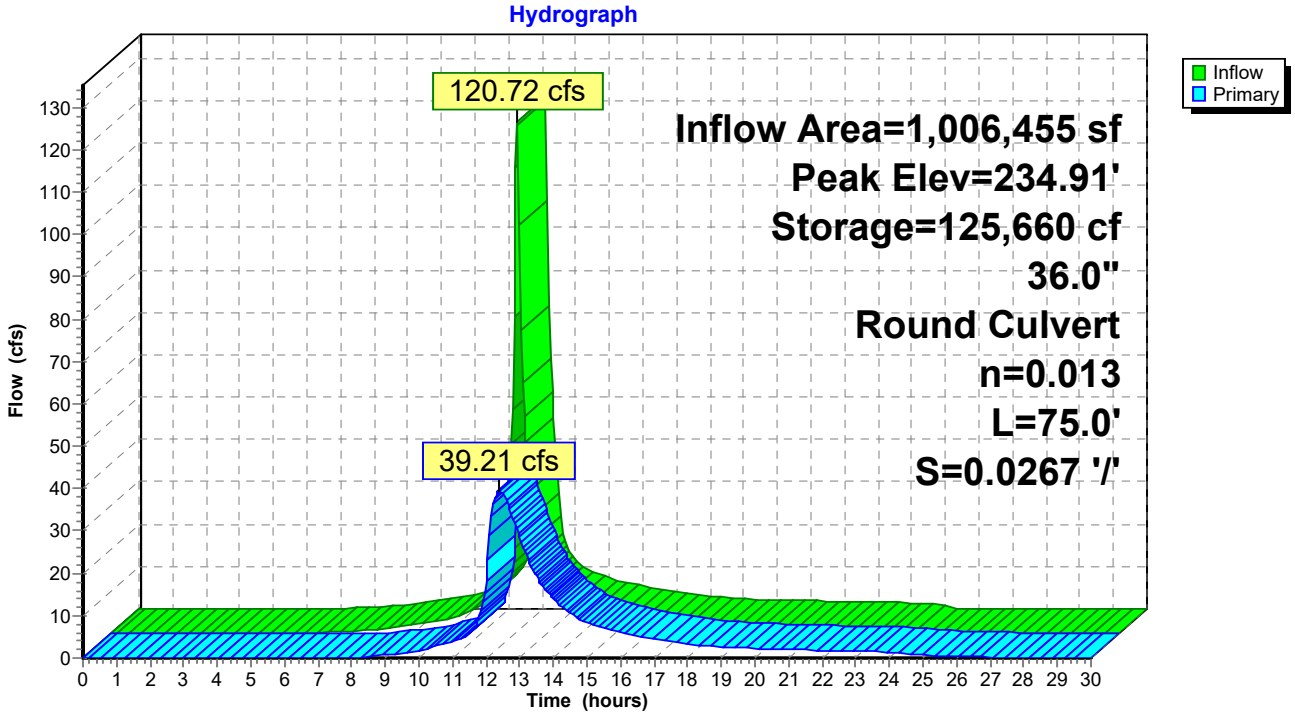
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=39.22 cfs @ 12.40 hrs HW=234.91' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 39.22 cfs @ 5.70 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Existing Runoff Area=1,006,455 sf 72.30% Impervious Runoff Depth=5.79"
Tc=6.0 min CN=82 Runoff=150.05 cfs 485,893 cf

Pond 2P: Existing Basin Peak Elev=235.42' Storage=158,255 cf Inflow=150.05 cfs 485,893 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=45.86 cfs 483,183 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 485,893 cf Average Runoff Depth = 5.79"
27.70% Pervious = 278,755 sf 72.30% Impervious = 727,700 sf

Summary for Subcatchment 1S: Site - Existing Conditions

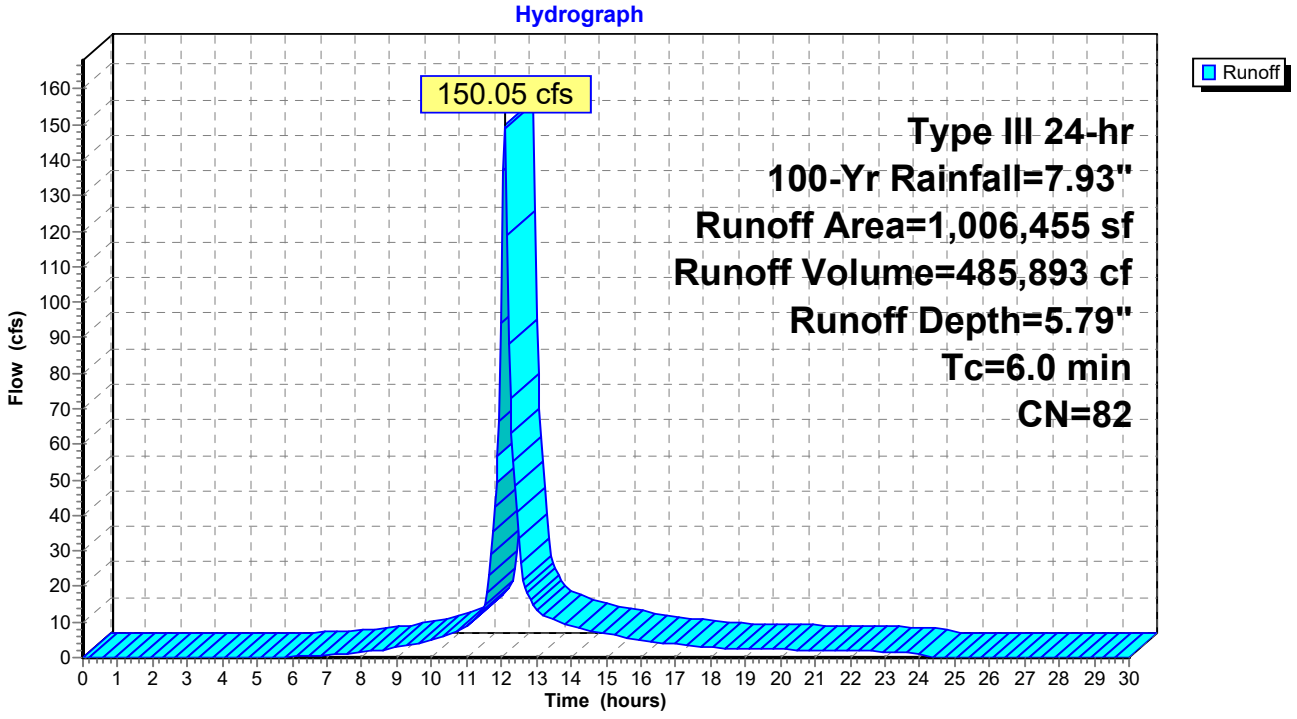
Runoff = 150.05 cfs @ 12.09 hrs, Volume= 485,893 cf, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Yr Rainfall=7.93"

Area (sf)	CN	Description
336,108	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
278,755	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
278,755		27.70% Pervious Area
727,700		72.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Existing Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 72.30% Impervious, Inflow Depth = 5.79" for 100-Yr event
Inflow = 150.05 cfs @ 12.09 hrs, Volume= 485,893 cf
Outflow = 45.86 cfs @ 12.42 hrs, Volume= 483,183 cf, Atten= 69%, Lag= 19.6 min
Primary = 45.86 cfs @ 12.42 hrs, Volume= 483,183 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 235.42' @ 12.42 hrs Surf.Area= 65,238 sf Storage= 158,255 cf

Plug-Flow detention time= 66.3 min calculated for 482,379 cf (99% of inflow)
Center-of-Mass det. time= 63.3 min (861.7 - 798.4)

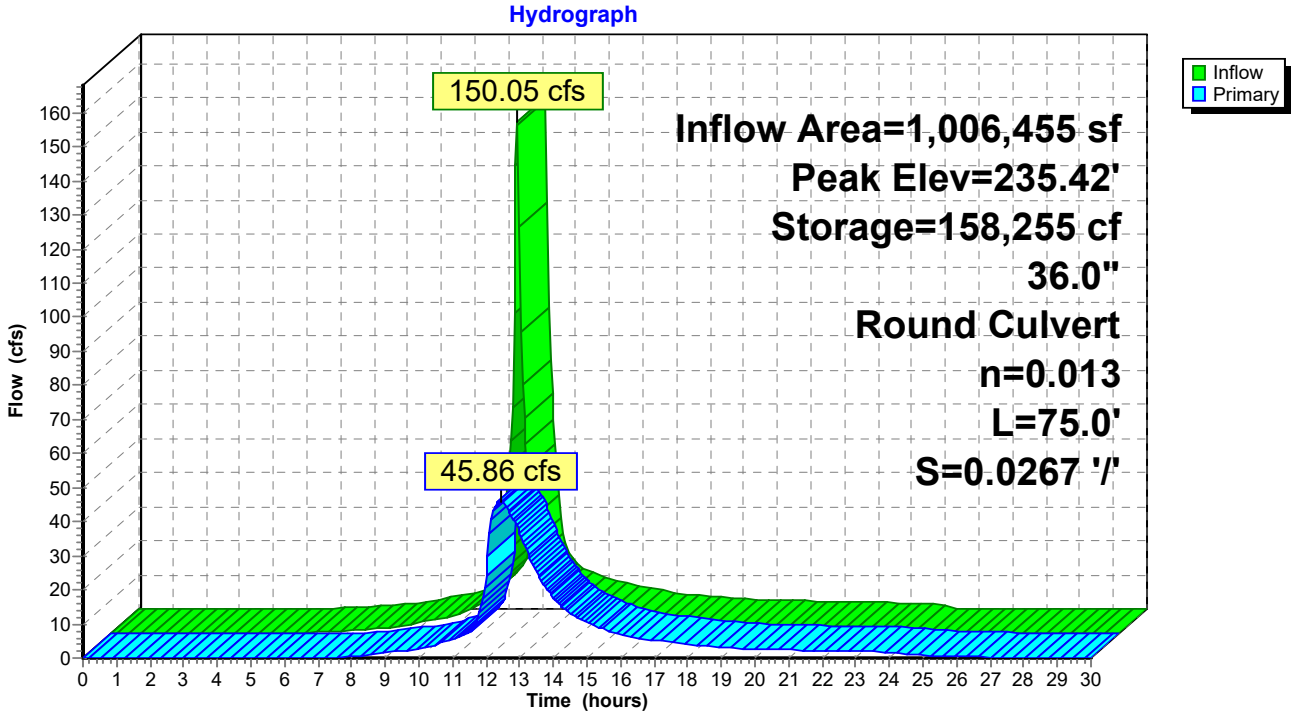
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

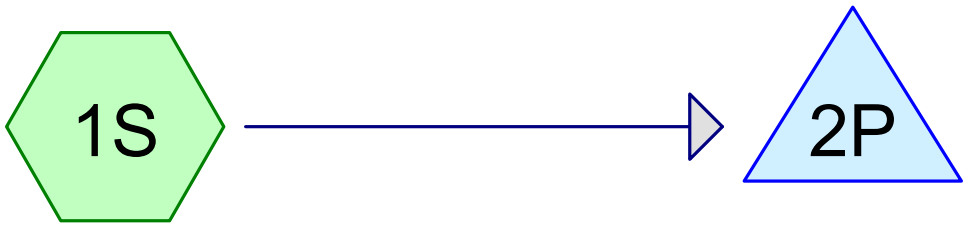
Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=45.84 cfs @ 12.42 hrs HW=235.41' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 45.84 cfs @ 6.48 fps)

Pond 2P: Existing Basin



Proposed Hydrology



Site - Proposed Conditions

Existing Basin

Subcat Reach Pond Link

Routing Diagram for 20066_PC

Prepared by {enter your company name here}, Printed 8/12/2020

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Yr	Type III 24-hr		Default	24.00	1	3.03	2
2	10-Yr	Type III 24-hr		Default	24.00	1	4.49	2
3	25-Yr	Type III 24-hr		Default	24.00	1	5.63	2
4	50-Yr	Type III 24-hr		Default	24.00	1	6.68	2
5	100-Yr	Type III 24-hr		Default	24.00	1	7.93	2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
269,503	39	>75% Grass cover, Good, HSG A (1S)
345,360	98	Paved parking, HSG A (1S)
391,592	98	Roofs, HSG A (1S)
1,006,455	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
1,006,455	HSG A	1S
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
1,006,455		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
269,503	0	0	0	0	269,503	>75% Grass cover, Good	
345,360	0	0	0	0	345,360	Paved parking	
391,592	0	0	0	0	391,592	Roofs	
1,006,455	**0**	**0**	**0**	**0**	**1,006,455**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	2P	232.10	230.10	75.0	0.0267	0.013	36.0	0.0	0.0

Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Proposed Runoff Area=1,006,455 sf 73.22% Impervious Runoff Depth=1.40"
Tc=6.0 min CN=82 Runoff=37.07 cfs 117,641 cf

Pond 2P: Existing Basin Peak Elev=233.34' Storage=41,195 cf Inflow=37.07 cfs 117,641 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=10.40 cfs 115,207 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 117,641 cf Average Runoff Depth = 1.40"
26.78% Pervious = 269,503 sf 73.22% Impervious = 736,952 sf

Summary for Subcatchment 1S: Site - Proposed Conditions

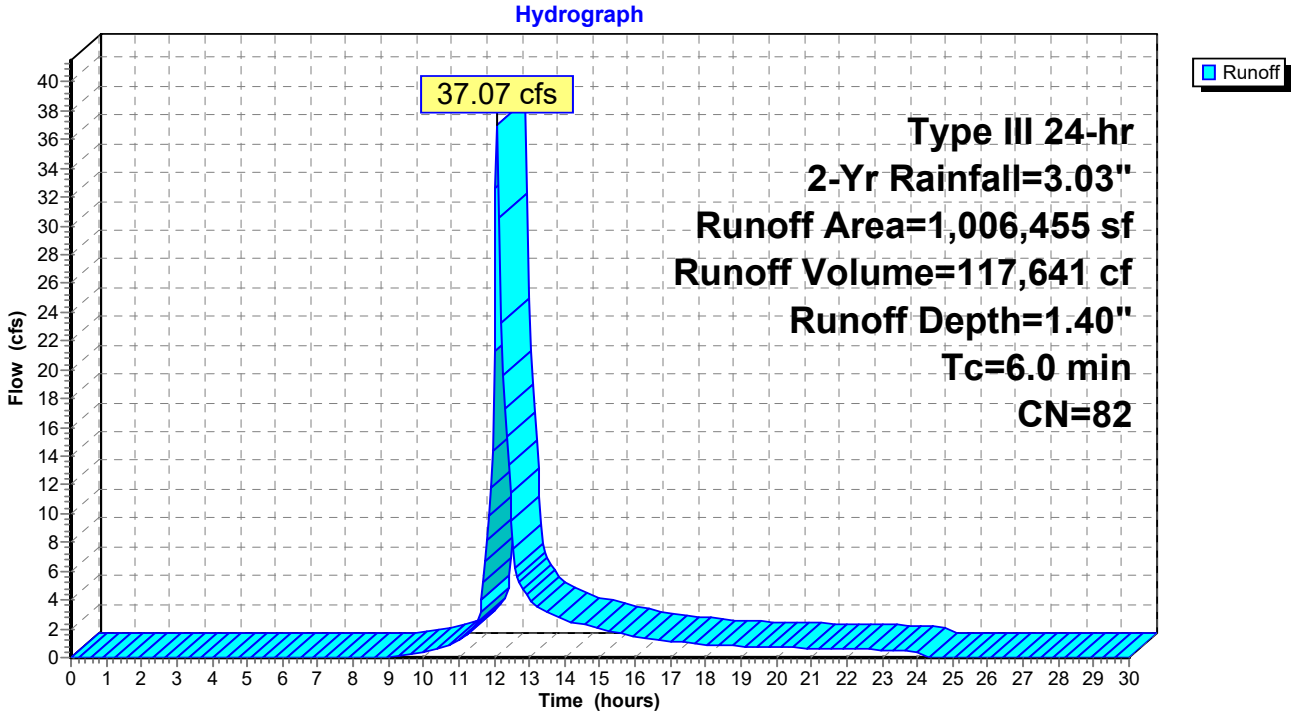
Runoff = 37.07 cfs @ 12.10 hrs, Volume= 117,641 cf, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.03"

Area (sf)	CN	Description
345,360	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
269,503	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
269,503		26.78% Pervious Area
736,952		73.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Proposed Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 73.22% Impervious, Inflow Depth = 1.40" for 2-Yr event
Inflow = 37.07 cfs @ 12.10 hrs, Volume= 117,641 cf
Outflow = 10.40 cfs @ 12.48 hrs, Volume= 115,207 cf, Atten= 72%, Lag= 23.0 min
Primary = 10.40 cfs @ 12.48 hrs, Volume= 115,207 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 233.34' @ 12.48 hrs Surf.Area= 46,347 sf Storage= 41,195 cf

Plug-Flow detention time= 93.1 min calculated for 115,207 cf (98% of inflow)
Center-of-Mass det. time= 81.2 min (920.1 - 838.9)

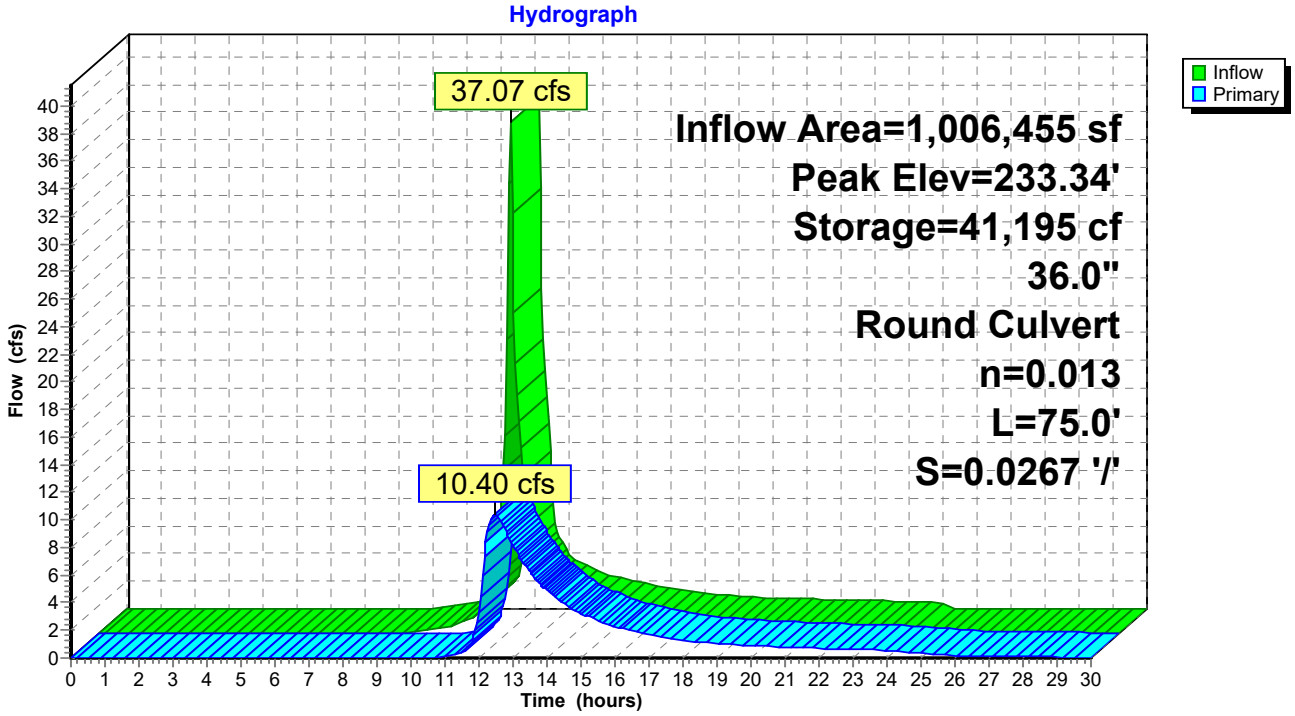
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=10.38 cfs @ 12.48 hrs HW=233.34' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 10.38 cfs @ 3.78 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Proposed Runoff Area=1,006,455 sf 73.22% Impervious Runoff Depth=2.63"
Tc=6.0 min CN=82 Runoff=69.69 cfs 220,355 cf

Pond 2P: Existing Basin Peak Elev=234.01' Storage=74,170 cf Inflow=69.69 cfs 220,355 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=22.26 cfs 217,807 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 220,355 cf Average Runoff Depth = 2.63"
26.78% Pervious = 269,503 sf 73.22% Impervious = 736,952 sf

Summary for Subcatchment 1S: Site - Proposed Conditions

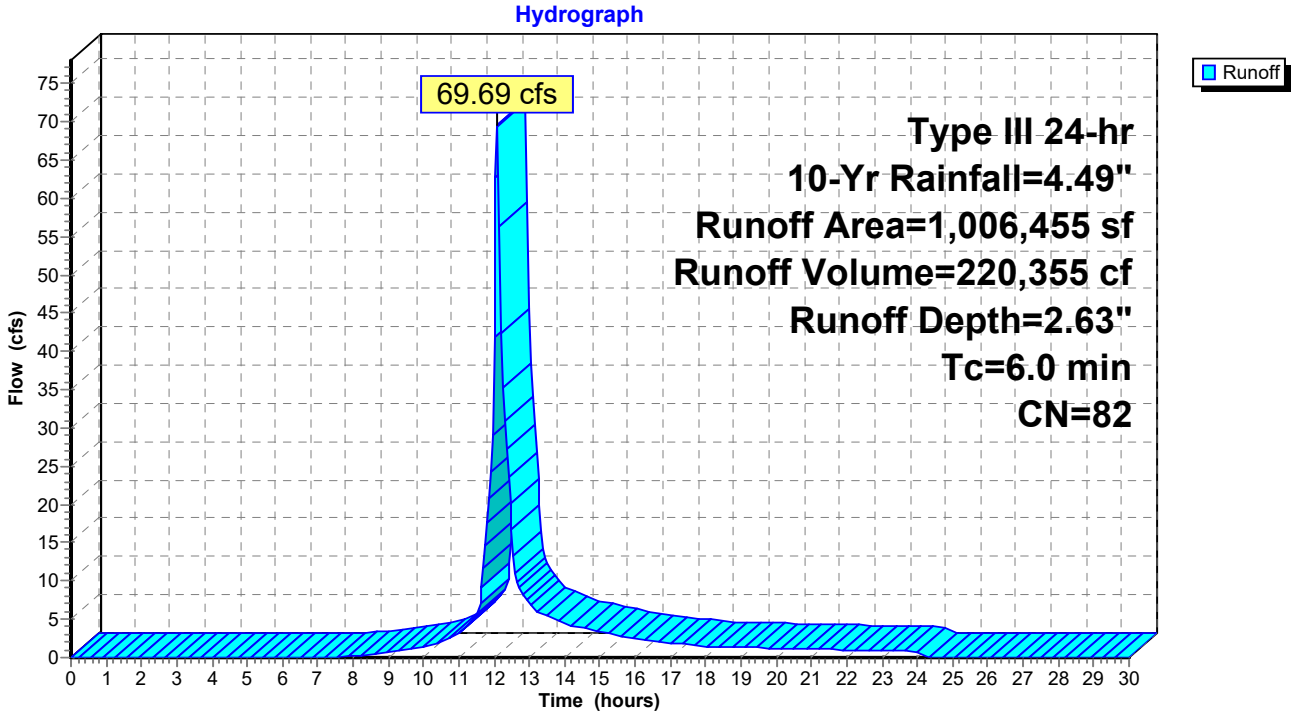
Runoff = 69.69 cfs @ 12.09 hrs, Volume= 220,355 cf, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.49"

Area (sf)	CN	Description
345,360	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
269,503	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
269,503		26.78% Pervious Area
736,952		73.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Proposed Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 73.22% Impervious, Inflow Depth = 2.63" for 10-Yr event
Inflow = 69.69 cfs @ 12.09 hrs, Volume= 220,355 cf
Outflow = 22.26 cfs @ 12.42 hrs, Volume= 217,807 cf, Atten= 68%, Lag= 19.7 min
Primary = 22.26 cfs @ 12.42 hrs, Volume= 217,807 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 234.01' @ 12.42 hrs Surf.Area= 52,229 sf Storage= 74,170 cf

Plug-Flow detention time= 77.9 min calculated for 217,807 cf (99% of inflow)
Center-of-Mass det. time= 70.9 min (891.8 - 820.8)

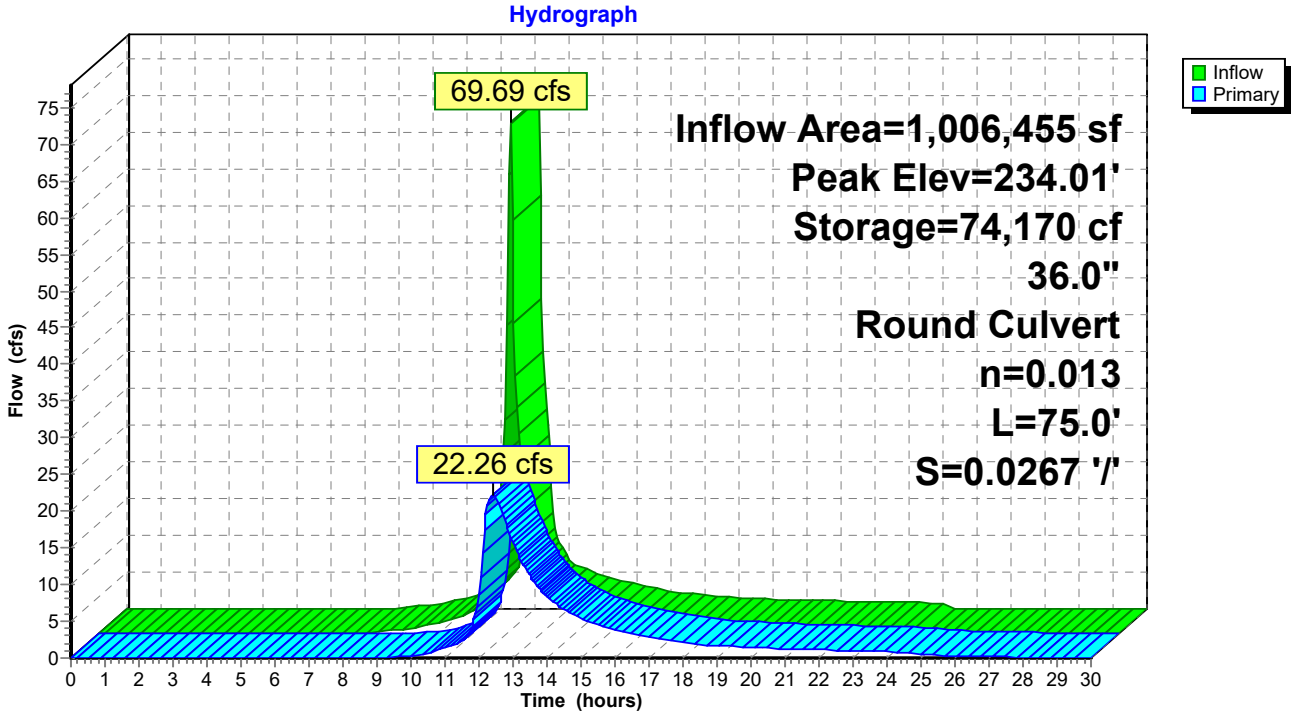
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=22.23 cfs @ 12.42 hrs HW=234.00' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 22.23 cfs @ 4.70 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Proposed Runoff Area=1,006,455 sf 73.22% Impervious Runoff Depth=3.65"
Tc=6.0 min CN=82 Runoff=96.14 cfs 305,982 cf

Pond 2P: Existing Basin Peak Elev=234.48' Storage=100,408 cf Inflow=96.14 cfs 305,982 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=31.67 cfs 303,370 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 305,982 cf Average Runoff Depth = 3.65"
26.78% Pervious = 269,503 sf 73.22% Impervious = 736,952 sf

Summary for Subcatchment 1S: Site - Proposed Conditions

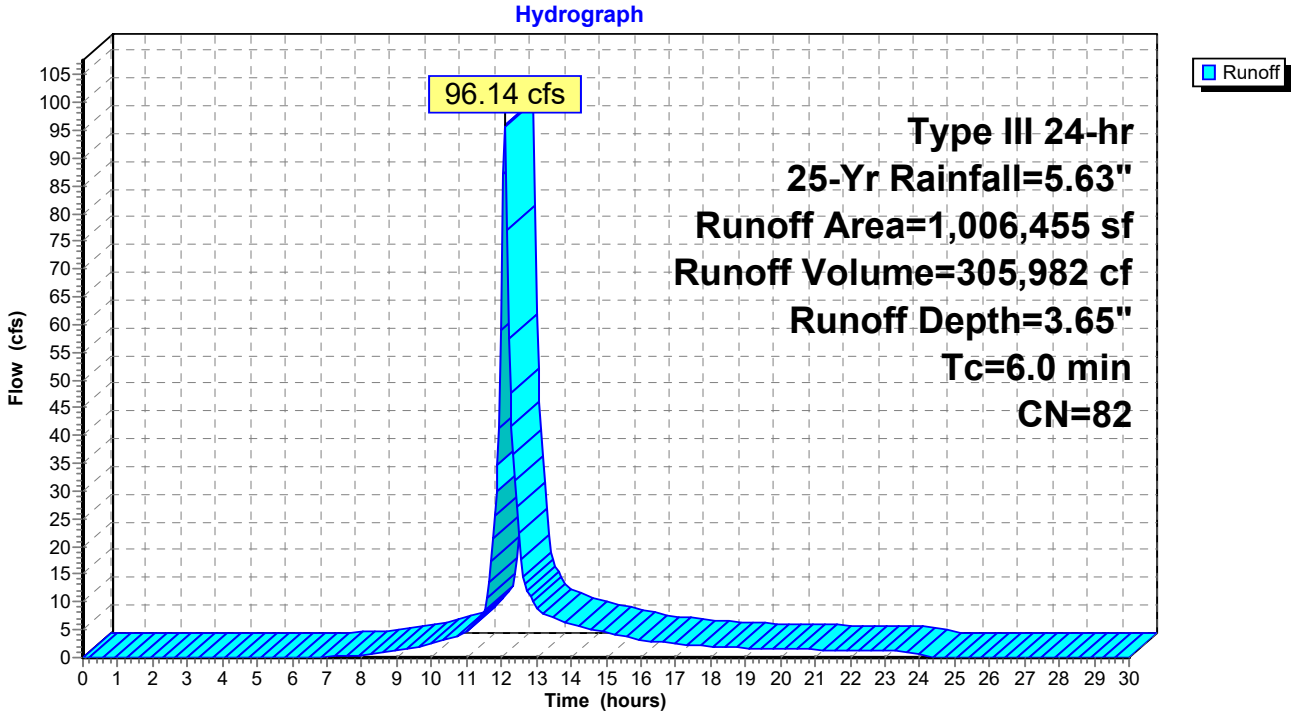
Runoff = 96.14 cfs @ 12.09 hrs, Volume= 305,982 cf, Depth= 3.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=5.63"

Area (sf)	CN	Description
345,360	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
269,503	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
269,503		26.78% Pervious Area
736,952		73.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Proposed Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 73.22% Impervious, Inflow Depth = 3.65" for 25-Yr event
Inflow = 96.14 cfs @ 12.09 hrs, Volume= 305,982 cf
Outflow = 31.67 cfs @ 12.40 hrs, Volume= 303,370 cf, Atten= 67%, Lag= 18.7 min
Primary = 31.67 cfs @ 12.40 hrs, Volume= 303,370 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 234.48' @ 12.40 hrs Surf.Area= 57,431 sf Storage= 100,408 cf

Plug-Flow detention time= 71.4 min calculated for 302,866 cf (99% of inflow)
Center-of-Mass det. time= 66.7 min (878.1 - 811.5)

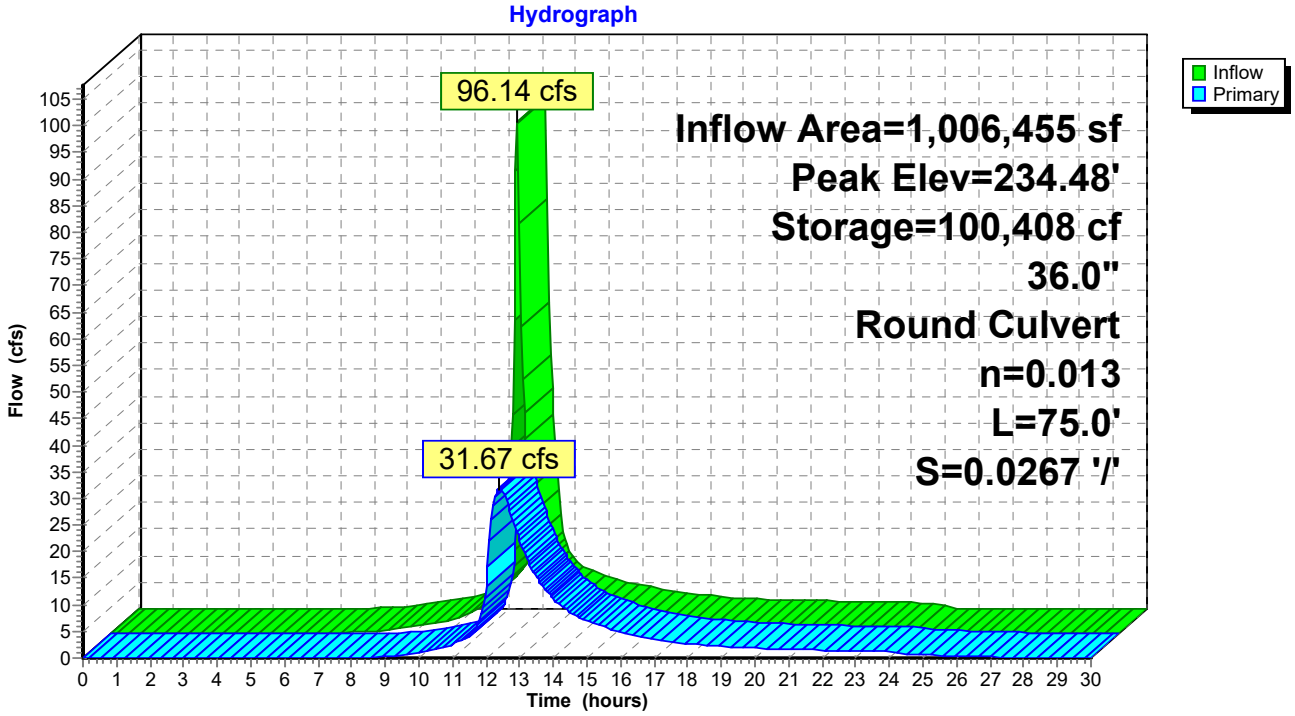
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=31.67 cfs @ 12.40 hrs HW=234.48' (Free Discharge)
1=Culvert (Inlet Controls 31.67 cfs @ 5.26 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Proposed Runoff Area=1,006,455 sf 73.22% Impervious Runoff Depth=4.62"
Tc=6.0 min CN=82 Runoff=120.72 cfs 387,237 cf

Pond 2P: Existing Basin Peak Elev=234.91' Storage=125,660 cf Inflow=120.72 cfs 387,237 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=39.21 cfs 384,576 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 387,237 cf Average Runoff Depth = 4.62"
26.78% Pervious = 269,503 sf 73.22% Impervious = 736,952 sf

Summary for Subcatchment 1S: Site - Proposed Conditions

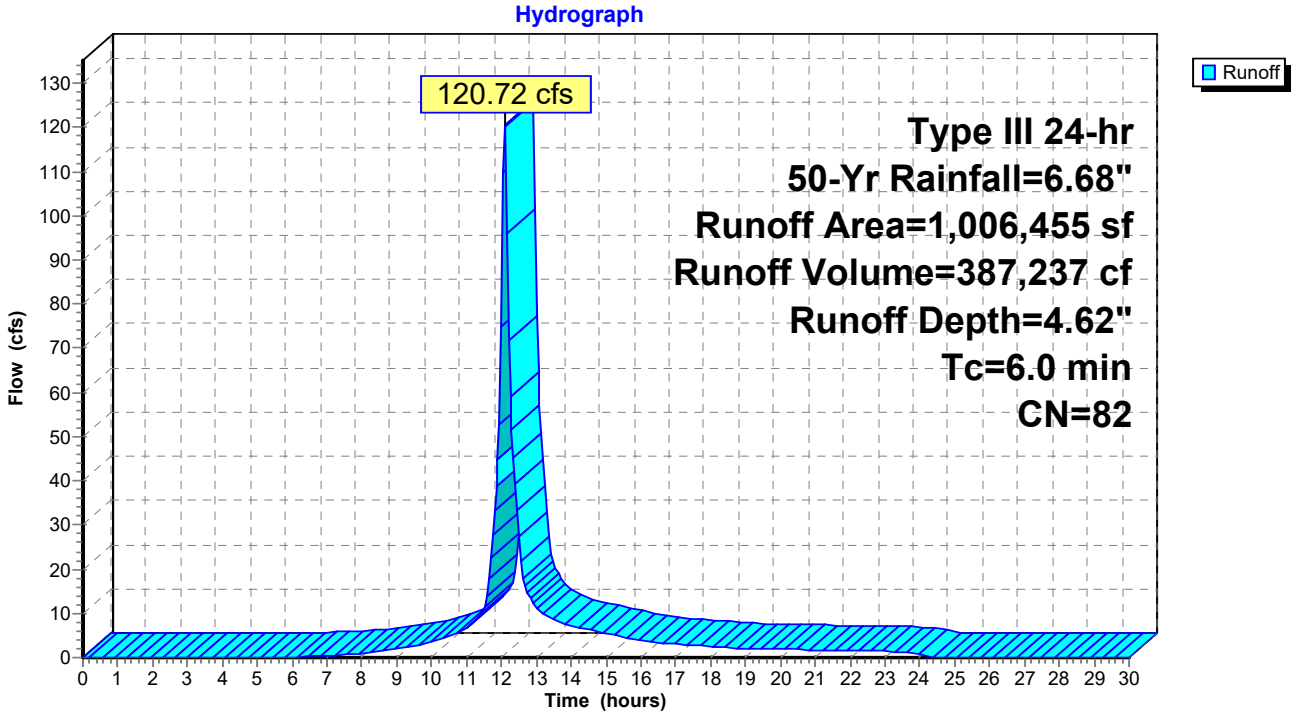
Runoff = 120.72 cfs @ 12.09 hrs, Volume= 387,237 cf, Depth= 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-Yr Rainfall=6.68"

Area (sf)	CN	Description
345,360	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
269,503	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
269,503		26.78% Pervious Area
736,952		73.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Proposed Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 73.22% Impervious, Inflow Depth = 4.62" for 50-Yr event
Inflow = 120.72 cfs @ 12.09 hrs, Volume= 387,237 cf
Outflow = 39.21 cfs @ 12.40 hrs, Volume= 384,576 cf, Atten= 68%, Lag= 18.7 min
Primary = 39.21 cfs @ 12.40 hrs, Volume= 384,576 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 234.91' @ 12.40 hrs Surf.Area= 62,225 sf Storage= 125,660 cf

Plug-Flow detention time= 68.6 min calculated for 384,576 cf (99% of inflow)
Center-of-Mass det. time= 64.4 min (869.2 - 804.8)

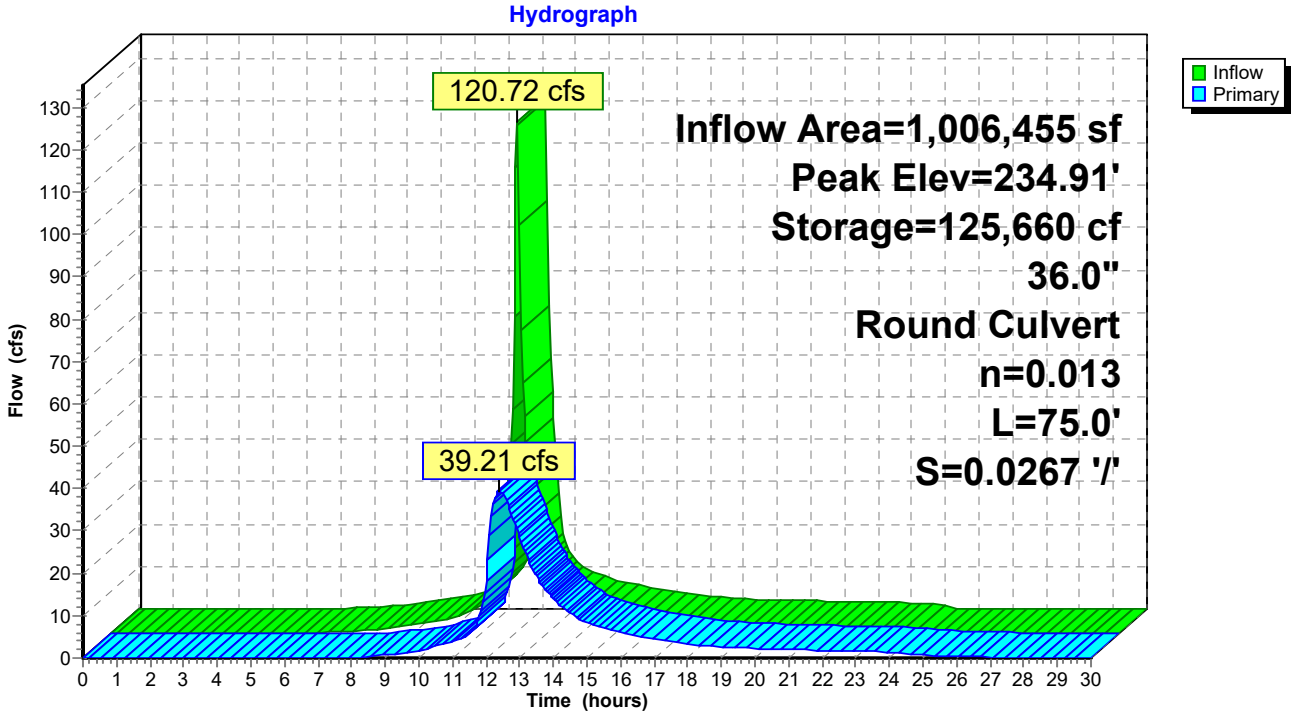
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=39.22 cfs @ 12.40 hrs HW=234.91' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 39.22 cfs @ 5.70 fps)

Pond 2P: Existing Basin



Time span=0.00-30.00 hrs, dt=0.05 hrs, 601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Site - Proposed Runoff Area=1,006,455 sf 73.22% Impervious Runoff Depth=5.79"
Tc=6.0 min CN=82 Runoff=150.05 cfs 485,893 cf

Pond 2P: Existing Basin Peak Elev=235.42' Storage=158,255 cf Inflow=150.05 cfs 485,893 cf
36.0" Round Culvert n=0.013 L=75.0' S=0.0267 '/' Outflow=45.86 cfs 483,183 cf

Total Runoff Area = 1,006,455 sf Runoff Volume = 485,893 cf Average Runoff Depth = 5.79"
26.78% Pervious = 269,503 sf 73.22% Impervious = 736,952 sf

Summary for Subcatchment 1S: Site - Proposed Conditions

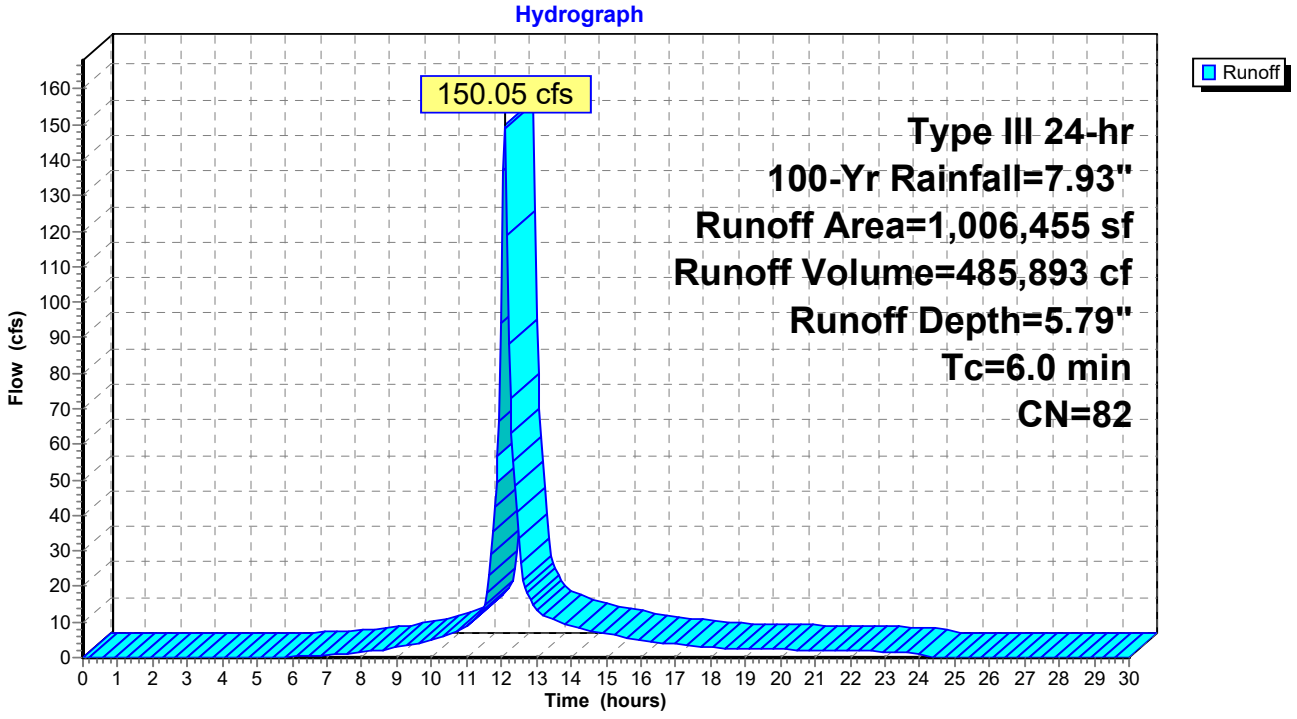
Runoff = 150.05 cfs @ 12.09 hrs, Volume= 485,893 cf, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Yr Rainfall=7.93"

Area (sf)	CN	Description
345,360	98	Paved parking, HSG A
391,592	98	Roofs, HSG A
269,503	39	>75% Grass cover, Good, HSG A
1,006,455	82	Weighted Average
269,503		26.78% Pervious Area
736,952		73.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1S: Site - Proposed Conditions



Summary for Pond 2P: Existing Basin

Inflow Area = 1,006,455 sf, 73.22% Impervious, Inflow Depth = 5.79" for 100-Yr event
Inflow = 150.05 cfs @ 12.09 hrs, Volume= 485,893 cf
Outflow = 45.86 cfs @ 12.42 hrs, Volume= 483,183 cf, Atten= 69%, Lag= 19.6 min
Primary = 45.86 cfs @ 12.42 hrs, Volume= 483,183 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Peak Elev= 235.42' @ 12.42 hrs Surf.Area= 65,238 sf Storage= 158,255 cf

Plug-Flow detention time= 66.3 min calculated for 482,379 cf (99% of inflow)
Center-of-Mass det. time= 63.3 min (861.7 - 798.4)

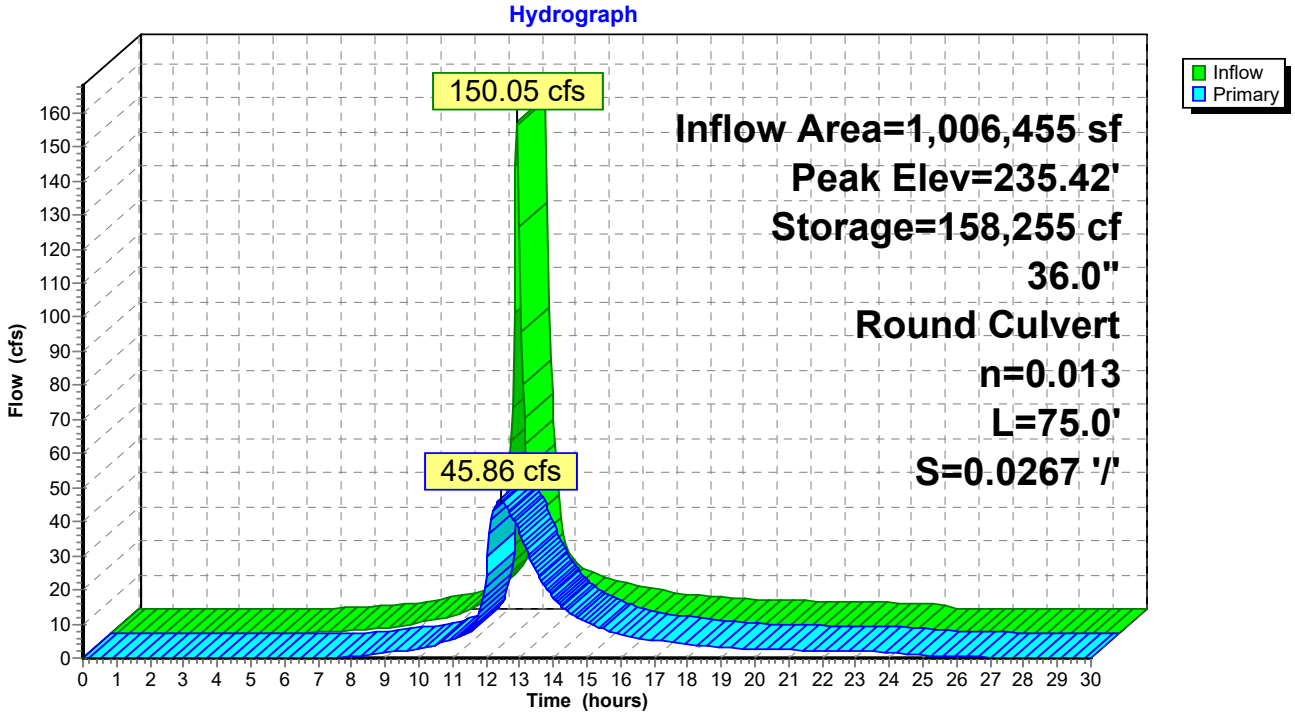
Volume	Invert	Avail.Storage	Storage Description
#1	232.00'	343,274 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
232.00	11,943	735.0	0	0	11,943
233.00	43,531	2,002.0	26,092	26,092	287,903
234.00	52,169	2,062.0	47,785	73,877	307,414
235.00	63,312	1,142.0	57,651	131,527	541,988
236.00	67,993	1,170.0	65,639	197,166	547,268
237.00	72,750	1,192.0	70,358	267,524	551,568
238.00	78,790	1,220.0	75,750	343,274	557,076

Device	Routing	Invert	Outlet Devices
#1	Primary	232.10'	**36.0" Round Culvert** L= 75.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 232.10' / 230.10' S= 0.0267 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Primary OutFlow Max=45.84 cfs @ 12.42 hrs HW=235.41' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 45.84 cfs @ 6.48 fps)

Pond 2P: Existing Basin



APPENDIX B

CDS Water Quality Unit Performance

CONTECH ENGINEERED SOLUTIONS

9025 Centre Pointe Drive, Suite 400
West Chester, OH 45069
Phone: (513) 645-7000
Toll Free: (800) 338-1122
www.ContechES.com

Parameter Brief

Removal of Suspended Solids using the CDS® System – Laboratory Evaluations

The CDS® system is a hydrodynamic separator which uses patented continuous deflective separation (CDS) technology to separate and capture trash, debris, sediment and oil and grease from stormwater runoff. Indirect screening allows for 100% removal of floatables and neutrally buoyant material without blinding the screen. Flow and screening controls separate captured solids and minimize resuspension of previously captured pollutants.

The CDS system can effectively capture 100% of particulate material, including trash and debris, greater than screen aperture size (2400 or 4700 microns). In addition, the CDS can remove medium and coarse sediments. A full-scale laboratory evaluation of the CDS system using test materials with various particle size distributions is summarized here.

Laboratory Study – Full-Scale Evaluation at University of Florida

A full-scale CDS unit (Model CDS2020-5B) was tested at the facility of University of Florida, Gainesville, FL. This full-scale CDS unit was evaluated under controlled laboratory conditions of pumped influent and the controlled addition of sediment.

Two different gradations of silica sand material (UF Sediment & OK-110) were used in the CDS performance evaluation. The particle size distributions (PSD) of the test materials were analyzed using standard method "Gradation ASTM D-422 with Hydrometer" by a certified laboratory. UF Sediment is a mixture of three different U.S. Silica Sand products referred as: "Sil-Co-Sil 106", "#1 DRY" and "20/40 Oil Frac". Particle size distribution analysis shows that the UF Sediment has a very fine gradation (d_{50} = 20 to 30 µm) covering a wide size range (uniform coefficient C_u averaged at 10.6). In comparison with the hypothetical TSS gradation specified in the NJDEP (New Jersey Department of Environmental Protection) and NJCAT (New Jersey Corporation for Advanced Technology) protocol for lab testing, the UF Sediment covers a similar range of particle size but with a finer d_{50} (d_{50} for NJDEP is approximately 50 µm) (NJDEP, 2003). The OK-110 silica sand is a commercial product of U.S. Silica Sand. The particle size distribution analysis of this material, also included in Figure 1, shows that 99.9% of the OK-110 sand is finer than 250 microns, with a mean particle size (d_{50}) of 106 microns. The PSDs for the test material are shown in Figure 1.

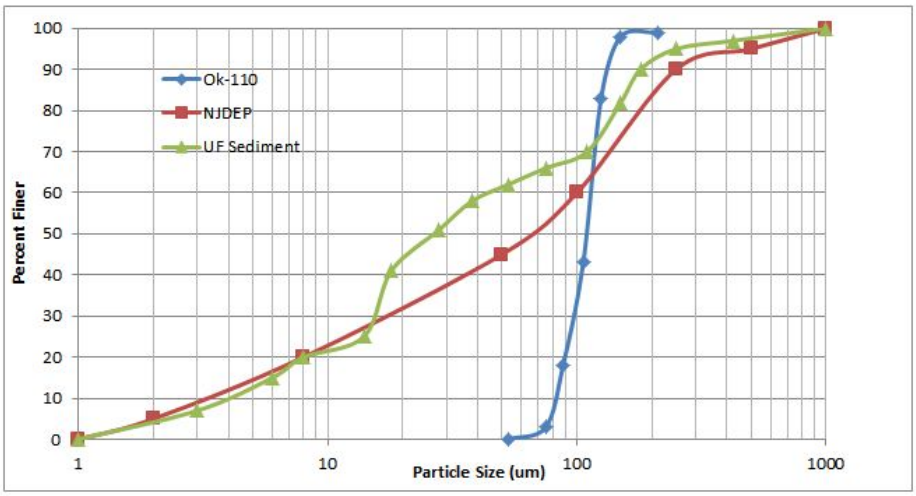


Figure 1. Particle size distributions for the test materials, as compared to the NJCAT/NJDEP theoretical distribution.

Tests were conducted to quantify the CDS unit (1.1 cfs design capacity) performance at various flow rates, ranging from 1% up to 125% of the design capacity of the unit, using the 2400 micron screen. All tests were conducted with controlled influent concentrations approximately 200 mg/L. Effluent samples were taken at equal time intervals across the entire duration of each test run. These samples were then processed with a Dekaport Cone sample splitter to obtain representative sub-samples for Suspended Sediment Concentration (SSC – ASTM Standard Method D3977-97) and particle size distribution analysis.

Results and Modeling

Based on the testing data from the University of Florida, a performance model was developed for the CDS system. A regression analysis was used to develop a fitting curve for the scattered data points at various design flow rates. This model, which demonstrated good agreement with the laboratory data, can then be used to predict CDS system performance with respect to SSC removal for any particle size gradation assuming sandy-silt type of inorganic components of SSC. Figure 2 shows CDS predictive performance for two typical particle size gradations (NJCAT gradation and OK-110 sand).

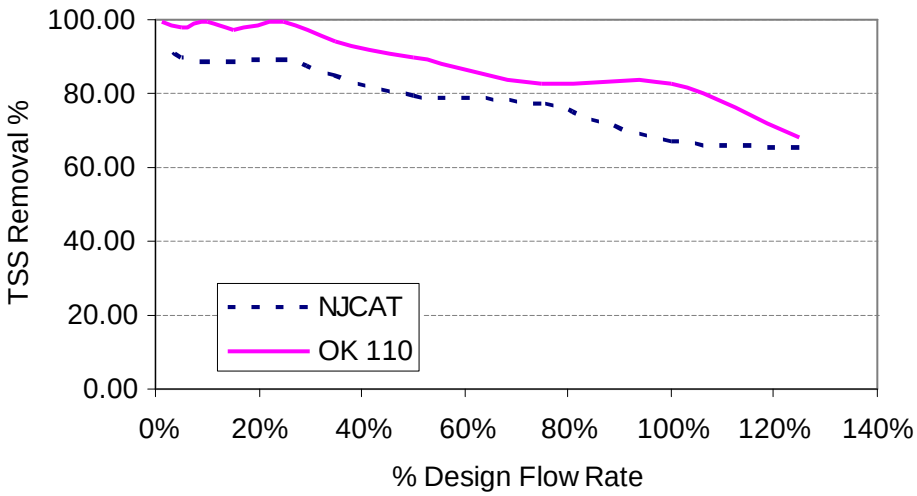


Figure 2. CDS stormwater treatment predictive performance for various particle gradations as a function of operating rate.

Many regulatory jurisdictions set a performance standard for hydrodynamic devices by stating that the devices shall be capable of achieving an 80% removal efficiency for particles having a mean particle size (d_{50}) of 125 microns (WADOE, 2008). The model can be used to calculate the expected performance of such a PSD (shown in Figure 3). Supported by the laboratory data, the model indicates (Figure 4) that the CDS system with 2400 micron screen achieves approximately 80% removal at 100% of design flow rate, for this particle size distribution (d_{50} = 125 µm).

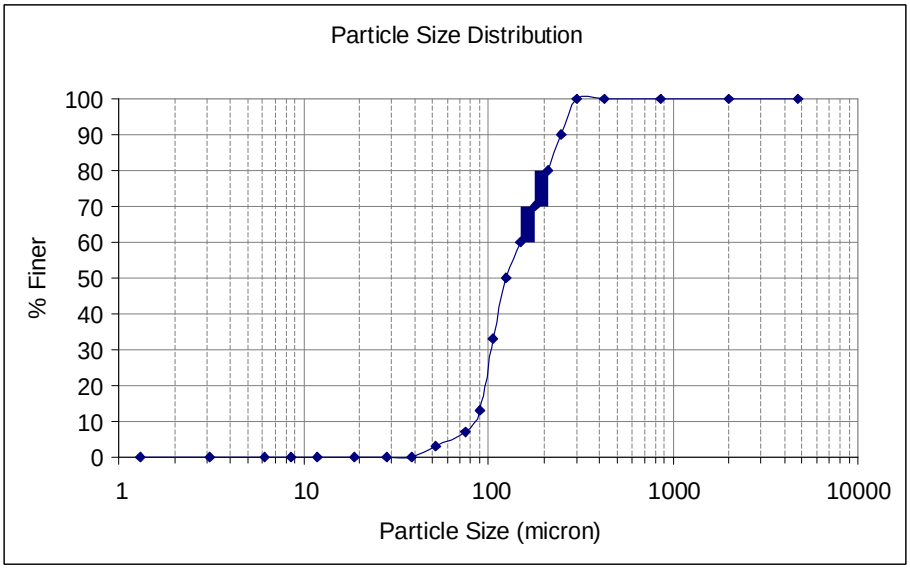


Figure 3. PSD with d_{50} = 125 microns, used to model performance for Ecology submittal.

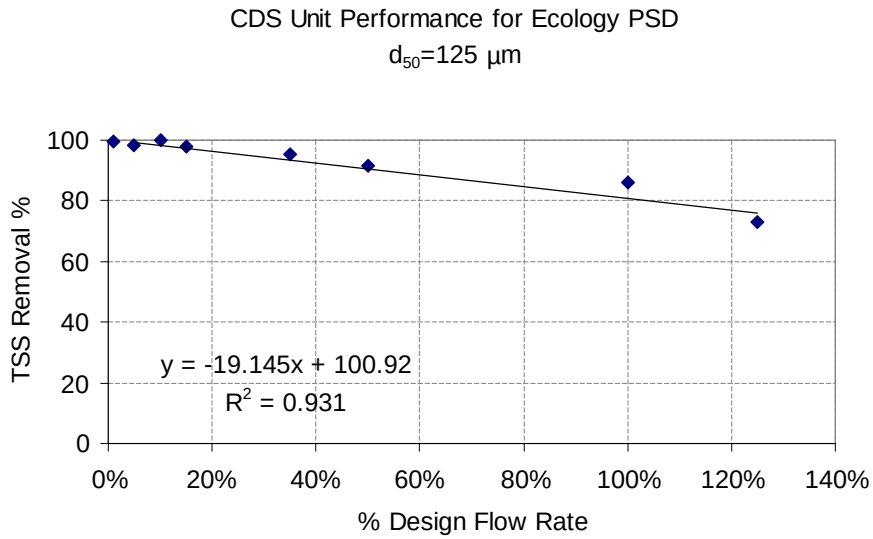


Figure 4. Modeled performance for CDS unit with 2400 microns screen, using Ecology PSD.

References:

New Jersey Department of Environmental Protection (NJDEP). (2003). Total Suspended Solids Laboratory Testing Procedures (December 23, 2003).

Washington State Department of Ecology (WADOE). (2008). Guidance for Evaluating Emerging Stormwater Treatment Technologies: Technology Assessment Protocol—Ecology (TAPE) (Publication Number 02-10-037). Olympia, Washington: Author. Available Online: www.ecy.wa.gov/biblio/0210037.html

CONTECH ENGINEERED SOLUTIONS

Parameter Brief

The CDS® Unit for Removal of Oil and Grease

The CDS system is a hydrodynamic separator which uses patented continuous deflective separation (CDS) technology to separate and trap debris, sediment and oil and grease from stormwater runoff. Indirect screening allows for 100% removal of floatables and neutrally buoyant material without blinding. Flow and screening controls separate captured solids and minimize resuspension of previously captured pollutants.

Oil and grease (O&G) are commonly found in stormwater runoff from automobiles and associated anthropogenic activities. O&G appear in many different forms in stormwater runoff: free, dissolved, emulsified, and attached to sediments. Total Petroleum Hydrocarbons (TPH) is the usual analytical measure of fuels, oil and grease (O&G) for stormwater. Typically the concentrations of TPH associated with runoff from streets and parking lots range from 2.7 to 27 mg/l (FHWA, 1996). The Oregon Association of Clean Water Agencies (ACWA) reports O&G levels for runoff from different land uses for the period of 1991 – 1996, as shown in Table 1.

Table 1. O&G levels from different land uses.

Land Use	Median (mg/L)	Range (mg/L)
Residential	1.2	ND - 12.6
Commercial	2.4	ND – 18
Industrial	2.0	ND – 107.6 (12 mg/l next highest)
Mixed	1.0	ND –28

CDS units can be equipped with a conventional oil baffle to capture and retain oil, grease, and other TPH pollutant as they are transported through the storm drain system during wet weather (stormwater) and dry weather (spills) flows. In addition, CDS units with the addition of oil sorbents can ensure the permanent removal of the free oil and grease from stormwater runoff. Laboratory investigations into the CDS unit's removal of oils and greases are summarized below.

Laboratory Studies – CDS Unit at Portland State University, 2003

In 2003, Slominski and Wells at Portland State University conducted tests on a CDS Model 20_20 unit equipped with a 2400 micron screen and oil baffle. Tests were conducted at 25, 50 and 75 percent of the unit's hydraulic capacity (500 gpm) for the removal of used motor oil with influent concentrations of 10, 25 and 50 mg/L. A summary of the test is shown in Table 2 (Slominski and Wells, 2003).

Table 2. Summary of oil and grease tests (Slominski and Wells, 2003).

Flow Rate (gpm)	Influent Conc. (mg/L)	Average Effluent Conc. (mg/L)	Removal Efficiency (%)
125	7.2	3.5	51
125	18.3	1.5	92
125	46.2	3.5	92
250	9.9	2	80
250	22.8	5	78
250	45.6	7.5	84
375	10.5	7.5	29
375	21.9	16	27
375	46.9	27	42

Laboratory Studies – CDS Unit Oil Spill Test at Portland State University, 2003

In addition to the regular capture test performed to measure the removal of free oil and grease from stormwater, Slominski and Wells (2003) also performed an oil spill test. The unit performed extremely well in the oil spill test, with the peak oil concentration in the effluent occurring right as the addition of oil to the unit stopped. This showed a capture rate of more than 99.75% of the oil dumped into the unit (82,000 mg/L). This demonstrates that a CDS unit would be a very effective means of containing an oil spill. An oil storage capacity chart for the CDS unit is available on request.

Laboratory Study – CDS Unit with Sorbents at University of California, Los Angeles (UCLA)

Studies by Stenstrom and Lau (1998) at UCLA demonstrated that the CDS unit with sorbents can achieve 80 to 90 percent removal of oil and grease at influent concentrations ranging from 13.6 mg/L to 41.1 mg/L. Test results showed that the effluent oil and grease concentrations were less than 10 mg/L.

A series of nine laboratory experiments were performed on a CDS unit (Model PMSU20_15) to determine its ability to remove free oil and grease using sorbents (Stenstrom and Lau, 1998). One control experiment was performed without sorbents. The focus of this study was to evaluate the effectiveness of various sorbent materials to control the typically low concentrations of free oil and grease found in urban stormwater runoff when applied within the separation chamber of a CDS unit. The conventional oil baffle was not installed within the CDS unit during this evaluation. The sorbents were allowed to float on the surface of the separation chamber of the CDS device. Different amounts of each sorbent were used because of the varying properties of the sorbents (density and surface area).

Tests were performed using a 2400-micron screen over 30 minutes at 125 gpm (approximately 40% of the CDS unit's nominal flow capacity). Used motor oil (Specific Gravity = 0.86) was introduced into the feed of the CDS at approximately 25 mg/L, which is generally the upper limit of oil and grease concentrations found in stormwater runoff. Oil and grease were measured at various times (influent/effluent) to determine the

removal efficiency. Background oil and grease was measured as well as oil and grease released from the sorbents after the influent oil and grease was reduced to zero.

Five commercially available sorbents were evaluated. Two sorbents were found particularly effective and they are:

- OARS™ (AbTech Industries, 4110N. Scottsdale Rd., Suite 235, Scottsdale, AZ 85251)
- Rubberizer™ (Haz-Mat Response Technologies, Inc., 4626 Santa Fe Street, San Diego, CA 92109)

Results from the sorbent laboratory study (Stenstrom and Lau, 1998) are shown in Table 3.

Table 3. Performance of Oil and Grease Removal of CDS Units.

Test No.	Sorbent Type	Sorbent Mass (g)	Influent (mg/L)	Effluent (mg/L)	Percent Removal	Flow (gpm)
2	OARS	2600	19.6	2.7	86	125
3	OARS	2600	24.0	4.3	82	190
4	OARS	2600	30.7	1.7	94	75
5	OARS	2600	21.0	3.5	83	125
6	Rubberizer	1030	27.2	3.9	86	125

Effluent concentration of oil using the OARS™ sorbent was less than 1.0 mg/L. Effluent concentration of oil using the Rubberizer™ sorbent was 1.96 mg/L.

References:

Federal Highway Association. (1996). Evaluation and Management of Highway Runoff Water Quality. Publication No. FHWA-PD-96-032.

Slominski and Wells. (2003). Oil and Grease Removal using Continuous Deflection Separation with and Oil Baffle. Portland, Oregon: Author.

Stenstrom, M. K. and Sim-Lin Lau. (1998). Oil and Grease Removal by Floating Sorbent in a CDS Device. Los Angeles.

APPENDIX C

Copies of Existing Permits, Covenants and Restrictions

RESCISSION OF COVENANT REGARDING PARKING CONSTRUCTION TIMING

112 Barnum Road, Harvard
Devens Regional Enterprise Zone, Massachusetts

2015 00046164
Bk: 53751 Pg: 283
Page: 1 of 3 05/22/2015 11:05 AM WD

DEVENS ENTERPRISE COMMISSION

This Rescission of Covenant Regarding Parking Construction Timing (this "Rescission") is made as of May 21, 2015, by and between 112 Barnum Road, LLC ("Applicant") and the Devens Enterprise Commission ("DEC") with respect to the following facts and circumstances:

A. Applicant and DEC executed and delivered that certain Covenant Regarding Parking Construction Timing, which was recorded on May 21, 2015 in the Worcester County Registry of Deeds in Book 53747, Page 238 as Instrument No. 2015-00045819 (the "First Covenant").

B. Applicant and DEC also executed and delivered that certain Covenant Regarding Parking Construction Timing, which was recorded on May 21, 2015 in the Worcester County Registry of Deeds in Book 53749, Page 56 as Instrument No. 2015-00045969 (the "Second and Proper Covenant").

C. The execution, delivery and recordation of the First Covenant were erroneous because the First Covenant was not in the form that had been agreed upon by Applicant and DEC.

D. Applicant and DEC wish to rescind the First Covenant, as more particularly provided herein.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which hereby are acknowledged, Applicant and DEC agree and declare as follows:

1. Rescission of First Covenant. Applicant and DEC hereby rescind the First Covenant and declare that it is void *ab initio*, and of no force or effect.

2. Reaffirmation of Second and Proper Covenant. Applicant and DEC hereby reaffirm the Second and Proper Covenant, and agree that it is and shall be in force to the full extent provided therein, as if the First Covenant never had been executed, delivered and/or recorded.

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3

For corporate authority see Clerk's Certificate at Worcester County Registry of Deeds, Book 53747, Page 237.

EXECUTED under seal as of the day and year first above written.

112 Barnum Road, LLC

By_____
Name: William Morley
Title: Authorized Representative

APPROVED AND ACCEPTED:

DEVENS ENTERPRISE COMMISSION

By: _____
Peter Lowitt

THE COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss.

On this 22 day of May 2015, before me, the undersigned notary public, personally appeared William L. Mantey, proved to me through satisfactory evidence of identification, which was ☐ photographic identification with signature issued by a federal or state governmental agency, ☐ oath or affirmation of a credible witness, ☒ personal knowledge of the undersigned, to be the person whose name is signed on the preceding or attached document(s), and acknowledged to me that he signed it voluntarily for its stated purpose as Authorized Representative of 112 Barnum Road, LLC.

(*official seal*)

Jennifer L. Bresette
Notary Public
My commission expires: July 17, 2020

JENNIFER L. BRESETTE
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
July 17, 2020

THE COMMONWEALTH OF MASSACHUSETTS

Worcester, ss.

On this 22 day of May 2015, before me, the undersigned notary public, personally appeared Peter Lowitt, proved to me through satisfactory evidence of identification, which was ☐ photographic identification with signature issued by a federal or state governmental agency, ☐ oath or affirmation of a credible witness, ☑ personal knowledge of the undersigned, to be the person whose name is signed on the preceding or attached document(s), and acknowledged to me that he signed it voluntarily for its stated purpose as Land Use Administrator of the Devens Enterprise Commission.

(*official seal*)

Kathryn Clisham
Notary Public
My commission expires: March 16, 2018

KATHRYN CLISHAM
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 16, 2018

2015 00045969
Bk: 53749 Pg: 56
Page: 1 of 6 05/21/2015 03:19 PM WD

COVENANT REGARDING PARKING CONSTRUCTION TIMING

112 Barnum Road
Devens Regional Enterprise Zone, Massachusetts

DEVENS ENTERPRISE COMMISSION

KNOW ALL MEN BY THESE PRESENTS that whereas 112 Barnum Road, LLC, a Delaware limited liability company having a principal place of business at c/o Calare Properties, Inc., 43 Broad Street, Hudson, MA ("Applicant"), is the owner of land located at 112 Barnum Road, Devens, MA ("Premises") for which an application was filed with the Devens Enterprise Commission ("DEC") for a Unified Permit, which permit has been issued by the DEC (see Record of Decision for 112 Barnum Road, LLC April 3, 2014 recorded in the Worcester County Registry of Deeds in Book 53663, Page 42 ["ROD"]) for a project shown on a set of plans entitled "Plans to Accompany Level II Permit Modification, dated February 5, revised through March 12, 2014, prepared by Kelly Engineering Group, Inc. ("Plan"); which Plan provides for proposed reserve spaces;

* Harvard

NOW, THEREFORE, WITNESSETH that in consideration of the DEC's granting said Unified Permit without requiring a performance guarantee and without requiring all of the parking spaces that would otherwise be required under Article XIV, Sections B and C of the Devens By-Laws, and in consideration of One Dollar in hand paid, receipt whereof is hereby acknowledged, the undersigned covenants and agrees with the DEC as follows:

1. This Covenant shall run with the land and shall be binding upon the successors and assigns of the Applicant as owner of the Premises. It is the intention of the Applicant and the DEC, and it is hereby understood and agreed, that this Covenant shall operate as a restriction upon the Premises until full completion of all reserve parking and associated amenities in accordance with the final endorsed Plan and written confirmation from the DEC or its successor (which confirmation shall not be unreasonably withheld, conditioned, or delayed).

2. The Applicant represents and covenants that it is the owner in fee simple of the Premises and there are no mortgages of record or otherwise on the Premises as of the date hereof, except for a mortgage from UniBank for Savings dated December 21, 2012, recorded in the Worcester County Registry of Deeds in Book 50167, Pages 286.

3. Pursuant to 974 CMR 3.04(3)(a)(6) and Condition 20 of the ROD, the Applicant shall construct the proposed reserve spaces when there is insufficient parking on the Premises ("Insufficient Parking"). Insufficient Parking is defined as:

   a. Parking for the Premises regularly or frequently occurring in areas not designated as parking spaces on the Plan AND all of the designated parking spaces are occupied; or

b. Parking for the Premises becoming a nuisance within the community by regularly or frequently overflowing into public roadways or obstructing public safety AND all of the designated parking spaces are occupied.

At a time that the Applicant or DEC determines there is Insufficient Parking within the Premises, the Applicant shall make plans to provide the proposed reserve spaces as shown on the Plan, subject only to Site Plan Review by the DEC.

4. Within 60 days of written notice to the Applicant by the DEC that there is Insufficient Parking, the Applicant shall seek, pursuant to 974 CMR 1.03, Site Plan Review of such reserve spaces shown on the Plan. The Applicant shall construct such parking in accordance with the requirements of the Unified Permit and any amendments that may be approved by the DEC.

5. No buildings or permanent accessory structures are allowed on the area shown on the Plan as "proposed reserve spaces".

6. This Covenant shall take effect upon the endorsement of the Plan and shall be recorded with the Worcester County Registry of Deeds; appropriate marginal reference shall be placed on said Plan making reference to this Covenant. This Covenant shall expire upon completion of proposed reserve spaces and associated amenities in accordance with the Plan and written confirmation from the DEC or its successor (which confirmation will not be unreasonably withheld, conditioned, or delayed).

7. All notices required or permitted to be given hereunder shall be in writing and delivered by hand, by recognized national overnight courier service, or mailed postage prepaid, by registered or certified mail, addressed as follows:

If to Applicant: 112 Barnum Road, LLC
c/o Calare Properties, Inc.
Attn: William Manley
43 Broad Street
Hudson, MA 01749

With a copy to: 112 Barnum Road, LLC
c/o Hackman Capital Partners, LLC
Attn: Michael D. Hackman
11111 Santa Monica Boulevard, Suite 1100
Los Angeles, CA 90025

With a copy to: John A. Rosenfeld, Esq.
Post Office Box 1308 (mail)
120 N. Topanga Canyon Blvd., Suite 203 (delivery)
Topanga, CA 90290

If to DEC: Devens Enterprise Commission
33 Andrews Parkway
Devens, MA 01433
Attn: Land Use Administrator

For corporate authority see Clerk's Certificate at Worcester County Registry of Deeds, Book 53747, Page 237.

EXECUTED under seal as of the day and year first above written.

112 Barnum Road, LLC

By_____
Name: William Mantyla
Title: Authorized Representative

APPROVED AND ACCEPTED:

DEVENS ENTERPRISE COMMISSION

By: _____
Peter Lowitt

THE COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss.

On this 21 day of May 2015, before me, the undersigned notary public, personally appeared William U. Manley, proved to me through satisfactory evidence of identification, which was ☐ photographic identification with signature issued by a federal or state governmental agency, ☐ oath or affirmation of a credible witness, ☒ personal knowledge of the undersigned, to be the person whose name is signed on the preceding or attached document(s), and acknowledged to me that he signed it voluntarily for its stated purpose as Authorized Representative of 112 Barnum Road, LLC.

(*official seal*)

Jennifer L. Bresette
Notary Public
My commission
expires: July 17, 2020

JENNIFER L. BRESETTE
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
July 17, 2020

THE COMMONWEALTH OF MASSACHUSETTS

Worcester, ss.

On this 21 day of May 2015, before me, the undersigned notary public, personally appeared Peter Lowitt, proved to me through satisfactory evidence of identification, which was ☐ photographic identification with signature issued by a federal or state governmental agency, ☐ oath or affirmation of a credible witness, ☑ personal knowledge of the undersigned, to be the person whose name is signed on the preceding or attached document(s), and acknowledged to me that he signed it voluntarily for its stated purpose as Land Use Administrator of the Devens Enterprise Commission.

(*official seal*)

Kathryn Clisham
Notary Public

My commission
expires: March 16, 2018

KATHRYN CLISHAM
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 16, 2018

SUBORDINATION AND CONSENT

For consideration paid, a Vice President of UniBank for Savings, the present holder of a* mortgage of real estate dated December 18, 2012, consents to the grant of this Covenant and subordinates said security instrument to the Covenant set forth above, and agrees that such Covenant shall have the same status, force, and effect as though executed and recorded before the execution of said security instrument.

IN WITNESS WHEREOF, the said Vice President has caused its corporate seal to be affixed and these presents signed, acknowledged, and delivered in its name and behalf by UniBank for Savings, its Vice President duly authorized this day 18th of May, 2015.

*Book 50167
Page 286

UniBank for Savings

By _____
Steven G. Anderson,
Vice President

THE COMMONWEALTH OF MASSACHUSETTS

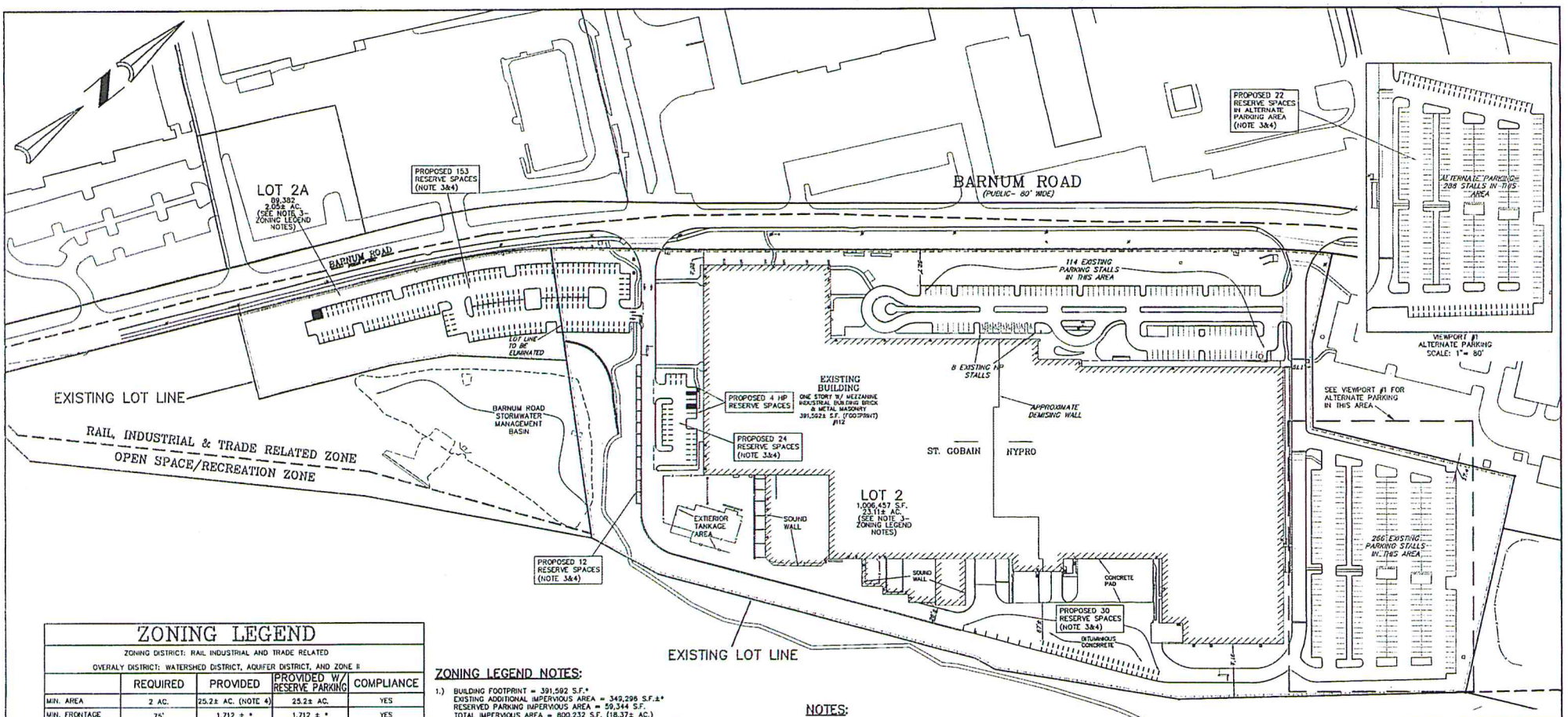
Worcester, ss.

On this 18th day of May, 2015, before me, the undersigned notary public, personally appeared Steven G. Anderson, Vice President of UniBank for Savings, proved to me through satisfactory evidence of identification, which was ☐ photographic identification with signature issued by a federal or state governmental agency, ☐ oath or affirmation of a credible witness, ☒ personal knowledge of the undersigned, to be the person whose name is signed on the preceding or attached document(s), and acknowledged to me that he signed it voluntarily for its stated purpose as Vice President of UniBank for Savings.

(*official seal*)

_____
Notary Public
My commission expires: 8-13-2021

112 Barnum Road, Harvard (Devens), MA



ZONING LEGEND

ZONING DISTRICT: RAIL INDUSTRIAL AND TRADE RELATED

OVERALY DISTRICT: WATERSHED DISTRICT, AQUIFER DISTRICT, AND ZONE II

	REQUIRED	PROVIDED	PROVIDED W/ RESERVE PARKING	COMPLIANCE
MIN. AREA	2 AC.	25.2± AC. (NOTE 4)	25.2± AC.	YES
MIN. FRONTAGE	75'	1,712 ± *	1,712 ± *	YES
MIN. YARD -FRONT	25'	25'± *	25'± *	YES
-SIDE	10'	51.1'± *	51.1'± *	YES
-REAR	25'	91± *	91± *	YES
MAX. HEIGHT	75'	35'± *	35'± *	YES
MAX. IMPERVIOUS SURFACE RATIO	0.9	0.67 (NOTE 1)	0.73 (NOTE 1)	YES
PARKING TOTAL	609 (NOTE 2)	380± *	621	YES
-SIZE	9' x 18'	9' x 18'	9' x 18'	YES
-HANDICAP	8	8	12	YES
PARKING SETBACK				
-FRONT	25'	62.7'± *	25'±	YES
-SIDE	0'	17.4'± *	17.4'± *	YES
AISLE WIDTH	24'	24'	24'	YES

ZONING LEGEND NOTES:

1.) BUILDING FOOTPRINT = 391,592 S.F.*
EXISTING ADDITIONAL IMPERVIOUS AREA = 349,296 S.F.±*
RESERVED PARKING IMPERVIOUS AREA = 59,344 S.F.
TOTAL IMPERVIOUS AREA = 800,232 S.F. (18.37± AC.)
IMPERVIOUS SURFACE RATIO = 18.37± AC. / 25.2± AC. = 0.73

2.) REQUIRED PARKING:
MANUFACTURING =152,231 S.F. X 2/1,000 S.F. =304.6 SPACES
ACCESSORY USES
OFFICE =65,758 S.F. X 1/1000 S.F. =65.7 SPACES
STORAGE/ WAREHOUSE =104,880 S.F. X 1/1000 S.F. =104.8 SPACES
MECHANICAL =33,737 S.F. X 1/1000 S.F. =33.7 SPACES
CORRIDOR/ CIRCULATION =34,986 S.F. X 1/1000 S.F. =34.9 SPACES
MEZZANINE SPACE =65,523 S.F. X 1/1000 S.F. =65.5 SPACES
TOTAL= 609.2 (609 SPACES)

(THE MEZZANINE WILL NO LONGER BE NEEDED FOR MANUFACTURING OR WAREHOUSE SPACE AND WILL BE REMOVED FROM THE USABLE FLOOR SPACE.)

4.) LOT 2A & 2 ARE TO BE COMBINED.

* INFORMATION AS SHOWN ON "DN2 - CIVIL PHASE 2 SITE IMPROVEMENTS PLAN SECTOR 02" BY CH2M HILL, APPROVED BY THE DEVENS ENTERPRISE COMMISSION ON 05/27/08 AND OBTAINED FROM PLAN ENTITLED "ALTA/ASCM LAND TITLE SURVEY PLAN OF LAND IN DEVENS(HARVARD), MASSACHUSETTS" BY THE BSC GROUP, INC. DATED MAY 27, 2010; STAMPED DRAFT 06/01/2010.: INFORMATION USED TO FILL IN EXISTING ZONING INFORMATION THAT WAS NOT INCLUDED IN PLAN ABOVE.

NOTES:

1. THIS PROJECT WILL NOT IMPACT PARKING OR CHANGE TRAFFIC VOLUMES OR CIRCULATION PATTERNS.
2. A) EXISTING OR PROPOSED USE WILL NOT GENERATE ELECTROMAGNETIC INTERFERENCE TO ANY SENSITIVE RECEPTOR. INTERFERENCE WITH THE HARVARD-SMITHSONIAN RADIO TELESCOPE (1400-1720 MHz) IS SPECIFICALLY PROHIBITED.

   B) PROPOSED OR EXISTING USE WILL NOT CAUSE PRONOUNCED, MULTIPLE PATTERNS OF NOISE OR VIBRATION NUISANCE TO, OR INTERFERE WITH, ANY SENSITIVE RECEPTOR.

   C) A MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) AIR QUALITY PERMIT IS NOT REQUIRED.
3. NO BUILDING OR PERMANENT ACCESSORY STRUCTURE SHALL BE PLACED WITHIN AREAS DESIGNATED AS PROPOSED RESERVE SPACES.
4. PROPOSED RESERVE SPACES ARE SUBJECT TO A "COVENANT REGARDING PARKING CONSTRUCTION TIMING" TO BE RECORDED AT THE WORCESTER REGISTRY OF DEEDS.

GRAPHIC SCALE

(IN FEET)
1 inch = 80 ft.

"I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMANCE WITH THE RULES AND REGULATIONS OF THE REGISTRY OF DEEDS"

STEVEN M. HORSFALL P.L.S. DATE 5-19-15

APPROVED: DATE: 5-21-15
LUA
DEVENS ENTERPRISE COMMISSION CHAIRMAN

SCALE 1"= 80'				
DATE 02/05/14	1	03/12/14	PER D.E.C. REVIEW	
	REV	DATE	REVISION	BY
SHEET 4 OF 4				
PLAN NO. 2012-012-LA05				
DISK REF NO. F:\P\2012-012				
DRAWN BY CA				
CHKD BY DAM				
APPD BY DMK				

CALARE PROPERTIES, INC.
112 BARNUM RD.
(HARVARD) DEVENS, MA

ZONING & RESERVE PARKING PLAN

SHEET NO. 4

KELLY ENGINEERING GROUP, INC.
CIVIL ENGINEERING CONSULTANTS
0 CAMPANELLI DRIVE · BRAINTREE MA · 02184
PHONE: 781 843 4333 FAX: 781 843 0028

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Record of Decision
112 Barnum Road, LLC
110-112 Barnum Road (22-17-601 & 27-17-500)
(Harvard) Devens MA
Unified Permit for Earth Removal and Partial Sound Wall Removal
March 7, 2013

Deed Ref. 4/11/12 Book 48805 page 112

1. **Applicant:**
The Applicant is Robert Maloney of Calare Properties, 43 Broad Street, Hudson, MA 01749. The landowner is 112 Barnum Road, LLC, c/o Hackman Capital Partners LLC, 1111 Santa Monica Boulevard, Suite 750, Los Angeles, CA 90025.

2. **Premises and Proposed Project:**
The applicant is seeking Unified Permit for site plan approval in order to remove approximately 10,000 cubic yards of earth material on an existing 2+ acre parcel located at 110 Barnum Road – 22-17-601 (aka Lot 2A) and restore the site by replacing the existing screen/berms and landscape plantings with new berms and plantings. The Applicant is also seeking approval to remove a portion of the previously constructed sound wall in the rear of the facility and all associated equipment behind that portion of the sound wall located at 112 Barnum Road – 27-17-500 (aka Lot 2). The proposed project is located within the Rail, Industrial and Trade Related Uses District and Zone 2 Water Resources Protection Overlay District. Both parcels are in compliance with the minimum requirements of 2 acres of land area and 100 feet of frontage as per the Devens Bylaws.

3. **Submission:**
The following is a list of exhibits included as part of the record for this Application:
1. Level 2 Unified Permit Application (D13-003) dated 1-10-13.
2. Cover Letter Dated January 8, 2013 from David Mackwell of Kelly Engineering, to Peter Lowitt, Re: Earthwortk Permit Application, 112 Barnum Road, Devens, MA (3 pages)
3. Geotechnical Test Pit Investigation Report for Lot 2A Parking Lot 112 Barnum Road, Devens, MA, dated July 11, 2012 from Whitney Parker of Yankee Engineering and Testing, Inc. (16 pages)
4. Plans entitled "Plan to Accompany Earthwork Permit for 112 Barnum Road Devens, MA", dated January 8, 2013, prepared by Kelly Engineering Group, Inc., 0 Campanelli Drive, Braintree, MA 02184, including the following sheets:
   - Sheet 1 – Cover Sheet, dated 1/8/13
   - Sheet 2 – Overall Devens Plan, dated 1/8/13
   - Sheet 3A – Existing Conditions Plan, dated 1/8/13
   - Sheet 3B – Existing Conditions Plan, dated 1/8/13
   - Sheet 4 – Site Plan, dated 1/8/13; revised through 2/14/13
   - Sheet 5 – Detail Sheet, dated 1/8/13
   - Sheet L1 – Site Planting Plan, dated 3/912, revised through 2/15/13, by Hawk Design, Inc.
   - Sheet D1 –Planting Detail, dated 3/912, revised through 2/15/13, by Hawk Design, Inc.
   - Sheet D2 –Planting Notes, dated 3/912, revised through 2/15/13, by Hawk Design, Inc.
5. Determination of Completeness Issued January 14, 2013.
6. Public Hearing Notice Memo to Town Clerks of Ayer, Harvard, Shirley, Lancaster and MassDevelopment, from Peter Lowitt, dated January 14, 2013;

7. Public Hearing Legal Notice e-mail to Nashoba Publications, from Peter Lowitt, dated January 23, 2013 – to be published February 1 and 8, 2013.
8. Copies of Legal notices from February 1 and 8, 2013from Ayer Public Spirit.
9. Public Hearing Notice emailed to Community Service Cable Committee, from Peter Lowitt/Kate Clisham, dated February 7, 2013;
10. Memo dated January 14, 2013 from Peter Lowitt to Towns of Ayer, Harvard and Shirley Board of Selectman and Planning Offices; Subject: Level 2 Unified Permit Application – 112 Barnum Road (notification of Public Hearing on February 26, 2013 at 6:45PM);
11. Memo dated January 18, 2013 from Peter Lowitt to Abutters and Interested Parties; Subject: Level 2 Unified Permit Application – 112 Barnum Road (notification of Public Hearing on February 26, 2013 at 6:45PM);
12. Public Hearing Notice to Secretary of State, from Peter Lowitt, dated February 7, 2013;
13. Certified Mail Return Receipts for application and plan deliveries to Ayer, Harvard and Shirley, received by towns on January 15, 2013. Certified Mail return receipts for public hearing notices to all abutters – various dates.
14. Staff Report dated 2-22-13 Re: 112 Barnum Road Unified Permit for Soil and Partial Sound Wall Removal, prepared by Peter Lowitt;
15. Certified List of Abutters from Devens Board of Assessors, dated January 17, 2013
16. Memo to MassDevelopment and CRJA, from Neil Angus, re: 112 Barnum Road, LLC – Soil Relocation/Sound Partial Sound Wall Removal Plan Circulation; dated January 11, 2013;
17. Powerpoint presentation from David Mackwell (6 slides) from Pubic Hearing, dated 2-26-13;
18. Proposed Soil relocation Truck Route Map, from David Mackwell, dated 2-26-13;
19. Quit Claim Deed for Lot 2A (Bk 48805 Pg. 133);
20. Landscape Design Peer Review Comment letter from Ruth Loetterle, dated January 25, 2013 (4 pages);
21. Supplemental Information letter from David Mackwell, Kelly Engineering, to Peter Lowitt, dated 2-21-13 (2 pages);
22. Copy of Devens Soil Management Policy;
23. Landscape Design Peer Review Comment letter (2nd Round) from Ruth Loetterle, dated February 22, 2013 (3 pages);
24. DEC review Project review/comment letter dated January 29, 2013 from Neil Angus to David Mackwell (2 pages);
25. Project Review Comment letter from John Marc-Aurele, MassDevelopment, to Peter Lowitt, dated January 25, 2013 (1 page);
26. Waiver withdraw letter dated February 22, 2013, from David Mackwell to Peter Lowitt. (1 Page);
27. Response to Comments letter from David Mackwell to Peter Lowitt, dated February 15, 2013 (3 pages)
28. E-mail correspondence as follows:

Date	From	To	Subject
1/25/13	Chief Le Blanc	Neil Angus	RE: 112 Barnum Road Project
1/15/13	Ron Ostrowski	Neil Angus	112 Barnum Road United Permit – Plan Circ.
2/25/13	Neil Angus	David Mackwell	FW: 112 Barnum Landscape Review
2/25/13	Neil Angus	David Mackwell	FW: Barnum Rd Calare (Wood Chip Path)
2/15/13	David Mackwell	Neil Angus	Kelly Response to Comments 2-15-13
2/15/13	Neil Angus	David Mackwell	RE:
2/25/13	John Marc-Aurele	David Mackwell	RE: 112 Barnum Road

Date	From	To	Subject
1/15/13	John Marc-Aurele	Neil Angus	RE: 112 Barnum Road Unitied Permit- Plan Circulation
2/25/13	Ruth Loetterle	Neil Angus	Re: 112 Barnum Road Landscape Review
2/15/13	Neil Angus	David Mackwell	RE: RE
1/29/13	Neil Angus	David Mackwell	Soil Sound Wall Removal Comments
1/24/13	David Mackwell	Peter Lowitt	RE: 112 Barnum Road DOC Comments
3/4/13	David Mackwell	Neil Angus	Re: Soil Testing Recommended

4. Unified Permit Components and Actions:

The Unified Permit request includes site plan approval for earth removal activities and associated landscaping and stabilization on property located at 110 Barnum Road – 22-17-601 (aka Lot 2A) as well as removal of a portion of an existing sound wall on 27-17-500 (aka Lot 2) – an existing +/- 23 acre parcel at 112 Barnum Road.

5. Process:

The application was submitted on January 10, 2013 and a Determination of Completeness was issued on January 14, 2013. Copies of the application were received by the surrounding Towns on January 15, 2013. Legal notices were placed in Nashoba Publications on February 1 and 8, 2013. All abutting property owners were duly notified by certified mail. The 30-day Town comment period expired on February 14, 2013. No comments were received. The 75 day review period ends on March 30, 2013. The Public Hearing opened on February 26, 2013 and was continued to and closed on March 7, 2013.

6. Waivers

No waivers were requested as part of this Application.

7. Findings

The DEC made the following findings:

1. The proposed activities are temporary in nature and are allowed within the Rail, Industrial and Trade Related Uses District.
2. The existing lot size and frontage are in accordance with the minimum requirements for development in the Rail, Industrial Trade Related Uses District in which it is located.
3. Regarding the approval criteria listed in 974 CMR 3.03(2):
   (a) The Site Plan, with conditions, complies with 974 CMR 3.00 and with the applicable provisions of the By-Laws.
   (b) The development lies on a lot that is recorded at the Registry of Deeds;
   (c) The application is Complete.
   (d) All drives, parking lots, loading areas, paths, sidewalks, and streets are designed to provide for safe vehicular and pedestrian travel.
   (e) Access and site circulation will enable prompt fire, police, and emergency response.
   (f) Adequate capture, treatment, infiltration and discharge of stormwater and surface water runoff and compliance with applicable portions of the "Devens Stormwater Pollution Prevention Plan", has been achieved.

(g) Connections with utility, power and communication systems available in the abutting infrastructure currently exist and were approved by the Mass Development Managers of Engineering and Utilities.

(h) Facilities required under the Water Resources Protection Bylaw and the related Design Standards have been included.

(i) The plans, with conditions, are in compliance with the Landscaping Design Standards for plant materials, planting strips, screening, and preservation of existing specimen trees and wooded areas.

(j) A Wetlands Order of Conditions is not required for this site.

(k) Industrial Performance Standards will be adhered to as per the final plans and the conditions of approval.

(l) Sufficient parking for current use already exists (384 spaces).

(m) Traffic control measures will be implemented as part of the earth removal operations as necessary.

(n) The proposed development is required to participate in the Devens traffic management association.

(o) Adequate water supply exists in terms of quantity, quality, and water pressure for domestic needs and fire protection.

(p) Connection to sanitary sewers is in place and authorized by Devens Utilities.

(q) Building designs meet the minimum standards as established by Mass Development for the district in which the lot is located.

8. Conditions:

The DEC voted to impose the following conditions:

1. Wherever "Applicant" is referenced in the Conditions set forth herein, it refers to the Applicant, its successors and assigns. Wherever "DEC" is referenced, it shall refer to the Devens Enterprise Commission, its successors and assigns.

2. Jackson Gate from Route Two shall be the primary means of truck access to and from the site on a permanent basis, with other gates to be used only in emergency situations or during protracted construction when the Jackson gate is unavailable. The Applicant shall coordinate the earth removal trucking operations with the Devens Public Safety Officer and implement any traffic controls/safety measures the Public Safety Officer may require.

3. In accordance with the Devens By-Laws, Article III, Section K 1, the Applicant shall comply with all requirements of the Devens Soil Management Policy and conduct the necessary soil testing and obtain the necessary authorizations from MassDevelopment, MA Department of Environmental Protection, prior to commencing earth removal activities. Copies of permits issued by those other than the DEC must be filed with the DEC. No material is authorized to be placed within 100 feet of any wetlands or watercourses.

4. Prior to commencing any intrusive earth work within Devens (due diligence, construction or otherwise) all personnel to be on site shall view an Unexploded Ordinance/Munitions of Explosive Concern (UXO/MEC) video briefing provided by the Devens Fire Department.

5. Prior to commencement of any earth removal activity, final plans shall be revised to include the following, to the satisfaction of the DEC, as determined at a public meeting:
   - Site plan for the receiving area detailing all earth removal and relocation activities as per 974 CMR 4.07, including, but not limited to truck routing, timing and duration, location of storage, method of containment and stabilization of fill material.
   - Cover Sheet location plan shall be modified to show Lot 2A as well as Lot 2.
   - Landscape plans shall be revised to include a space for the DEC Chairman's endorsement and date and fully comply with 974 CMR 3.00 and the Landscape Design Peer Review Comment letter (2nd Round) from Ruth Loetterle, dated February 22, 2013;
   - Plans shall conform to Worcester Registry recording requirements.

   Once the appeal period has expired, the Applicant shall submit final approved plans to the DEC for endorsement.

6. This approval does not include the future parking lot outlined on Lot 2A. The Applicant will be required to obtain a new Unified Permit for the development of any future parking on Lot 2A.

7. The Applicant shall provide As-Built Plans and accompanying information for all site improvements in accordance with the DEC As Built Policy, prior to issuance of a final Certificate of Occupancy.

8. The NOx/ASx sound wall is the only wall authorized to be removed (modifying 11/8/12 112 Barnum Road Loading Dock Unified Permit ROD condition #16). The Applicant shall remove all noise generating equipment from behind the portion of the sound wall being removed. No exterior placement or storage of materials/equipment is permitted in this area without prior approval from the DEC. The Applicant shall store the sound wall panels on-site for future use should they be necessary. All remaining sound walls, including the temporary noise wall at the gas off-loading area, shall be maintained at the same level of sound attenuation as present during the testing, at all times.

9. The Applicant shall conduct background noise measurements in accordance with the Background Sound Measurement and Analysis Protocol St. Gobain Crystals, March 13, 2012, prepared by Cavanaugh Tocci Associates, Inc. Results shall be submitted to the DEC along with a worst-case compliance measurement protocol identifying all noise sources from the facility and verifying compliance with 974 CMR 4.05 prior to issuance of a Certificate of Occupancy. Prior to testing the facility shall submit a list of all of the equipment that will be tested simultaneously. A usage factor will be submitted with that list. The usage factor will include the percentage of capacity limits. The Applicant shall be restricted to the use and capacity of that equipment which has been included in the compliance measurement protocol and verified in compliance with 974 CMR 4.05. The use of any additional equipment, or noise sources, outside of the facility shall be below and behind the existing sound wall. Any sources not operating at maximum capacity

during the sound monitoring, will require review and approval from the DEC prior to use, or prior to increasing the percentage of capacity.

10. The Applicant shall pay all outstanding DEC peer review fees associated with this project prior to issuance of a demolition permit.

11. The existing multi-purpose trail shall be maintained and accessible at all times.

9. Decision:

The public hearing was held on February 26, 2013 and was continued to and closed on March 7, 2013. The DEC voted on March 7, 2013, to issue findings, including that the application complied with Approval Criteria in 974 CMR 3.03(2), to impose Conditions 1-10, and to approve the earth removal and partial sound wall removal site plan at 110-112 Barnum Road, Devens, MA.

10. Building/Demolition Permit

The Building Commissioner, along with the Electrical and Plumbing Inspectors, must review architectural/structural drawings and specifications and approve them in writing, prior to issuance of a building/demolition permit. All requirements in the Massachusetts Building Code, the Massachusetts Sanitary Code, and those of the Devens Fire Chief must be met. When this approval is obtained, the building/demolition permit may then be integrated with this Site Plan Record of Decision and together they will constitute the Unified Permit for 112 Barnum Road, LLC, which will, in turn, allow construction to commence.

11. Permit Duration

In accordance with 974 CMR 1.10, unified permits shall remain in effect so long as the approved activities are commenced within six months of the date of the DEC or the LUA produces a written decision and completed within two years. It is further noted that a thirty-day "reconsideration period" during which an applicant, a Town, or an aggrieved person may request the DEC reconsider its action (By-Laws, Article IV, Sections C through F). Work performed during this period, which begins on March 8, 2013 and terminates April 6, 2013, is "at risk". Final plans must be submitted for endorsement by the Commission by September 8, 2013.

Date: 3/7/2013

Approved by:

Peter C. Lowitt, FAICP, Director
Devens Enterprise Commission

Certification ***Middlesex,SS***

I certify the above is a true action and record of the Devens Enterprise Commission and that Peter C. Lowitt, Devens Land Use Administrator/Director, is empowered by the Devens Enterprise Commission to sign this Record of Decision on its behalf.

3-7-2013
Date

Kathryn Clisham, Notary
My Commission expires March 16, 2018

KATHRYN CLISHAM
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 16, 2018

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Record of Decision
112 Barnum Road, LLC
112 Barnum Road (27-17-500)
Devens MA
Unified Permit
November 8, 2012

1. **Applicant:**
The Applicant is Integrated Builders, 302 Weymouth Street, Suite 203, Rockland, MA. The landowner is 112 Barnum Road, LLC, c/o Hackman Capital Partners LLC, 1111 Santa Monica Boulevard, Suite 750, Los Angeles, CA 90025.

2. **Premises and Proposed Project:**
The applicant is seeking Unified Permit for site plan approval in order to construct one new dock lever and overhead door for a new loading dock adjacent to an existing loading dock. The loading dock addition is proposed on 27-17-500 (aka Lot 2) – an existing +/- 23 acre parcel at 112 Barnum Road. The proposed project is located within the Rail, Industrial and Trade Related Uses District and Zone 2 Water Resources Protection Overlay District. The parcel remains in compliance with the minimum requirements of 2 acres of land area and 100 feet of frontage as per the Devens Bylaws.

3. **Submission:**
The following is a list of exhibits included as part of the record for this Application:
1. Level 2 Unified Permit Application (D12-074) dated 9-18-12.
2. Plans entitled "Barnum Road Landlord Work – PH1, 112 Barnum Road Devens, MA, Issued for Bulletin #1, July 20, 2012", prepared by ci, 263 Summer Street, Boston, MA 02210, including the following sheets:
   - T1000 – Title Sheet, dated 6/15/12
   - T001 – Code Summary and Life Safety Plan, dated 6/15/12
   - AD101C – Partial Ground Floor Demolition Plan, dated 6/15/12
   - A101 – Ground Floor Plan, dated 6/15/12
   - A101C – Partial Ground Floor Plan, dated 6/15/12
   - A304 – New Loading Dock Overhead Coiling Door/Dock Leveler Sections & Details Level 2 Permit; dated 6/15/12
   - A801 – Door Schedule & Details, Storefront Elevations & Wall Types, dated 6/15/12
   - S101 – Key Plan, dated 6/11/12;
   - S204 – Part Framing Plans IV, dated 6/11/12
   - FP2.0 – Fire Protection Part Plans II, dated 6/15/12
   - FP4.0 = Fire Protection Zone Map, dated 6/15/12
   - ED101C – Ground Floor Electrical Demo Plan, dated 7/25/12 by Griffin Electric
   - EL101C – Ground Floor Electrical Lighting Plan, dated 7/25/12 by Griffin Electric
   - EP101C – Ground Floor Electrical Power Plan, dated 7/25/12 by Griffin Electric
3. Determination of Completeness Issued September 19, 2012.
4. Public Hearing Notice Memo to Town Clerks of Ayer, Harvard, Shirley, Lancaster and MassDevelopment, from Peter Lowitt, dated September 25, 2012;
5. Public Hearing Legal Notice Fax to Nashoba Publications, from Peter Lowitt, dated September 24, 2012 – to be published September 28, 2012 and October 8, 2012.
6. Copies of Legal notices from September 28, 2012 and October 8, 2012 from Ayer Public Spirit.

112 Barnum Rd., Harvard, MA

Deed Reference Book 48805 - Page 112
and Bk 48805 - 133

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7. Public Hearing Notice emailed to Community Service Cable Committee, from Peter Lowitt/Kate Clisham, dated October 4, 2012;
8. Memo dated September 20, 2012 from Peter Lowitt to Towns of Ayer, Harvard and Shirley Board of Selectman and Planning Offices; Subject: Level 2 Unified Permit (notification of Public Hearing on October 30, 2012 at 6:45PM);
9. Memo dated September 25, 2012 from Peter Lowitt to Abutters and Interested Parties; Subject: Level 2 Unified Permit (notification of Public Hearing on October 30, 2012 at 6:45PM);
10. Public Hearing Notice to Secretary of State, from Peter Lowitt, dated October 4, 2012;
11. Certified Mail Return Receipts for application and plan deliveries to Ayer, Harvard and Shirley, received by towns on September 21 and 25, 2012. Certified Mail return receipts for public hearing notices to all abutters – various dates.
12. Staff Report dated 10-26-12 Re: 112 Barnum Road Unified Permit for Loading Dock Addition, prepared by Peter Lowitt;
13. Certified List of Abutters from Devens Board of Assessors, dated September 25, 2012;
14. Memo to MassDevelopment, from Neil Angus, re: 112 Barnum road, LLC – Loading Dock Amendment Plan Circulation; dated September 21, 2012;
15. St. Gobain powerpoint presentation by Gregory Tocci, PE, INCE Bd. Cert. (9 slides) presented at hearing;
16. Completed Industrial Performance Standards Checklist (PDF file dated 10-26-12);
17. Letter from Integrated Builders, to Neil Angus, Re: Level Two Application, Loading Door, 112 Barnum Road, Devens, MA; dated September 24, 2012;
18. Background Sound Measurement and Analysis Protocol, Saint-Gobain Crystals, March 13, 2012, prepared by Cavanaugh Tocci Associates, Inc., Sudbury, MA;
19. E-mail correspondence as follows:

Date	From	To	Subject
3/13/12	Mike Lannan	Peter Lowitt	FW: Background Measurement Protocol—Saint Gobain Crystals
9/24/12	Jay Dacey	Neil Angus	Re: [BULK] Re: 112 Barnum Rd. Loading Dock
10/24/12	David Mackwell	Peter Lowitt	RE: 112 Barnum Road DOC Comments
10/24/12	David Mackwell	Peter Lowitt	RE: 112 Barnum Road DOC Comments
10/30/12	Tracy Pierce	Mike Lannan	Re: DEC/Tech Environmental Phone Message
2/21/12	Rich Hillman	Peter Lowitt & Mike Lannan	RE: Saint-Gobain Site in Devens

4. Unified Permit Components and Actions:

The Unified Permit request includes site plan approval for construction of one new dock lever and overhead door for a new loading dock adjacent to an existing loading dock on 27-17-500 (aka Lot 2) – an existing +/- 23 acre parcel at 112 Barnum Road.

5. Process:

The application was submitted on September 13, 2012 and a Determination of Completeness was issued on September 19, 2012. Copies of the application were received by the surrounding Towns on September 25, 2012. Legal notices were placed in Nashoba Publications on September 28, 2012 and October 5, 2012. All abutting property owners were duly notified by certified mail. The 30-day Town comment period expired on October 26, 2012. No comments were received. The Public Hearing closed on October 30, 2012.

6. **Waivers**

The Applicant requested the following waivers (DEC comments in italics):

A. **974 CMR 3.02(2)(h): Soil Testing- No new construction is needed and therefore no soil testing has been scheduled** – *Waiver administratively granted by DEC Director/Land Use Administrator as per 974 CMR 1.02(4)(e).*

B. **974 CMR 3.02(2)(0): Traffic Analysis. The building and the use category will remain the same. The effective usable space within the building will actually be less than the previous tenant because the existing mezzanine area space will not be occupied. The Applicant estimates 150 employees at full operation and 10 trucks per day – well under the design capacity of the existing parking and loading areas.** *Waiver administratively granted by DEC Director/Land Use Administrator as per 974 CMR 1.02(4)(e).*

C. **974 CMR 3.02(2)(s): Sustainable Sites section of the LEED Green building rating system-No new building is proposed. The project only involves interior renovations.** *Waiver administratively granted by DEC Director/Land Use Administrator as per 974 CMR 1.02(4)(e).*

D. **974 CMR 3.02(2)(t): Building Elevations- The building exists and no new building is proposed. The project only involves one new door. Plan A304 has been provided that shows the new door.** *Waiver administratively granted by DEC Director/Land Use Administrator as per 974 CMR 1.02(4)(e).*

E. **974 CMR 4.08(7)(b)2.a.: requiring a Hazardous Material Spill Response Plan ("HMSRP")- This plan will be complied with or modified for approval by DEC staff for each tenant. .(a HMSRP was previously provided for Level Two Permit).** *A HMSRP is required to be completed as part of this project.*

F. **974 CMR 4.08(7)(b)2.b.: requiring a Groundwater Quality Monitoring Plan (GWMP) (a GWMP was previously provided for Level Two Permit). This monitoring program will remain in place and will be operated by the applicant and its tenant.** *GWMP is to remain in place and will need to be updated to address the new tenant activities.*

G. **1. Parking (Zoning By-Laws, Exhibit C): The request is to continue the existing to the extent the DEC feels it is necessary. Based on The Permit and the associated approved plans it was determined that zoning requires 970 parking stalls for the 475,460 gross floor area of The Permit states that the DEC determined that approximately 791 spaces would be required for similar manufacturing uses and 384 parking spaces are provided and parking deck could be constructed if more parking would be needed. At this time the demand for parking is approximately 200 cars for 200,000 s.f. of building space.** *The proposed project and tenant do not exceed the parking requirements, therefore this waiver is not required.*

H. **2. 974 CMR 3.04(6)(a)(3)(a): Curbing Materials: This request is to continue the existing waiver granted to the existing site.** *The proposed project does not involve the construction of any new curbing, therefore this waiver is not required.*

I. **3. 974 CMR 3.04(8)(c)(1): Landscape Treatment- This request is to continue the existing waiver granted to the existing site.** *The proposed project does not involve any new landscaping, therefore this waiver is not required.*

J. **4. 974 CMR 3.04(8)(i)(1): Landscape Treatment- This request is to continue the existing waiver granted to the existing site.** *The existing Unified Permit runs with the land and applies to the new owner, therefore this waiver is not needed.*

K. **5. 974 CMR 3.04(8)(g)(6): Required Landscape Screening- This request is to continue the existing waiver granted to the existing site.** *The proposed project does not require any new landscape screening, therefore this waiver is not required.*

L. **6. 974 CMR 3.04(8)(h)(2): Required Landscape Screening- This request is to continue the existing waiver granted to the existing site.** *The proposed project does not require any new landscape screening, therefore this waiver is not required.*

M. **7. 974 CMR 3.04(3)(a)(1)(a): Parking Requirements- This request is to continue the existing waiver granted to the existing site and the new parking lot.** *The proposed project does not involve any new parking, therefore this waiver is not required.*

N. **8. 974 CMR 3.04(3)(a)(1)(d): Dimensional Parking Requirements- This request is to continue the existing waiver granted to the existing site.** *The proposed project does not involve any new parking, therefore this waiver is not required.*

O. **9. 974 CMR 3.04(7)(d): Utilities to be located underground - This request is to continue the existing waiver granted to the existing site.** *The proposed project does not involve any new utilities; therefore this waiver is not required.*

P. **10. 974 CMR 3.04(6)5.b.: Service Areas, Dumpsters and Open Storage- This request is to continue the existing waiver granted to the existing site.** *The proposed project does not involve any new service areas, dumpsters or open storage areas forward of the front façade, therefore this waiver is not required.*

Q. **11. 974 CMR 4.05(3): Noise Level Standards: This request is to continue the existing waiver granted to the existing site. The new parking lot will not require this waiver.** *The project involves new sound generating equipment which requires a new review, therefore the waiver request is denied and a condition addressing the need for compliance evaluation is included in this Record of Decision.*

Waiver Requests A through D were administratively approved by the Director/Land Use Administrator. The DEC voted to deny Waiver Requests E, F and Q (required as conditions of approval) and to also deny Waiver Requests G through P as they are not pertinent to the improvements proposed as part of this project.

7. Findings

The DEC made the following findings:

1. The proposed LED lighting component manufacturing process is an allowed use within the Rail, Industrial and Trade Related Uses District.
2. The proposed lot size and frontage are in accordance with the minimum requirements for development in the Rail, Industrial Trade Related Uses District in which it is located.
3. Regarding the approval criteria listed in 974 CMR 3.03(2):
   (a) The Site Plan, with conditions and waivers, complies with 974 CMR 3.00 and with the applicable provisions of the By-Laws.

(b) The development lies on a lot that is recorded at the Registry of Deeds;

(c) The application is Complete.

(d) All drives, parking lots, loading areas, paths, sidewalks, and streets are designed to provide for safe vehicular and pedestrian travel.

(e) Access and site circulation will enable prompt fire, police, and emergency response.

(f) Adequate capture, treatment, infiltration and discharge of stormwater and surface water runoff and compliance with applicable portions of the "Devens Stormwater Pollution Prevention Plan", has been achieved.

(g) Connections with utility, power and communication systems available in the abutting infrastructure currently exist and were approved by the Mass Development Managers of Engineering and Utilities.

(h) Facilities required under the Water Resources Protection Bylaw and the related Design Standards have been included.

(i) The plans do not impact any landscaping and therefore are in compliance with the Landscaping Design Standards for plant materials, planting strips, screening, and preservation of existing specimen trees and wooded areas.

(j) A Wetlands Order of Conditions is not required for this site.

(k) Industrial Performance Standards will be adhered to as per the final plans and the conditions of approval.

(l) Sufficient parking for current needs already exists (384 spaces).

(m) Traffic control measures are not required as part of this project.

(n) The proposed development is required to participate in the Devens traffic management association.

(o) Adequate water supply exists in terms of quantity, quality, and water pressure for domestic needs and fire protection.

(p) Connection to sanitary sewers is in place and authorized by Devens Utilities.

(q) Building designs meet the minimum standards as established by Mass Development for the district in which the lot is located.

8. Conditions:

The DEC voted to impose the following conditions:

Standard Conditions:

1. Wherever "Applicant" is referenced in the Conditions set forth herein, it refers to the Applicant, its successors and assigns. Wherever "DEC" is referenced, it shall refer to the Devens Enterprise Commission, its successors and assigns.

2. Jackson Gate from Route Two shall be the primary means of truck access to and from the site on a permanent basis, with other gates to be used only in emergency situations or during protracted construction when the Jackson gate is unavailable. The Applicant shall

post signs that all trucks must enter and exit Devens via the Jackson Gate at Route 2 on the exit gate of the facility.

3. The Applicant shall take appropriate measures to encourage all automobile traffic associated with this project to use Jackson Gate to the maximum degree feasible. In addition, the Applicant and its lessees shall participate in the Devens Transportation Management Initiative. When transportation/ trip reduction/ public transit options become available in the future, the applicant shall be obligated to advise the building occupants to make their employees aware of such transportation alternatives and help to facilitate connections to these programs for those who are interested.

4. In accordance with the Devens By-Laws, Article III, Section K 1. a., no soil, loam, sand, gravel, or other earth materials shall be permanently removed from any lot within Devens, except in accordance with the Devens Soil Management Policy and approval from the DEC.

5. Prior to commencing any intrusive earth work within Devens (due diligence, construction of otherwise) all personnel to be on site shall view an Unexploded Ordinance/Munitions of Explosive Concern (UXO/MEC) video briefing provided by the Devens Fire Department.

6. The waivers granted shall be listed on the plans.

7. Once the appeal period has expired, the Applicant shall submit final approved plans to the DEC for endorsement. The Applicant shall file the endorsed plans with the Registry of Deeds and proof of recordation shall be submitted to the DEC prior to the issuance of a building permit.

8. All applicable federal, state, and local permits necessary for the construction and operation of the facility (including, but not limited to a MA DEP Air Permit) must be obtained prior to the issuance of a Certificate of Occupancy. Copies of permits issued by those other than the DEC must be filed with the DEC.

9. The Applicant shall provide As-Built Plans and accompanying information for all site improvements in accordance with the DEC As Built Policy, prior to issuance of a final Certificate of Occupancy.

10. There is no approval of signs implicitly or explicitly granted in this Unified Permit and any erection of signs of any type will require subsequent approval.

11. Outdoor Storage is only permitted in areas designated on the approved plans. No open or exterior storage is permitted in undesignated locations.

12. The Applicant shall file annual reports to the DEC in October of each year indicating how they are maintaining their on-site stormwater management facilities. This is an on-going condition once construction is completed.

Special Conditions:

13. The existing Hazardous Material Spill Response Plan and Groundwater Quality Monitoring Plan for the facility shall be updated to include a list of all chemicals to be used and MSDS reports. These plans shall comply with 974 CMR 4.09 and be submitted to the DEC and the

Devens Fire Chief prior to issuance of a Certificate of Occupancy. They shall also be provided to Fire Chief and DEC prior to storage of such materials on site.

14. The Applicant shall verify conformance with the DEC Industrial Performance Standards for electromagnetic interference (974 CMR 4.03) prior to issuance of a certificate of occupancy for the facility. Specifically, the Applicant shall verify facility conformance with Special External Receptors as defined in 974 CMR 4.03(3)(b), and also at the barrier between the Applicant's potential leased space and the currently unleased space within the existing building.

15. The Applicant shall conduct background noise measurements in accordance with the Background Sound Measurement and Analysis Protocol St. Gobain Crystals, March 13, 2012, prepared by Cavanaugh Tocci Associates, Inc. Results shall be submitted to the DEC along with a worst-case compliance measurement protocol identifying all noise sources from the facility and verifying compliance with 974 CMR 4.05 prior to issuance of a Certificate of Occupancy. Prior to testing the facility shall submit a list of all of the equipment that will be tested simultaneously. A usage factor will be submitted with that list. The usage factor will include the percentage of capacity limits. The Applicant shall be restricted to the use and capacity of that equipment which has been included in the compliance measurement protocol and verified in compliance with 974 CMR 4.05. The use of any additional equipment, or noise sources, outside of the facility shall be below and behind the existing sound wall. Any sources not operating at maximum capacity during the sound monitoring, will require review and approval from the DEC prior to use, or prior to increasing the percentage of capacity.

16. All existing sound walls, including the temporary noise wall at the gas off-loading area, shall be maintained at the same level of sound attenuation as present during the testing, at all times.

17. All existing and new loading docks shall remain closed at all times except when a truck is fully docked in the loading dock.

18. Gas deliveries are restricted to weekdays between the hours of 8:00 AM and 5:00 PM. All gas deliveries shall utilize the existing ground-mounted pump (or equal - from a sound mitigation perspective) only.

19. The facility shall comply with the Massachusetts Anti-Idling law (5 minute restriction). The Applicant shall post signage at all loading docks notifying drivers of this requirement.

20. Final Plans shall be submitted to the DEC for endorsement (only sheets T000, T001, AD101C, A101C and A304). Prior to endorsement by the DEC, final plans shall be revised to include the following:
    - Industrial Performance Standard Note language under 974 CMR 3.02(3)(c) shall be added to the cover sheet ;
    - The cover sheet shall include a space for all 12 DEC commissioner signatures, in addition to a space for the date of endorsement. Each subsequent sheet shall include a space for the DEC Chairman's signature and date.
    - Plans shall conform to Worcester Registry recording requirements.

21. The Applicant shall pay all outstanding DEC peer review fees associated with this project prior to issuance of a building permit.

22. The tenant of the property shall join the Devens Eco-Efficiency Center and demonstrate compliance with EcoStar Standard 24- Climate Change Mitigation per 974 CMR 4.11(2).

9. Decision:
The public hearing closed on October 30, 2012. The DEC voted November 8, 2012, to deny requested waivers E through Q, to issue findings, including that the application complied with Approval Criteria in 974 CMR 3.03(2), to impose Conditions 1-22, and to approve the site development plan for the addition of a new loading dock at 112 Barnum Road, Devens, MA (27-17-500).

10. Building Permit
The Building Commissioner, along with the Electrical and Plumbing Inspectors, must review architectural/structural drawings and specifications and approve them in writing, prior to issuance of a building permit. All requirements in the Massachusetts Building Code, the Massachusetts Sanitary Code, and those of the Devens Fire Chief must be met. When this approval is obtained, the building permit may then be integrated with this Site Plan Record of Decision and together they will constitute the Unified Permit for 112 Barnum Road, LLC, which will, in turn, allow construction to commence.

11. Permit Duration
In accordance with 974 CMR 1.10, unified permits shall remain in effect so long as the approved activities are commenced within six months of the date of the DEC or the LUA produces a written decision and completed within two years. It is further noted that a thirty-day "reconsideration period" during which an applicant, a Town, or an aggrieved person may request the DEC reconsider its action (By-Laws, Article IV, Sections C through F). Work performed during this period, which begins on November 8, 2012 and terminates December 9, 2012, is "at risk". Final plans must be submitted for endorsement by the Commission by May 8, 2013.

Date: 11-8-2012

Approved by:

Peter C. Lowitt, AICP, Director
Devens Enterprise Commission

Certification ***Middlesex,SS***

I certify the above is a true action and record of the Devens Enterprise Commission and that Peter C. Lowitt, Devens Land Use Administrator/Director, is empowered by the Devens Enterprise Commission to sign this Record of Decision on its behalf.

11-8-2012
Date

Kathryn Clisham, Notary
My Commission expires March 16, 2018

KATHRYN CLISHAM
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 16, 2018

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Evergreen Solar Phase II Unified Permit
April 3, 2008
Record of Decision

1. **Project:** The project is the second phase of a solar photovoltaic panel manufacturing facility which will add 148,275 square feet of building space onto an existing 327,185 square foot building (Phase 1). The addition includes modifications and expansions to the manufacturing, office, warehouse, utility support area, utility service yard, parking, loading docks and associated stormwater management facilities (the "Project"). The Project continues to focus development on the cleared portion of the site, protecting the existing slopes and riparian vegetation associated with the adjacent wetland/floodplain corridor. The Project is situated on a 23 +/- acre leased parcel (Lot 2) Barnum Road, Devens, MA, located east and south of Barnum Road, west and south of the Media News Group facility (78 Barnum Road) and north of Cold Spring Brook (the "Site").

2. **Applicant:** The applicant is Evergreen Solar, 138 Bartlett Street, Marlboro, MA 01752 (the "Applicant"). The owner is MassDevelopment, 160 Federal Street, Boston, MA 02110.

3. **Application:**
Evergreen Solar, Inc. submitted a Level II Unified Permit application package, including the application, site plans and drainage calculations on December 21, 2007. The pre-permitting conference and Determination of Completeness were completed on December 21, 2007. A number of items including the need for more detailed plans better illustrating phase II activities both on and off site; hazardous materials storage, handling and containment methods; and revised landscape plans were requested at that time. As Evergreen's internal manufacturing process continued to evolve, so did the design of the Phase 2 plans. The following is a complete list of all information/exhibits associated with this application:

1. A completed Level Two Unified Permit application form and a report from CH2MHill including a project description, list of requested waivers, a statement of compliance with the Devens Bylaws/Regulations, an Erosion and Sedimentation Plan and Landscaping and Water Management Plan with the Sustainable Sites LEED checklist, and Vehicle Trip Analysis;

2. Site plans Entitled "Evergreen Solar Lot 2, Barnum Road, Devens Massachusetts". dated December 14, 2007 prepared for Owner, Mass Development 160 Federal Street, Boston, MA and Applicant: Evergreen Solar 138 Bartlett Street, Marlboro, MA 01752 and CH2MHill 200 Corporate Center Drive, Suite 200 Moon Township, PA 15108, prepared by BSC Group 15 Elkins Street, Boston, MA 02127. The plans consist of the following drawings:

- G-100 Title Sheet
- V-100 Locus Plan Showing 'Sensitive Receptors'
- C-100 Notes 1 of 2
- C100a Notes 2 of 2
- C109 Traffic Circulation & Signage Plan
- C200 Phase 2 Site Preparation and Erosion & Sedimentation Control Plan 1 of 2

Barnum Rd Harvard

Goodwin Procter LLP
53 State Street
Boston, MA 02109

Ground lease
BK 42183 Pg 226
Deed 26844 Pg 212

- C201 Phase 2 Site Preparation and Erosion & Sedimentation Control Plan 2 of 2
- C202 Phase 2 Layout & Materials Plan 1 of 2
- C203 Phase 2 Layout & Materials Plan 2 of 2
- C204 Phase 2 Grading and Drainage Plan 1 of 2
- C205 Phase 2 Grading and Drainage Plan 2 of 2
- C300 Civil Details I
- C301 Civil Details II
- C302 Civil Details III
- C303 Civil Details IV
- C304 Civil Details V
- C305 Civil Details VI
- C306 Civil Details VII
- C307 Civil Details VIII
- L200 Phase 2 Planting Plan 1 of 2
- L201 Phase 2 Planting Plan 2 of 2
- L 300 Phase 1 & 2 Planting Details
- L301 Phase 1 & 2 Planting Notes
- DN1EL-0-0 DN1 Electrical Site Lighting Plan
- DN1E-7601 DN1 Electrical Site Lighting Details
- DN1EL0100 DN1 Electrical Lighting Fixture Schedule
- DN1 E0000 DN1 Electrical General Notes and Legend Sheet
- ESA 7401 Evergreen Solar Architectural Rendered Building Elevations
- ESA 7402 Evergreen Solar Architectural 3D Rendering.

3. Letter from Ronald Gates of CH2MHill to Neil Angus, dated February 7, 2008 re: Update for DEC Evergreen Phase 2 Permit Application;

4. Revised Plan Set entitled: Phase II, Package 1 Issue for Permit, February 8, 2008, Project No. 359429. Owner: Mass Development 160 Federal Street, Boston, MA 02110, In Cooperation with BSC Group 15 Elkins Street, Boston, MA 02127 Prepared by CH2MHill Pittsburgh Office, Cherrington Corporate Center 200 Corporate Center Drive, Suite 200 Moon Township, PA, 15108. The plan set consists of the following drawings, revised dates of February 8, 2008:

- DN2C-0001 Civil and General Notes
- DN2C-0002 Civil and General Notes
- DN2C-0003 Civil and General Notes
- DN2C-0004 Civil Locus Showing 'Sensitive Receptors'
- DN2C-601 Civil Demolition Plan Sector 1
- DN2C-602 Civil Demolition Plan Sector 2
- DN2C-701 Civil Erosion and Sedimentation Plan Sector 1
- DN2C-702 Civil Erosion and Sedimentation Plan Sector 2
- DN2C-801 Civil Phase 2 Utility Plan Sector 1
- DN2C-802 Civil Phase 2 Utility Plan Sector 2
- DN2C-901 Civil Site Improvements Plan Sector 1
- DN2C-902 Civil Site Improvements Plan Sector 2
- DN2C-910 Civil Traffic and Circulation and Signage Plan

- DN2C-1001 Civil Finish Grading Plan Sector 1
- DN2C-1002 Civil Finish Grading Plan Sector 2
- DN2C- 1003 Civil Finish Grading Plan Sector 3
- DN2C-7000 Civil Phase 2 Site Improvements Partial Plan
- DN2C-7600 Civil Erosion Control and Site Improvements Details
- DN2C-7601 Civil Site Improvement Details
- DN2C-7602 Civil Site Improvement Details
- DN2C-7603 Civil Site Improvement Details
- DN2C-7604 Civil Site Improvement Details
- DN2C-7605 Civil Utility Details
- DN2C-7606 Civil Utility Details
- DN2C-7607 Civil Utility Details
- DN2C-7608 Civil Striping Details
- DN2A-9100 Phase 2 Architectural Site Plan
- DN2A-9101 Phase 2 Architectural Site Plan Enlarged
- DN2A-9200 Phase 2 Architectural floor plans Phase 1 & 2
- DN2A-9300 Phase 2 Architectural Building Elevations Exterior
- DN2A-9400 Phase 2 Architectural Perspectives
- DN2A-9401 Phase 2 Architectural Aerial Views
- DN2E- 0000 Electrical General Notes and Legend Sheet
- DN2ELO-0 Electrical Site Lighting Plan
- DN2EL0100 Electrical Lighting Fixture Schedule
- DN2EL7601 Electrical Site Lighting Details
- DN2L-0901 Landscape Phase 2 Planting Plan Sector 1
- DN2L-902 Landscape Phase 2 Planting Plan Sector 2
- DN2L-903 Landscape Phase 2 Planting Plan Sector 3
- DN2L-7600 Landscape Phase 2 Planting Details
- DN2L-7601 Landscape Phase 2 Planting Notes

5. Memo from Rick Domas, CH2MHill to Norm Ellison, CH2MHill dated February 27, 2008 regarding Revised Traffic Volumes for the Evergreen Phase 2 facility and Proposed Traffic Mitigation Measures;
6. E-mail correspondence as follows:

Date	From	To	Subject
2-15-08	Mark Cohen	Neil Angus	Comments on Evergreen Phase 2 Plans
3-5-08	Neil Angus	Norm Ellison; Diane Lefevre	Evergreen – String Elimination
2-11-08	Neil Angus	Norm Ellison	Evergreen Phase 2 Plans
2-11-08	Neil Angus	Norm Ellison	Evergreen Phase 2
2-19-08	Lisa McLaughlin	Peter Lowitt; Neil Angus	Evergreen Phase II – Some More Questions and Food for Thought
3-19-08	Norm Ellison	Neil Angus: Thomas Garrity	FW: SW corner of Evergreen PraxAir coordination
1-7-08	Mark Cohen	Neil Angus	Evergreen Solar Phase 2 Plans
3-11-08	Norm Ellison	Neil Angus	Re: cancellation
3-10-08	Mark Cohen	Neil Angus	RE: Phase 1 DEP Permits

2-19-08	Mark Cohen	Neil Angus	RE: Comments on Evergreen's Phase 2 plans
2-8-08	Lynne Welsh	Victor Normand	RE: Evergreen – Air Quality Permit
3-5-08	Diane Lefevre	Neil Angus; Norm Ellison	RE: Evergreen – String elimination
2-21-08	Norm Ellison	Neil Angus	RE: list of Phase 2 waivers
2-28-08	Norm Ellison	Neil Angus	RE: wastewater treatment
2-28-08	Mark Cohen	Neil Angus	RE: wastewater treatment
2-29-08	Diane Lefevre	Neil Angus	RE: wastewater treatment
1-18-08	Ronald Headrick	Neil Angus	Evergreen Solar – Phase 2
11-28-07	Peter Lowitt	Richard Montuori, Mika Brewer, Victor Normand, Jim Moore, John Marc-Aurele; Neil Angus	Evergreen
3-20-08	John Marc-Aurele	Neil Angus	RE: Evergreen Response to your Comments
3-2-08	Edith Netter	Peter Lowitt	RE: [work] Question regarding requiring compliance with a Code not adopted by State
3-3-08	Diane Lefevre	Neil Angus	RE: wastewater treatment
3-14-08	Diane Lefevre	Thomas Garrity; Neil Angus	Phase 2 Chemical List
3-19-08	Peter Lowitt	Carl Stegerwald; Norm Ellison	Where are the revised plans and request for extension of time for DEC to make its permitting decision?
3-20-08	Neil Angus	Norm Ellison	MD Engineering Comments follow-up 3-20-08
3-20-08	Ron Headrick	Neil Angus	RE: Evergreen Solar Traffic Vols FINAL
3-21-08	Neil Angus	Mike Fusco; Norm Ellison	Phase 2 Logistics Plan
3-24-08	Ronald Headrick	Neil Angus	RE: waivers
3-25-08	Neil Angus	Mike Fusco, Norm Ellison, Carl Stergwald	Phase 2 Logistics Plan
3-25-08	Diane Lefevre	Neil Angus	Re: wastewater treatment process
3-25-08	David Baker	Neil Angus	Evergreen Solar Phase 2 Expansion – Noise Report
3-25-08	Ronald Headrick	Neil Angus	FW: waivers
3-25-08	Ronald Headrick	Neil Angus	FW: Revised Evergreen Solar Traffic Data
3-29-08	Diane Lefevre	Neil Angus	Evergreen Process Flow

7. Memo from CH2MHill dated 1/25/08 RE: String Manufacturing;
8. Memo from CH2MHill dated 1/25/08 regarding Scope and Design Criteria for String Manufacturing

9. January 23, 2008 Meeting notes entitled DEC phase 2 and String, prepared by CH2MHill;
10. Memo from Staff Planner Neil Angus, AICP entitled Staff Initial Review dated January 16, 2007 and focusing on the December submission which was later replaced with the February submission;
11. Memo from Stantec dated 1/18/08 - Peer review comments for Evergreen Phase 2 December submission;
12. Staff Report from Peter Lowitt, AICP and Neil Angus AICP to the DEC entitled Staff Report for Continuation dated February 21, 2008;
13. Memo from Norm Ellison CH2MHill to Neil Angus AICP dated February 28, 2008 regarding wastewater treatment issues;
14. Memo to Neil Angus, AICP Staff Planner from Ron Headrick RLA and Andre Betit,Jr. P.E. dated March 5, 2008 regarding Evergreen Solar Review Phase 2-Modified commenting on the February 21, 2008 "Traffic Generation Revised – Evergreen Solar at Devens" prepared by CH2MHill;
15. Memo from Ronald Headrick, RLA to Neil Angus AICP dated March 14, 2008 regarding Evergreen Solar Phase 2 plan review comments;
16. Drainage Report Entitled: "Evergreen Solar Drainage report Phase II Barnum Road, Devens, Massachusetts, February 15, 2008", prepared by BSC Group for CH2MHill and accompanying site plans entitled:

- "Evergreen Solar – Phase 2 Architectural Site Plan – Enlarged"; drawing number DN2A-9101; dated February 14, 2008, prepared by CH2MHill;
- "DN2 – Civil Utility Details"; drawing number DN2C-7606; dated 2/8/08, revised 2/14/08; prepared by CH2MHill;
- "DN2 – Civil Phase 2 Utility Plan Sector 01"; drawing number DN2C-0801; dated 2/8/08, revised 2/14/08; prepared by CH2MHill;
- "DN2 – Civil Phase 2 Utility Plan Sector 02"; drawing number DN2C-0802; dated 2/8/08, revised 2/14/08; prepared by CH2MHill;

17. Memo from Peter Lowitt to Towns of Ayer, Harvard and Shirley Board of Selectman and Planning Board regarding February 26, 2008 public hearing legal notice;
18. Evergreen Solar Production Chemical List – Phase 1 and 2 (Devens Chemical List Rev 7.xls, dated 3/14/08)& (Devens Chemical List Rev 8.xls, dated 3/17/08), from Diane Lefevre.
19. Site Plan Entitled "Phase II Logistics Plan Delivery and Entry Points", dated March 11, 2008 prepared by Turner Construction, submitted March 17, 2008;
20. January 23, 2008 Meeting notes entitled Process Hazard Analysis, prepared by CH2MHill;
21. Level Two unified permit list of requested waivers dated July 2007, revised February 13, 2008;
22. CH2MHill Powerpoint presentation entitled: "MassDevelopment Presentation, January 24, 2008" – proposed plan revisions;
23. Abutter list for Lot 2 – Barnum road, East rail Industrial Park, prepared by MassDevelopment Engineering;
24. Hazardous Materials Inventory Statement for String Process Rev 0, dated 2/14/08;
25. Site Plan entitled: "DN1 – Overall Level 1 Facility and Equipment Layout", drawing number DN1G-Overall Preliminary; dated 1/25/08; prepared by CH2MHill;
26. Determination of Completeness for Evergreen Phase 2; prepared by Peter Lowitt, dated December 21, 2007;

27. ACS Publication entitled "Emissions from Photovoltaic Life Cycles", by Vasilis M. Fthenakis, Hvuna Chul Kim and Erik Alsema; Web release date: February 6, 2008;
28. Evergreen Chemical Safety Issues (string) dated 2/23/08;
29. Evergreen Phase 2 initial review issues 2-13-08 prepared by Peter Lowitt;
30. Evergreen Phase 2 Outstanding items 3/4/08 prepared by Neil Angus;
31. Request for unified Permit time extension (30-days), dated February 12, 2008, from Norm Ellison, CH2MHill;
32. USGS Topography map showing ½ mile and 1 mile radius from Evergreen facility;
33. Memo from CH2MHill dated March 17, 2008 re: Response to MassDevelopment Engineering comments of 2/21/08;
34. DEC memo to Towns of Ayer, Harvard and Shirley, dated 2/11/08 re: revised plans for Evergreen Solar (substantial revision);
35. DEC memo to Towns of Ayer, Harvard and Shirley, dated 1/3/08 re: Evergreen Solar Inc., Phase II Application, Barnum Road, Devens (original application);
36. New York Times Article entitled: "Photovoltaic Cells are Still Very Green, Comparative Test Shows"; by Henry Fountain, published February 26, 2008;
37. Evergreen Phase II Public Hearing Legal notice to Nashoba Publications, from Peter Lowitt/Mary Quinn, dated January 25, 2008. To be published February 1&8, 2008;
38. DEC Staff Report from Peter Lowitt, AICP and Neil Angus AICP to the DEC entitled Evergreen Solar Unified Permit Application Phase II, dated March 21, 2008
39. Copy of MA DEP Stormwater Management Form for Evergreen Solar Phase 2, submitted 3-11-08, signed by David Biancavilla, BSC Group, Inc., dated 3-11-08;
40. Evergreen Solar Development at Devens – Proposed Traffic Mitigation Measures, submitted 2-27-08 by CH2MHill;
41. Traffic Generation Revised – Evergreen Solar at Devens, revised 2-21-08 by Richard Domas, CH2MHill;
42. Traffic Generation – Evergreen Solar at Devens, prepared by Richard Domas, CH2MHill
43. Review Comments memo from CH2MHill, Evergreen Solar Phase II, date Ref. March 14, 2008 comments, Reviewer Ronald S. Headrick, and Dave Bartlett;
44. Revised Plan Set entitled: Phase II, Package 1 Issue for Permit, March 21, 2008, Project No. 359429. Owner: Mass Development 160 Federal Street, Boston, MA 02110, In Cooperation with BSC Group 15 Elkins Street, Boston, MA 02127 Prepared by CH2MHill Pittsburgh Office, Cherrington Corporate Center 200 Corporate Center Drive, Suite 200 Moon Township, PA, 15108. The plan set consists of the following drawings:

- DN2C-0001 Civil and General Notes, dated 2/8/08
- DN2C-0002 Civil and General Notes, revised through 3/21/08
- DN2C-0003 Civil and General Notes, dated 2/8/08
- DN2C-0004 Civil Locus Showing 'Sensitive Receptors', rev. through 3/21/08
- DN2C-601 Civil Demolition Plan Sector 1, revised through 3/21/08
- DN2C-602 Civil Demolition Plan Sector 2, revised through 3/21/08
- DN2C-701 Civil Erosion and Sedimentation Plan Sector 1, rev.thru 3/21/08
- DN2C-702 Civil Erosion and Sedimentation Plan Sector 2, dated 2/8/08
- DN2C-801 Civil Phase 2 Utility Plan Sector 1, revised through 3/21/08
- DN2C-802 Civil Phase 2 Utility Plan Sector 2, revised through 3/21/08
- DN2C-901 Civil Site Improvements Plan Sector 1, revised through 3/21/08
- DN2C-902 Civil Site Improvements Plan Sector 2, revised through 3/21/08

- DN2C-910 Civil Traffic and Circulation and Signage Plan, rev. thru 3/21/08
- DN2C-1001 Civil Finish Grading Plan Sector 1, revised through 3/21/08
- DN2C-1002 Civil Finish Grading Plan Sector 2, revised through 3/21/08
- DN2C- 1003 Civil Finish Grading Plan Sector 3, revised through 3/21/08
- DN2C-7000 Civil Phase 2 Site Improvements Partial Plan , rev. through 3/21/08
- DN2C-7600 Civil Erosion Control and Site Improvements Details, dated 2/8/08
- DN2C-7601 Civil Site Improvement Details, revised through 3/21/08
- DN2C-7602 Civil Site Improvement Details, revised through 3/21/08
- DN2C-7605 Civil Utility Details, revised through 3/21/08
- DN2C-7606 Civil Utility Details, revised through 3/21/08
- DN2C-7607 Civil Utility Details, revised through 3/21/08
- DN2C-7608 Civil Striping Details, revised through 3/21/08
- DN2C-7609 Civil Site Improvement, dated 2/8/08
- DN2A-9100 Phase 2 Architectural Site Plan, revised through 3/21/08
- DN2A-9101 Phase 2 Architectural Site Plan Enlarged, revised through 3/21/08
- DN2A-9200 Phase 2 Architectural floor plans Phase 1 & 2 , rev. thru 3/21/08
- DN2A-9300 Phase 2 Arch. Building Elevations Exterior, rev. through 3/21/08
- DN2A-9400 Phase 2 Architectural Perspectives, revised through 3/21/08
- DN2A-9401 Phase 2 Architectural Aerial Views, revised through 3/21/08
- DN2E- 0000 Electrical General Notes and Legend Sheet, rev. through 3/21/08
- DN2ELO-0 Electrical Site Lighting Plan, revised through 3/21/08
- DN2EL0100 Electrical Lighting Fixture Schedule, revised through 3/21/08
- DN2EL7601 Electrical Site Lighting Details, revised through 3/21/08
- DN2L-0901 Landscape Phase 2 Planting Plan Sector 1, revised through 3/21/08
- DN2L-902 Landscape Phase 2 Planting Plan Sector 2, revised through 3/21/08
- DN2L-903 Landscape Phase 2 Planting Plan Sector 3, revised through 3/21/08
- DN2L-7600 Landscape Phase 2 Planting Details, revised through 3/21/08
- DN2L-7601 Landscape Phase 2 Planting Notes, revised through 3/21/08

45. List of Requested Waivers, Level Two Unified Permit, Evergreen Solar, Devens, Massachusetts, July 2007 (March 18, 2008 LATEST Revision) – submitted March 21, 2008;
46. Evergreen Solar Phase 2 Process Safety Review Summary, for Devens Enterprise Commission, dated March 18, 2008, prepared by Elizabeth A. Crowley, Chemist/H&S/Project Scientist, SECOR International, Incorporated, now Stantec;
47. Letter re: Evergreen Solar Phase 2 permit application extension, dated March 21, 2008, requesting a second 30-day time extension to Neil Angus, Staff Planner, from Norm Ellision, Lead Architect, CH2MHill.
48. Memo From Diane LeFevre of CH2MHill regarding response to Stantec Traffic Comments 03-05-08, submitted March 24, 2008.
49. Revised Level Two Unified Permit Application, project narrative and accompanying materials, submitted March 25, 2008.
50. Updated Project Narrative prepared by Norm Ellison, CH2MHILL, submitted March 25, 2008;

51. Noise Assessment Evergreen Solar, Solar Panel Manufacturing Plant Phase 2 Expansion, Devens, MA, dated March 2008, prepared for Evergreen Solar by CH2MHill.
52. List of requested waivers with DEC Staff comments – dated March 25, 2008, prepared by Neil Angus.
53. Memo from Stantec from Ronald S. Headrick, RLA to Neil Angus, AICP, re: Evergreen Solar Phase 2, dated March 24, 2008.
54. Letter from John Marc-Aurele, Sr. Project Engineer, MassDevelopment, dated March 28, 2008 to Peter Lowitt, Devens Enterprise Commission Lot 2 -Barnum Road, Site Plan Review- Phase 2.
55. Design Review Letter from Mika Brewer, Senior Vice President re Marketing and Sales, MassDevelopment, to Mr. Peter Lowitt, Devens Enterprise Commission re: Design Review of Phase II of Evergreen Solar's Barnum Road manufacturing facility;
56. Evergreen Solar Inc. Devens Massachusetts, Manufacturing Process Flow Overview, prepared by Diane Lefevre, CH2MHill, submitted 3/29/08;
57. Staff Report dated April 2, 2008, prepared by Peter Lowitt and Neil Angus, to the Devens Enterprise Commission, re: Evergreen Solar Unified Permit Application Phase 2 Hearing Continuation.
58. List of requested waivers with updated comments 4-2-08 from Norm Ellision, CH2MHill (Neil Angus's review comments in blue).

4. Unified Permit Components and Actions:

The Applicant seeks Site Plan approval, a Building Permit and a modification to Phase 1 Site Plan approval for the Project to accommodate development of Phase 2.

5. Waivers:

The Applicant is seeking the following waivers from the Devens By-Laws and Rules & Regulations of the Devens Regional Enterprise Zone:

- **Required Parking (Zoning By-Laws, Exhibit C)** - The number of spaces required by zoning is 949 for Phases 1 and 2 (see plan sheet DN2C-0902 for detailed breakdown). Evergreen is proposing 384 spaces to accommodate Phase 1 and Phase 2 based upon an analysis of the projected actual need for the facility. If the DEC determines it is necessary, the Applicant shall provide additional parking as required by zoning in a parking deck to be constructed in the future and located in the area designated on the plans as "surface parking". No building or permanent accessory structure may be placed in this area. The Applicant shall execute a covenant in the form provided by the DEC committing to the construction of the future spaces upon determination by the DEC that the spaces are needed (also refer to 'Conditions').

- **974 CMR 3.04(6)(a)(3)(a): Curbing Materials** - Evergreen is proposing the use of asphalt curbing, which meets the needs of the facility. The proposed facility will comply with the granite curb requirements at the facility entrances and adjacent to sidewalks.

- **974 CMR 3.04(8)(c)(1): Landscape Treatment** - Relief is sought to accommodate off-site landscape berms and screening that cannot be accommodated on-site due to space

constraints. Landscaping in the Barnum Road ROW will be relocated further south to be within the Evergreen property boundaries. The exception to this is some landscape screening of the electrical switchgear near the 25 foot north setback line of the site. The landscape plans are currently being revised to reflect this direction. A waiver is requested for some screening plantings to be located within the right-of-way. The location of these minor plantings within the right of way are subject to administrative approval by MassDevelopment and the DEC. Street tree requirements as per 974 CMR 3.04(8)(k) are still required.

- **974 CMR 3.04(8)(l)(1) Landscape Treatment** - To allow for any geometrically arranged plantings instead of informal drifts and for screening beyond 50 feet of the building façade.

- **974 CMR 3.04(8)(g)6: Required Landscaping Screening** - Screening requirements along the sides and rear of the property cannot be met due to space limitations for the code stipulated number of plantings required.

- **974 CMR 3.04(8)(h)(2): Required Landscaping Screening** - Because of site constraints and parking lot dimensional requirements it is not possible to provide a landscape buffer between the building and parking areas. Wheel stops or other mitigation will be installed to protect the covered walkway structural support posts from potential damage. Substantial landscaping has been provided north of the parking lot as well as in the parking lot islands. A waiver is requested for plantings not being located between the building and the parking area.

- **974 CMR 3.04(3)(a)(1)(a): Parking Requirements** – to allow for a principal parking lot in the front of a building located within 150 feet of the Barnum Road right-of-way. Although the parking location does not meet the established criteria, no portion of the building behind the parking lot falls within 150 feet of the property line. The waiver also includes allowing for 30% of the parking to be in font of the building as opposed to the 10% permitted in the DEC Regulations. Due to site area constraints and the Phase 2 expansion parking is required at the front of the building. To mitigate any concerns with views from the Barnum Road landscaping and berming has been provided to screen the parking lot. The primary length of building is roughly 180 feet south of the 25 foot north setback line. In addition, the northern edge of the parking lot is located on the 60 foot ROW setback line.

- **974 CMR 3.04(3)(a)(1)(d): Dimensional Parking Requirements** - Because of site constraints a waiver for the 18 foot parking separation islands is requested. The proposed dimension for these islands is 10 feet wide. This will allow planting of trees in the islands. More islands have been provided and this will actually allow for more screening plantings in addition to providing more shading.

- **974 CMR 3.04(7)(d): Utilities to be located underground** - A waiver is requested for some utilities to be located above ground. This type of installation is required for functional reasons. The only trestle currently in the scope of work occurs in the southwest service yard and will be screened from the public right-of-way by landscaping

and by the building itself. Landscape screening or other means will also be provided at the north electrical switchgear and other above-ground utilities.

- **974 CMR 3.04(6)5.b.: Service Areas, Dumpsters and Open Storage** – Service areas are not permitted forward of the front façade. Revised plans show 3 service doors as part of the Phase 2 expansion closest to Barnum Road. These are forward of the Front façade of the building. These doors are designed as an equipment move-in path for the interior electrical room and other initial equipment move-in. Usage of these doors afterwards will be very minimal. The DEC amended this waiver request to include only the two doors on the northeastern façade of Phase 2 facing the new proposed parking lot in front of the building. These doors will not be used as permanent loading docks.

- **974 CMR 4.05(3): Noise Limits and Standards** – A waiver is requested for a slight excess of noise at a limited area of the DREZ, an unpopulated area. This excess will only occur in the event that the plant is in full operation with the emergency generators running, an unlikely event. The estimated excess noise level during the daytime is 7dBA (with an emergency generator in operation). The estimated excess noise level at night is 6 dBA (with no emergency generator in operation). The applicant has complied with noise requirements at the closest sensitive receptors. Conditions of approval note that should there be a valid noise complaint from one of the sensitive receptors, the facility will be required to undertake the necessary measures to comply with 974 CMR 4.05(3).

The DEC voted to grant all waivers requested and require that they are listed on the Project plans.

6. Findings:

The DEC finds that:

a. The Project is an expansion of a manufacturing facility, which use is allowed in the Rail, Industrial and Trade Related zoning district. Supporting uses - including warehousing, utilities, a parking garage, and storage are also allowed. Primary access to the Site continue to be from Barnum Road.

b. The lot on which the Project is located is approximately 23 acres and therefore meets the 2-acre minimum requirement set forth in the By-Laws. The Site has over 1200+ feet of frontage on a way accepted by the Land Bank Board of Directors (now known as Mass Development) as public way (Barnum Road) and therefore meets the requirement that there be 100 feet of frontage on a public way. The Project is located within the Zone II and Aquifer districts of the Water Resource Protection Overlay District.

c. The Applicant proposes 384 parking spaces for both phases of the Project. The By-Laws, Exhibit C – Parking Requirements do not list the specific proposed use of the Project, but allows the DEC to determine how many parking spaces are adequate "based upon the character and needs of the proposed use." Other manufacturing uses would require closer to 791 spaces. Based upon the evidence presented in the Application and at the hearing, the number of parking spaces

shown on the Project plans is adequate for the Project. Additional parking can be accommodated with the addition of a parking structure over the proposed parking area. A covenant to construct such a structure if determined necessary by the DEC shall be executed as part of this Record of Decision.

d. The proposed operation involves work between the hours of 11PM and 7AM. As per 974 CMR 3.04(6)4.f., the applicant is permitted to operate lighting during these time periods as required. All lighting shall comply with 974 CMR 3.06(a)4..

e. The proposed string manufacturing process was removed from this application and is not part of this decision. Should such a process be proposed now or in the future, a new Level 2 Unified Permit application would be required.

f. Regarding the review criteria listed in 974 CMR 3.03(2):

(i) The Site Plan complies with 974 CMR 3.00 as conditioned below and with the applicable provisions of the By-Laws.

(ii) The Applicant shall record the lot on which the Project is located at the Registry of Deeds.

(iii) The Application is Complete.

(iv) All drives, parking lots, loading areas, paths, sidewalks, and streets are designed to provide for safe vehicular and pedestrian travel.

(v) Access and site circulation enables prompt fire, police, and emergency response.

(vi) Adequate capture and discharge of stormwater and surface water runoff and compliance with applicable portions of the "Devens Stormwater Pollution Prevention Plan" has been achieved.

(vii) Connections with utility, power and communication systems are available in the abutting infrastructure and have been reviewed and approved by the Mass Development Manager of Engineering and Utilities.

(viii) Facilities required under the Water Resources Protection Bylaw and the related Design Standards have been included.

(ix) The plans as conditioned below demonstrate compliance with the Landscape Treatment Design Standards for the preservation of existing specimen trees and wooded areas.

(x) A Wetlands Order of Conditions is not required.

(xi) Applicable Industrial Performance Standards have been adhered to. A waiver has been granted for a minor exceedence of noise levels at the DREZ boundary. Excess noise levels only occur during full operation, with all emergency generators running at the same time – which is an unlikely scenario. Conditions of approval will require sound levels be addressed should a valid noise compliant be filed.

(xii) The parking for the Project is adequate.

(xiii) Adequate traffic mitigation and control measures have been proposed.

(xiii) The Applicant agrees to participate in the Devens traffic management association and shall operate its own traffic demand management program.

(xiv) Adequate water supply exists in terms of quantity, quality, and water pressure for commercial and/or domestic needs and fire protection.
(xv) Connection to sanitary sewers shall be made.

7. Conditions of Approval:

1. Jackson Gate (Road) from Route Two shall be the primary means of truck access to and from the Site, with other gates to be used only in emergency situations or during protracted construction when the Jackson Gate is unavailable. The Applicant shall post signs that all trucks must enter and exit Devens via the Jackson Gate at Route 2.

2. The Applicant shall take appropriate measures to encourage automobile traffic to use Jackson Gate to the maximum degree feasible. In addition, when transportation/ trip reduction/ public transit options become available, the Applicant shall advise its employees of such transportation alternatives and facilitate connections to these programs for those who are interested. As per this approval, the Applicant agrees to participate in the future Devens Transportation Management Initiative.

3. Pursuant to the Site Plan Rules 974 CMR 3.02(1) and the By-Laws, Article III, Section H, "expansion of the parking lot, structure or loading dock" shall require a new application for unified permit site plan review. In keeping with the DEC's role of promoting sustainable development, the addition of solar photovoltaic parking canopies shall be a Level I plan amendment.

4. There is no approval of signs implicitly or explicitly granted in this Unified Permit and any erection of signs of any type will require subsequent approval.

5. The best management and maintenance practices for the Site as required in the By-Laws and Rules and Regulations and articulated in the Applicant's Erosion and Sediment Control Notes and Operation and Maintenance Plan on Sheets DN2C-0002 and DN2C-0003 of the plan set entitled: "Phase II, Package 1 Issue for Permit, March 21, 2008, Project No. 359429. Owner: Mass Development 160 Federal Street, Boston, MA 02110, In Cooperation with BSC Group 15 Elkins Street, Boston, MA 02127 Prepared by CH2MHill Pittsburgh Office, Cherrington Corporate Center 200 Corporate Center Drive, Suite 200 Moon Township, PA, 15108", shall be strictly adhered to, now and in the future. All required controls shall be in place prior to the commencement of construction. Additional controls shall be implemented at the discretion of the DEC or its Staff.

6. The Applicant shall comply with the By-Laws, Article III, Section K 1. a., which provides that "no soil, loam, sand, gravel, or other earth materials shall be permanently removed from any lot within Devens, except in accordance with an approved Level Two Development Permit" except as provided in Section K.4.

7. The waivers granted shall be listed on the plans.

8. A prerequisite to endorsement of the Project plans by the DEC is Stantec's (the DEC's consulting engineer and landscape architect) review of the final plans and a

determination by Stantec that the Applicant has addressed all outstanding review comments and demonstrated compliance with the Regulations. Review comments include, but are not limited to traffic, stormwater, noise and chemical storage issues.

9. The Applicant shall maintain landscaping on the Site in good condition. Any dead or damaged landscaping shall be replaced promptly. Tree protection fences shall continue to be maintained in areas where construction is being conducted.

10. The Applicant shall file annual reports with the DEC in February of each year indicating how it is maintaining its on-site stormwater management facilities in accordance with the approved operation and maintenance plan.

11. The Project shall remain in compliance with the Devens Industrial Park East Master Plan prepared by Gale Associates for MassDevelopment dated September 1, 2001 as they may be amended (the "Design Guidelines") and waived and the Applicant shall adhere, to the maximum extent feasible, to the comments and reservations expressed in the March 31, 2008 design review approval letter from Mika Brewer Mass Development Real Estate (Exhibit#55). The DEC may require that all future development and redevelopment of the Project comply with said Design Guidelines.

12. All applicable federal, state, and local permits and any updates necessary for the construction and operation of Phase 2 of the Project must be obtained and filed with the DEC prior to the issuance of a Certificate of Occupancy. MA DEP Air Quality Permit and MA DEP Industrial Wastewater Sewage Discharge Permit updates must be obtained, if required, for Phase 2. As required in the November 8, 2007 MA DEP Industrial Wastewater Sewage Discharge Permit, the applicant shall provide an EPA ID#, signage plan for the Industrial Wastewater Pre-treatment System (IWPS) and operation and maintenance plan monitoring, reporting and recordkeeping requirements prior to issuance of a CO..

13. Certain restrictions as a result of the CERCLA long term monitoring program on the Site are imposed. The two long term monitoring wells, identified as 57M-96-09X and G3M-93-09X, shall be labeled on the final plans and not be damaged or disturbed as part of the project. Continued access to these two monitoring well locations is to be provided at all times during facility construction and operation.

14. The Applicant shall notify the DEC in writing seven or more days prior to the completion of the following construction milestones. The Land Use Administrator (also "LUA") shall schedule a site inspection by the DEC's consultants or allow the submission of a red-lined print stamped by a RLS or PE, as appropriate.
    a. completion of the site grading and site work
    b. complete installation of site stormwater management facilities and other subsurface utilities
    c. completion of all site improvements as shown on the approved site plan
    d. installation of trees and other major landscaping features.

15. The Applicant shall provide for each building phase of the Project As-Built Plans prior to issuance of a Certificate of Occupancy for such building. As-Builts shall also be submitted in a digital format acceptable to the DEC.

16. A copy of the completed Stormwater Pollution Prevention Plan for Phase 2 in accordance with the Devens Stormwater Pollution Prevention Plan requirements, is required to be submitted prior to the issuance of a building permit.

17. Labeled chemical storage tanks, utility yard equipment and stack location(s), heights, and details shall be labeled and added to the final plans and elevations. A copy of the final stack diameter and roof plan with stack locations, required as part of the MA DEP Air Quality Permit for this facility, shall be submitted to the DEC prior to issuance of a building permit. All storage tanks shall be registered and/or licensed by the DEC and Devens Fire Department prior to issuance of a CO.

18. The Applicant shall update their Phase 1 Spill Prevention, Control and Countermeasure Plan to include all Hazardous Materials as part of Phase 2 being stored outside the building and address all items in Devens By-Law Article XI . This plan shall also include all chemicals being stored on-site and quantities and address Hazardous Materials Spill Response Plan requirements as per 974 CMR 4.08(7)(b)a and Water Resources Protection Overlay District requirements under 974 CMR 4.09. 974 CMR 3.02(3)(d)6. requirements for the location of on-site materials and equipment for spill response in accordance with specific DSPCC shall also be included. The completed plan shall be submitted to the satisfaction of the DEC and Devens Fire Chief prior to the issuance of a CO.

19. The applicant shall obtain a letter from the Devens Fire Chief stating there is adequate access for fire equipment in accordance with 974 CMR 3.04(3)(a)5..

20. A plan depicting how the site can accommodate the total required number of parking spaces as per Exhibit C of the Devens By-Laws, while still meeting all landscaping, stormwater and impervious surface ratio, shall be submitted to and subject to approval by the LUA prior to the issuance of a Certificate of Occupancy. Prior to seeking plan endorsement of Phase 2, the Applicant shall provide written certification that additional parking spaces or parking structure shall be built by the Applicant when the DEC determines this is required. If the DEC determines it is necessary, the Applicant shall provide additional parking as required by zoning in a parking deck to be constructed as per the above required plan. Written certification for additional parking shall be in the form of an executed a covenant, a template of which will be provided by the DEC, committing to the construction of the future spaces upon determination by the DEC that the spaces are needed. No building or permanent accessory structure may be placed in this area. The DEC shall require site plan review when and if additional parking is required. .

21. Landscape maintenance and water management plan subject to review and approval by the DEC or its designee, shall be submitted prior to issuance of a certificate of occupancy. Plan should consider use of harvested roof-runoff for irrigation.

22. The Applicant shall conduct soil testing in accordance with 974 CMR 3.04(8)(e). Results shall be submitted and subject to review and approval by the DEC or its designee, prior to landscaping installation. Test results shall be used in the formulation of an integrated pest management plan. Where fertilizers may be required, organic or

slow-release fertilizers shall be used to help aid in additional soil and groundwater protection. A copy of this plan shall be submitted to the DEC prior to issuance of a CO or release of any landscape performance bond.

23. All lighting/landscaping conflicts shall be resolved without eliminating any required landscaping. Final landscaping plans shall be submitted and subject to review and approval by the DEC or its designee, prior to final plan endorsement.

24. Should there be a valid noise complaint issued against the applicant, the applicant shall be responsible for taking the appropriate measures to reduce noise levels. This may include the installation of a sound barrier or other noise reducing devices that may be approved by the DEC or LUA.

25. Plans are to be revised to eliminate snow stockpiling within the parking lot, rain gardens and/or biofiltration basins and landscaped areas. This shall be noted on the plans as well as in the operations and maintenance plan prior to DEC endorsement of the plans. Excess snow will be required to be removed from the site and disposed of in a State and/or locally approved storage site.

26. All landscape plantings and berming within the Barnum Road Right of Way in front of the building shall be relocated within the property to the extent feasible, to the satisfaction of the DEC, prior to endorsement of the plans by the DEC. Street tree requirements must also be met as per 974 CMR 3.04(8)(c)(1). Additional screening requirements are being met through the placement of landscape berms and plantings on an adjacent parcel owned by MassDevelopment as shown on drawing number DN2L-0901 and DN2L-0903, revised March 21, 2008.

27. In order to bring the project into compliance with the requirements of 974 CMR 4.08(5)(b), Devens Water Resources Protection Overlay District requirements and low-impact development stormwater management practices, plans shall be revised to redesign the drainage system for the front parking lot to include additional storage and water quality treatment prior to discharging to subsurface areas. Revised plans may include, but not be limited to, the addition of rain gardens and/or biofiltration landscape islands, separation of roof runoff and parking lot drainage, and any additional water quality treatment/handling measures acceptable to the DEC. Additional plantings appropriate for these areas and protection of the edge of pavement (with raised curb stops or other acceptable barriers) shall also be provided. The Operations and Maintenance Plan shall also be amended to address these changes. These revisions shall be made prior to endorsement of the plans by the DEC.

28. Final plans shall be revised to indicate how roof runoff is being handled. These revisions shall be made prior to endorsement of the plans by the DEC. The applicant is encouraged to utilize rainwater harvesting techniques for re-use of rainwater within the facility or additional direct on-site infiltration to cisterns or rain gardens in place of any discharges to paved areas.

29. Final plans shall be revised to include covered walkway details and support post protection from adjacent parked vehicles, prior to endorsement by the DEC.

30. Emergency generators located in the front of the facility are not included as part of this approval and must be removed from all plan sheets. All elements on the plans identified as "future", "on hold" or "not used" shall also be removed from the plans prior to endorsement by the DEC.

31. As construction of Phase 1 is currently underway and will likely be completed while Phase 2 is still under construction, and to ensure public health and safety issues are adequately addressed, the applicant shall submit a detailed Site Logistics and Coordination Plan and narrative to the satisfaction of the DEC and Devens Public Safety Officer, describing how Phase 2 construction and Phase 1 operations will be safely coordinated. This plan and narrative shall include, but not be limited to:

    - Continued emergency vehicle access to the front entrance and master box (minimum - temp gravel road), as well as access to the fire department connection riser room on the east side of building;
    - A temporary signage plan and traffic circulation (employees, deliveries, construction, etc...) plan;
    - To help ensure safe coordination of all on-site construction and operation flows and aid in ensuring emergency access is maintained at all times on this busy site, the Applicant must appoint a security guard, state trooper or some other individual(s) with authority over the entire site, to manage and oversee the coordination of construction of Phase 2 and operations of Phase 1. This/these individuals will need to coordinate with and be approved by the Devens Public Safety Officer. The Devens Public Safety Officer reserves the right to require other public safety personnel if the initial person(s) are not adequate to address public health and safety concerns.
    - A Fire Watch is required for Phase 2 construction activities and welding near the existing Praxair Gas Farm area. This must also be coordinated with the Devens Fire Department.
    - All hydrogen deliveries must be coordinated with the Devens Fire Department, including advanced notification and Fire Department presence on-site during delivery.

    All on-site personnel including Evergreen employees, contractors and sub-contractors must be made aware of this plan and requirements. These plans and all on-site safety requirements must be coordinated with Turner Construction, the Devens Public Safety Officer and the DEC prior to issuance of a building permit for Phase 2.

32. Landscape plans are to be revised to replace White Pines proposed within 20 feet of paved areas to be substituted with a salt-tolerant species such as Blue Spruce. This change shall be made prior to DEC endorsement of the final plans.

33. The following miscellaneous revision shall be made to the final plan set prior to endorsement by the DEC:
    - Drawing Number DN2C-0701 -  is not labeled;
    - Drawing Number DN2C-0003 – Operations and Maintenance Plan – portion of text missing;
    - Drawing Number DN2C-0602 – Bio-retention are in rear of building should be included in demolition;

- Drawing Number DN2C-0901 – Emergency generators in front of building need to be removed from plans;
- Drawing Number DN2A-9200 – String area is still labeled on plans and needs to be removed as it is not approved as part of this application.
- Plans shall be revised to indicate cast-in-place monolithic, reinforced, air entrained concrete vertical curb and sidewalks or vertical granite curb where sidewalks abut driveways or parking areas as per 974 CMR3.04(6)(a)3.

34. The approval of Phase 2 requires a number of modifications to the approved Phase 1 plans. This Phase 2 approval supersedes only Phase 1 requirements/conditions that may conflict with Phase 1 conditions/requirements. All other Phase 1 conditions/requirements are still in force.

35. In conjunction with condition #27, the applicant shall revise the plans and drainage calculations to demonstrate compliance with 974 CMR 4.08(5)(b) to ensure the north side storm drain system off of the front parking lot does not flow in a surcharged condition under a 25 year storm event based on the Rational Method. Plans and drainage calculations shall also be revised to meet the requirements of 974 CMR 4.08(5)(b)(4) - stormwater discharges in the 2 and 25-year storm events that fall within the range of 2.0 to 10.0 feet per second. These revisions must be made to the satisfaction of the DEC prior to endorsement of the final plans.

36. All outstanding application, processing and peer review fees shall be paid prior to the issuance of a building permit.

37. As per 974 CMR 1.04(9), the applicant shall record the ROD with the Registry of Deeds for both Worcester and Middlesex Counties and provide proof thereof to the DEC prior to the issuance of a building permit. After the appeal period had expired, the applicant shall submit plans for endorsement. Final endorsed plans shall also be recorded in both counties prior to the issuance of a building permit.

38. Wherever "Applicant" is referenced in the Conditions set forth herein, it refers to the Applicant, its successors and assigns.

39. As per the modified waiver request regarding 974 CMR 3.04(6)(a)5., final plans shall be revised to eliminate the proposed service door located closest to the Barnum Road entrance. The remaining two service doors facing the Phase 2 parking lot are not permitted to be used as permanent loading docks.

8. Decision:

The DEC voted on April 3, 2008, after the Public Hearing was closed, to grant certain waivers, to issue findings, including that the application complied with Approval Criteria in 974 CMR 3.03(2), to impose Conditions, and to approve the Site Plan Application for Phase 2 of the Evergreen Solar Photovoltaic Manufacturing Facility.

9. Building Permit

The Building Commissioner, along with the Electrical and Plumbing Inspectors, must review architectural/structural drawings and specifications and approve them in writing, prior to issuance of a building permit. All requirements in the Massachusetts Building

Code, the Massachusetts Sanitary Code, and the Devens Fire Chief must be met. When this approval is obtained, the building permit may then be integrated with this Site Plan Record of Decision; together they will constitute the Unified Permit for the Evergreen Solar Manufacturing Facility Phase II, which will, in turn, allow construction to commence.

10. Permit Duration

In accordance with 974 CMR 1.10, unified permits shall remain in effect so long as the approved activities are commenced within six months of the date the DEC files a Record of Decision and completed within four years. This time period may be extended upon written application to the DEC. It is further noted that there is a thirty-day "reconsideration period" during which an applicant, a Town, or an aggrieved person may request the DEC reconsider its action (By-Laws, Article IV, Sections C through F). Work performed during this period, which begins on April 4, 2008 and terminates May 4, 2008, is "at risk". Final plans must be submitted for endorsement by the Commission by October 4, 2008.

Approved by:

Date: 4/4/2008

Peter C. Lowitt, AICP, Director
Devens Enterprise Commission

Certification ***Middlesex,SS***

I certify the above is a true action and record of the Devens Enterprise Commission and that Peter C. Lowitt, Devens Land Use Administrator/Director, is empowered by the Devens Enterprise Commission to sign this Record of Decision on its behalf.

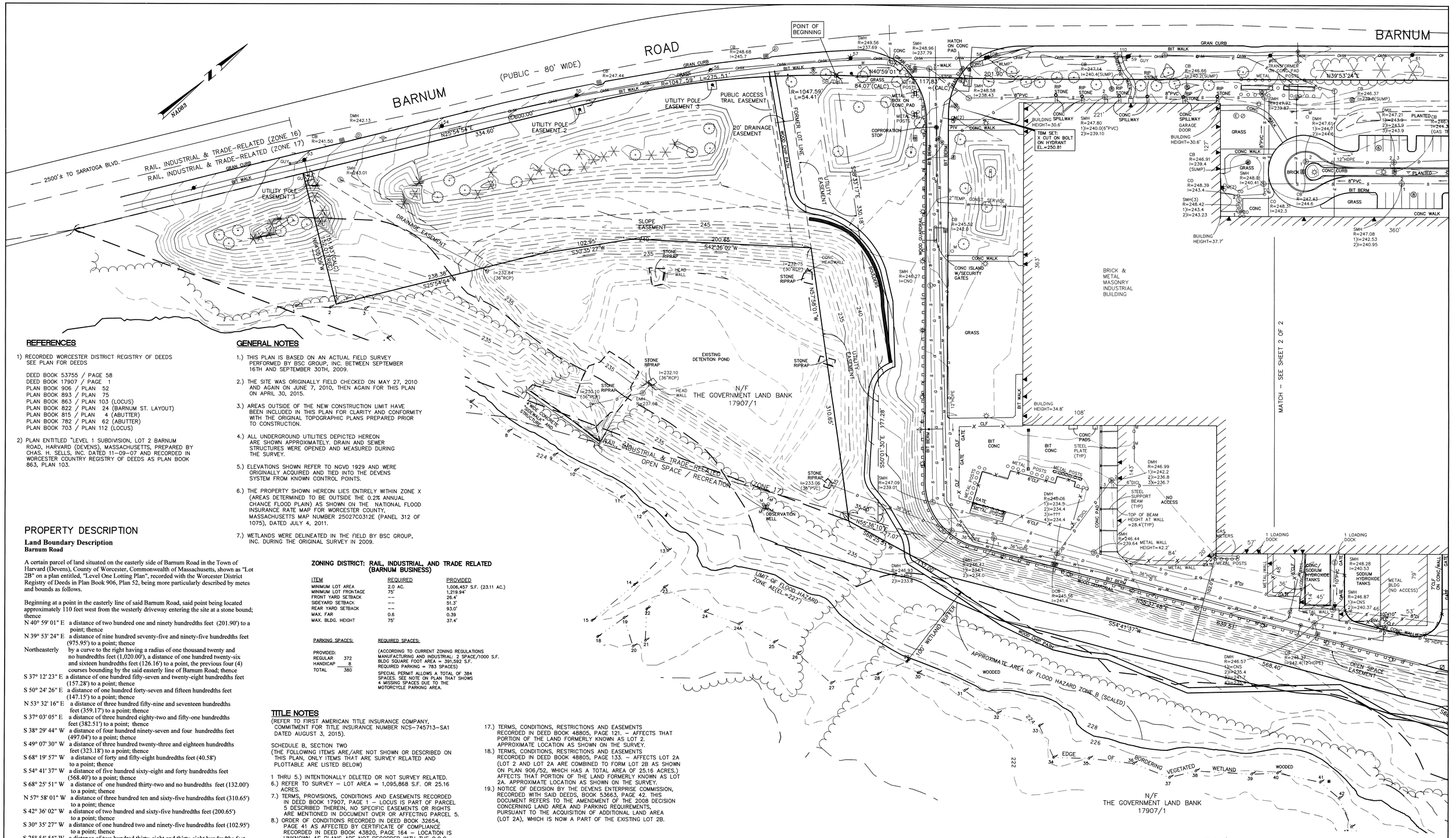
4/4/08
Date

Mary E. Quinn, Notary
My Commission expires 6/25/2010

MARY E. QUINN
Notary Public
Commonwealth of Massachusetts
My Commission Expires
June 25, 2010

APPENDIX D

ALTA/ACSM Land Title Survey



REFERENCES

1) RECORDED WORCESTER DISTRICT REGISTRY OF DEEDS
SEE PLAN FOR DEEDS

DEED BOOK 53755 / PAGE 58
DEED BOOK 17907 / PAGE 1
PLAN BOOK 906 / PLAN 52
PLAN BOOK 893 / PLAN 75
PLAN BOOK 863 / PLAN 103 (LOCUS)
PLAN BOOK 822 / PLAN 24 (BARNUM ST. LAYOUT)
PLAN BOOK 815 / PLAN 4 (ABUTTER)
PLAN BOOK 782 / PLAN 62 (ABUTTER)
PLAN BOOK 703 / PLAN 112 (LOCUS)

2) PLAN ENTITLED "LEVEL 1 SUBDIVISION, LOT 2 BARNUM ROAD, HARVARD (DEVENS), MASSACHUSETTS, PREPARED BY CHAS. H. SELLS, INC. DATED 11-09-07 AND RECORDED IN WORCESTER COUNTRY REGISTRY OF DEEDS AS PLAN BOOK 863, PLAN 103.

GENERAL NOTES

1.) THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY PERFORMED BY BSC GROUP, INC. BETWEEN SEPTEMBER 16TH AND SEPTEMBER 30TH, 2009.

2.) THE SITE WAS ORIGINALLY FIELD CHECKED ON MAY 27, 2010 AND AGAIN ON JUNE 7, 2010, THEN AGAIN FOR THIS PLAN ON APRIL 30, 2015.

3.) AREAS OUTSIDE OF THE NEW CONSTRUCTION LIMIT HAVE BEEN INCLUDED IN THIS PLAN FOR CLARITY AND CONFORMITY WITH THE ORIGINAL TOPOGRAPHIC PLANS PREPARED PRIOR TO CONSTRUCTION.

4.) ALL UNDERGROUND UTILITIES DEPICTED HEREON ARE SHOWN APPROXIMATELY. DRAIN AND SEWER STRUCTURES WERE OPENED AND MEASURED DURING THE SURVEY.

5.) ELEVATIONS SHOWN REFER TO NGVD 1929 AND WERE ORIGINALLY ACQUIRED AND TIED INTO THE DEVENS SYSTEM FROM KNOWN CONTROL POINTS.

6.) THE PROPERTY SHOWN HEREON LIES ENTIRELY WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN) AS SHOWN ON THE NATIONAL FLOOD INSURANCE RATE MAP FOR WORCESTER COUNTY, MASSACHUSETTS MAP NUMBER 25027C0312E (PANEL 312 OF 1075), DATED JULY 4, 2011.

7.) WETLANDS WERE DELINEATED IN THE FIELD BY BSC GROUP, INC. DURING THE ORIGINAL SURVEY IN 2009.

PROPERTY DESCRIPTION

Land Boundary Description
Barnum Road

A certain parcel of land situated on the easterly side of Barnum Road in the Town of Harvard (Devens), County of Worcester, Commonwealth of Massachusetts, shown as "Lot 2B" on a plan entitled, "Level One Lotting Plan", recorded with the Worcester District Registry of Deeds in Plan Book 906, Plan 52, being more particularly described by metes and bounds as follows.

Beginning at a point in the easterly line of said Barnum Road, said point being located approximately 110 feet west from the westerly driveway entering the site at a stone bound; thence

N 40° 59' 01" E a distance of two hundred one and ninety hundredths feet (201.90') to a point; thence
N 39° 53' 24" E a distance of nine hundred seventy-five and ninety-five hundredths feet (975.95') to a point; thence
Northeasterly by a curve to the right having a radius of one thousand twenty and no hundredths feet (1,020.00'), a distance of one hundred twenty-six and sixteen hundredths feet (126.16') to a point, the previous four (4) courses bounding by the said easterly line of Barnum Road; thence
S 37° 12' 23" E a distance of one hundred fifty-seven and twenty-eight hundredths feet (157.28') to a point; thence
S 50° 24' 26" E a distance of one hundred forty-seven and fifteen hundredths feet (147.15') to a point; thence
N 53° 32' 16" E a distance of three hundred fifty-nine and seventeen hundredths feet (359.17') to a point; thence
S 37° 03' 05" E a distance of three hundred eighty-two and fifty-one hundredths feet (382.51') to a point; thence
S 38° 29' 44" W a distance of four hundred ninety-seven and four hundredths feet (497.04') to a point; thence
S 49° 07' 30" W a distance of three hundred twenty-three and eighteen hundredths feet (323.18') to a point; thence
S 68° 19' 57" W a distance of forty and fifty-eight hundredths feet (40.58') to a point; thence
S 54° 41' 37" W a distance of five hundred sixty-eight and forty hundredths feet (568.40') to a point; thence
S 68° 25' 51" W a distance of one hundred thirty-two and no hundredths feet (132.00') to a point; thence
N 57° 58' 01" W a distance of three hundred ten and sixty-five hundredths feet (310.65') to a point; thence
S 42° 36' 02" W a distance of two hundred and sixty-five hundredths feet (200.65') to a point; thence
S 30° 35' 27" W a distance of one hundred two and ninety-five hundredths feet (102.95') to a point; thence
S 25° 54' 54" W a distance of two hundred thirty-eight and thirty-eight hundredths feet (238.38') to a point; thence
N 64° 05' 06" W a distance of one hundred fifty-two and one hundredth feet (152.01') to a point; thence
N 25° 54' 54" E a distance of three hundred thirty-four and sixty hundredths feet (334.60') to a point; thence
Northeasterly by a curve to the right having a radius of one thousand forty-seven and fifty-nine hundredths feet (1,047.59'), a distance of two hundred seventy-five and fifty-one hundredths feet (275.51') to the point of beginning.

The above described parcel of land contains an area of 1,095,868 square feet (25.16 acres).

Being the same Land conveyed in the following Deeds:

Quit Claim Deed from Evergreen Solar, Inc. dated April 5, 2012, and recorded with the Worcester County Registry of Deeds on April 11, 2012, in Book 48805 at Page 112.

Quit Claim Deed from Massachusetts Development Finance Agency dated April 6, 2012, and recorded with the Worcester County Registry of Deeds on April 11, 2012, in Book 48805 at Page 121.

Quit Claim Deed from Massachusetts Development Finance Agency dated April 6, 2012, and recorded with the Worcester County Registry of Deeds on April 11, 2012, in Book 48805 at Page 133.

ZONING DISTRICT: RAIL, INDUSTRIAL, AND TRADE RELATED (BARNUM BUSINESS)

ITEM	REQUIRED	PROVIDED
MINIMUM LOT AREA	2.0 AC.	1,006,457 S.F. (23.11 AC.)
MINIMUM LOT FRONTAGE	75'	1,219.94'
FRONT YARD SETBACK	--	26.4'
SIDEYARD SETBACK	--	51.3'
REAR YARD SETBACK	--	93.0'
MAX. FAR	0.6	0.39
MAX. BLDG. HEIGHT	75'	37.4'

PARKING SPACES:		REQUIRED SPACES:
PROVIDED:		(ACCORDING TO CURRENT ZONING REGULATIONS MANUFACTURING AND INDUSTRIAL: 2 SPACE/1000 S.F. BLDG SQUARE FOOT AREA = 391,592 S.F. REQUIRED PARKING = 783 SPACES)
REGULAR	372	
HANDICAP	8	SPECIAL PERMIT ALLOWS A TOTAL OF 384 SPACES SEE NOTE ON PLAN THAT SHOWS 4 MISSING SPACES DUE TO THE MOTORCYCLE PARKING AREA.
TOTAL	380	

TITLE NOTES

(REFER TO FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT FOR TITLE INSURANCE NUMBER NCS-745713-SA1 DATED AUGUST 3, 2015).

SCHEDULE B, SECTION TWO
(THE FOLLOWING ITEMS ARE/ARE NOT SHOWN OR DESCRIBED ON THIS PLAN, ONLY ITEMS THAT ARE SURVEY RELATED AND PLOTTABLE ARE LISTED BELOW)

1 THRU 5.) INTENTIONALLY DELETED OR NOT SURVEY RELATED.
6.) REFER TO SURVEY – LOT AREA = 1,095,868 S.F. OR 25.16 ACRES.
7.) TERMS, PROVISIONS, CONDITIONS AND EASEMENTS RECORDED IN DEED BOOK 17907, PAGE 1 – LOCUS IS PART OF PARCEL 5 DESCRIBED THEREIN, NO SPECIFIC EASEMENTS OR RIGHTS ARE MENTIONED IN DOCUMENT OVER OR AFFECTING PARCEL 5.
8.) ORDER OF CONDITIONS RECORDED IN DEED BOOK 32654, PAGE 41 AS AFFECTED BY CERTIFICATE OF COMPLIANCE RECORDED IN DEED BOOK 43820, PAGE 164 – LOCATION IS UNKNOWN AS PLANS ARE NOT RECORDED WITH THE O.O.C., PROBABLY THE DETENTION POND ON THE ABUTTING PARCEL AT NORTHEAST CORNER OF LOCUS.
9.) SUBJECT TO ALL MATTERS SHOWN OR SET FORTH IN PLAN BOOK 867 AT PAGE 124 – COMPLETE PLAN SET FOR DESIGN AND CONSTRUCTION OF THE LOCUS SITE FOR EVERGREEN SOLAR MANUFACTURING FACILITY.
10.) SUBJECT TO ALL MATTERS RECORDED IN DEED BOOK 26844, PAGE 212 – AFFECTS LOCUS, ALL OF THE LOCUS PARCEL IS WITHIN LEASE PARCEL A.6.
11.) EVERGREEN SOLAR PHASE II UNIFIED PERMIT RECORD OF DECISION RECORDED IN DEED BOOK 42703, PAGE 270 – REFERS TO PHASE II OF CONSTRUCTION ON LOCUS PARCEL.
13.) RECORD OF DECISION, 112 BARNUM ROAD, LLC, 112 BARNUM ROAD (27-17-500) DEVENS, MA, UNIFIED PERMIT RECORDED IN DEED BOOK 50612, PAGE 381 – REFERS TO PERMIT APPLICATION FOR A NEW LOADING DOCK AT REAR OF BUILDING.
15.) RECORD OF DECISION, 112 BARNUM ROAD, LLC, 110-112 BARNUM ROAD (22-17-601 & 27-17-500) (HARVARD) DEVENS, MA, UNIFIED PERMIT FOR EARTH REMOVAL AND PARTIAL SOUND WALL REMOVAL RECORDED IN DEED BOOK 52364, PAGE 273 – UNKNOWN SPECIFIC LOCATION FOR EARTH REMOVAL, ALONG OR ADJACENT TO ROAD. SOUND BARRIER WAS BEHIND BUILDING AT SOUTHEAST CORNER.
16.) EASEMENTS AFFECTING THE LAND AS SHOWN ON PLAN BOOK 906, PLAN 52. THIS PLAN COMBINED LOTS 2 AND 2A.
17.) TERMS, CONDITIONS, RESTRICTIONS AND EASEMENTS RECORDED IN DEED BOOK 48805, PAGE 121. – AFFECTS THAT PORTION OF THE LAND FORMERLY KNOWN AS LOT 2. APPROXIMATE LOCATION AS SHOWN ON THE SURVEY.
18.) TERMS, CONDITIONS, RESTRICTIONS AND EASEMENTS RECORDED IN DEED BOOK 48805, PAGE 133. – AFFECTS LOT 2A (LOT 2 AND LOT 2A ARE COMBINED TO FORM LOT 2B AS SHOWN ON PLAN 906/52, WHICH HAS A TOTAL AREA OF 25.16 ACRES.) AFFECTS THAT PORTION OF THE LAND FORMERLY KNOWN AS LOT 2A. APPROXIMATE LOCATION AS SHOWN ON THE SURVEY.
19.) NOTICE OF DECISION BY THE DEVENS ENTERPRISE COMMISSION, RECORDED WITH SAID DEEDS, BOOK 53663, PAGE 42. THIS DOCUMENT REFERS TO THE AMENDMENT OF THE 2008 DECISION CONCERNING LAND AREA AND PARKING REQUIREMENTS, PURSUANT TO THE ACQUISITION OF ADDITIONAL LAND AREA (LOT 2A), WHICH IS NOW A PART OF THE EXISTING LOT 2B.

SURVEYOR'S CERTIFICATION-TABLE A NOTES

ITEM 10: NO INTERIOR INVESTIGATION OR MEASUREMENTS FOR INTERIOR DIVIDING WALLS OR PARTY WALLS WERE MADE AS PART OF THIS SURVEY, AS WOULD PERTAIN TO INDIVIDUAL LEASED SPACES WITHIN THE BUILDING FOOTPRINT.
ITEM 16: OBSERVED EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR ADDITIONS – NONE OBSERVED.
ITEM 17: PROPOSED CHANGES IN STREET RIGHT OF WAY LINES – NONE FOUND.
ITEM 18: OBSERVED EVIDENCE OF SITE USE AS A SOLID WASTE DUMP, SUMP OR LANDFILL – NONE OBSERVED.
ITEM 19: LOCATION OF WETLAND AREAS AS DELINEATED – SEE SURVEY.
ITEM 20: LOCATIONS OF IMPROVEMENTS WITHIN ANY OFF SITE EASEMENTS – NOT APPLICABLE.
ITEM 21: PROFESSIONAL LIABILITY INSURANCE POLICY LIMITS FOR THE SURVEY – SEE CONTRACT DATED 4/27/2015 BETWEEN BSC GROUP, INC. AND ARTEMIS REAL ESTATE PARTNERS FOR SPECIFIC INSURANCE LIMITS.

SURVEYOR'S CERTIFICATE

To SANTANDER BANK, N.A., AD Barnum Owner, LLC, and First American Title Insurance Company and their respective successors, nominees and assigns:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1 through 5, 6(b), 7(a), 7(b)(1), 7(c), 8 through 10(a), 11(a), and 13 through 19 of Table A thereof. The field work was completed on April 30, 2015.

Date of Plat or Map:: August 18, 2015

By: Dana J. Standley
Registration No. 38044

COMMONWEALTH OF MASSACHUSETTS DANA J. STANDLEY NO. 38044 REGISTERED PROFESSIONAL LAND SURVEYOR

ALTA/ACSM LAND TITLE SURVEY PLAN OF LAND

IN

HARVARD (DEVENS), MASSACHUSETTS

(WORCESTER COUNTY)

SCALE : 1" = 40' MAY 7, 2015 (REVISED AND UPDATED AUGUST 18 , 2015)

FEET 0 10 20 40 80

THE BSC GROUP, INC.
33 WALDO STREET, WORCESTER, MASSACHUSETTS

OWNED BY : 112 BARNUM ROAD, LLC
PREPARED FOR : AD BARNUM OWNER, LLC
JOB NO. 2.3061.14 DWG. NO. 2065 FF SHEET 1 OF 2

BARNUM (PUBLIC – 80' WIDE) ROAD

MATCH – SEE SHEET 1 OF 2

BRICK & METAL MASONRY INDUSTRIAL BUILDING

N/F
112 BARNUM ROAD, LLC
48808/112 (IMPROVEMENTS)
48805/121 (LOT 2)
AND 48805/133 (LOT 2A)

LOT 2B
AREA=1,095,868 S.F.± (25.16± ACRES)

BRICK & METAL MASONRY INDUSTRIAL BUILDING

TOTAL SQUARE FOOT AREA OF BUILDING AT GROUND LEVEL = 391,592 S.F.±

N/F
FITCHBURG PUBLISHING COMPANY
26884/268

EXISTING BIT CONC PARKING LOT

EXISTING DETENTION POND

N/F
THE GOVERNMENT LAND BANK
17907/1

RAIL, INDUSTRIAL & TRADE-RELATED OPEN SPACE / RECREATION

4200'± TO HARVARD RD. AT THE AYER ROTARY

NAD83

LEGEND

BIT	BITUMINOUS
CB	CATCH BASIN
X	CHAIN LINK FENCE
CO	CLEAN-OUT
CONC	CONCRETE
	CONCRETE POST
CNS	CONIFEROUS TREE
	COULD NOT SEE
	DECIDUOUS TREE
	DISK
	DOOR
DMH	DRAIN MANHOLE
DI	DUCTILE IRON
DICL	DUCTILE IRON CONCRETE LINED
	ELECTRIC HANDHOLE
E	ELECTRIC MANHOLE
	FLAG POLE
	GAS GATE
	GAS METER
GRAN	GRANITE
	GUY ANCHOR
	GUY POLE
	HAND HOLE
HDPE	HIGH DENSITY POLYETHYLENE
	HYDRANT
	INVERT
IR	IRON ROD
	LIGHT POLE
MH	MANHOLE
M	METAL POLE
	MISCELLANEOUS GATE
	MONITORING WELL
NPV	NO PIPES VISIBLE
OHW	OVERHEAD WIRES
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
S	SEWER MANHOLE
	SIGN
	STOCKADE FENCE
SB/DH	STONE BOUND W/DRILL HOLE
T	TELEPHONE MANHOLE
	TREE LINE
	UTILITY POLE
	UTILITY POLE W/LIGHT
	UTILITY POLE W/TRANSFORMER
	VENT PIPE
W	WATER GATE
	WETLAND FLAG
	WOOD GUARDRAIL
W	WOOD POST
	ONE FOOT CONTOUR
240	FIVE FOOT CONTOUR
CTV	UNDERGROUND CABLE
D	UNDERGROUND DRAIN
E	UNDERGROUND ELECTRIC
G	UNDERGROUND GAS
S	UNDERGROUND SEWER
T	UNDERGROUND TELEPHONE
W	UNDERGROUND WATER
N/F	NOW OR FORMERLY

LOCUS

LOCUS MAP
NO SCALE

ALTA/ACSM LAND TITLE SURVEY PLAN OF LAND IN HARVARD (DEVENS), MASSACHUSETTS

(WORCESTER COUNTY)

SCALE : 1" = 40' MAY 7, 2015 (REVISED AND UPDATED AUGUST 18, 2015)

FEET 0 10 20 40 80

COMMONWEALTH OF MASSACHUSETTS
DANA J. STANDLEY
NO. 38044
REGISTERED PROFESSIONAL LAND SURVEYOR

8-18-15

THE BSC GROUP, INC.
33 WALDO STREET, WORCESTER, MASSACHUSETTS

OWNED BY : 112 BARNUM ROAD, LLC
PREPARED FOR : AD BARNUM OWNER, LLC
JOB NO. 2.3061.14 DWG. NO. 2065 FF SHEET 2 OF 2