



November 17, 2021

Lancaster Planning Board  
c/o Mr. Russel W. Williston  
Prescott Building, Suite 4  
701 Main Street  
Lancaster, Massachusetts 01523

Re: Peer Review Response to Comments – 90 Duval Road  
Stormwater Permit – Third Party Review

Dear Mr. Russel W. Williston and Planning Board Members:

On Behalf of the Applicant, U-Haul Moving & Storage of West Springfield and the property Owner Five SAC Self-Storage Corporation, we are submitting herewith a Response to Initial Comments received from CEI Comprehensive Environmental Incorporated in their letter dated October 25, 2021. We will provide a revised set of plans that reflect the response to comments noted below. For your convenience, we present the comments in *“bold italics”* and the LDC responses in a conventional font. Please find the following:

**I. Applicability**

The following Town of Lancaster regulations govern review of this application:

1. Chapter 305 “Stormwater Management Rules and Regulations”
2. Chapter 170, “Stormwater Control” Bylaw

Chapter 305 and Chapter 170 both require that all projects must meet the Massachusetts Stormwater Management Standards (310 CMR 10.05(6)(k)). This review focuses on meeting the requirements of these three regulations.

CEI understands that this is an active construction site and that the goal is to stabilize the site as soon as feasible to mitigate downgradient impacts to wetland resource areas. Because this is an active construction site, not all requirements of the aforementioned regulations apply to this review. The following review comments therefore focus on applicable requirements and guidance relative to installation of construction period Best Management Practices (BMPs), maintenance of construction period BMPs, and stabilization of an active construction site.

*LDC response: Acknowledged.*

**II. Review of Stormwater Management Plan Required by § 305-7**

The Stormwater Management Plan does not appear to be applicable to this application

*LDC response: Acknowledged.*

**III. Review of Erosion and Sediment Control Plan Required by § 305-8**

The following items required by § 305-8 do not appear to have been provided by the Applicant. Recommended changes are listed in italics.

- 1) *Maximize groundwater recharge (§ 305-8 A (6)).*
  - a) *Describe how the proposed BMPs maximize groundwater recharge.*

***LDC response: The entirety of the cleared portion of the site will be revegetated and no new impervious surfaces are proposed. Some of the stormwater runoff from the rear of the building will flow overland to the stormwater basin, which will result in limited pretreatment prior to discharge back onto pervious ground above the wetland buffer zone.***

- 2) Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than 14 days after construction activity has temporarily or permanently ceased on that portion of the site (§ 305-8 A).
  - a) Indicate the 14-day stabilization requirement on the Plans. Provide a clear description of “temporary” vs. “permanent” stabilization measures that will be implemented.

***LDC response: The plans have been revised to depict the temporary and permanent measures. The stormwater basin is meant to serve temporarily as a sediment basin, and upon stabilization of the site, serve as a detention basin to reduce peak flows to pre-existing levels. Slopes are noted to be terraced (roughened), seeded, and covered with blankets immediately (as has been done across most of the site). As discussed with CEI at the site, the blankets are removed and re-installed daily as the site is graded. Eventually the entire disturbed portion of the site will be loamed, seeded, and covered with blankets for permanent stabilization. Refer to C-101 and L-101 for more information.***

- 3) Names, addresses and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan [§ 305-8 B(1)].
  - a) Add phone numbers and name of owner and applicant to Plans.

***LDC response: This information has been added to the plans.***

- 4) Drainage patterns and approximate slopes anticipated after major grading activities (construction phase grading plans) [§ 305-8 B(8)].
  - a) Add drainage patterns and slopes to the Plans.

***LDC response: Slopes and flow areas have been added to the channels and diversion areas as well as the soil disposal area west of the power line easement. Where not labeled, the slopes are shown to be returned to the pre-existing conditions.***

- 5) Stormwater runoff calculations in accordance with the Department of Environmental Protection's Stormwater Management Policy [§ 305-8 B(12)].
  - a) Add BMP sizing calculations. See below for specific recommendations for sizing.

***LDC response: As noted above, the stormwater basin has been sized as a temporary sediment basin and eventually permanent basin to mitigate the increase in runoff due to the clearing. Sizing information is cited below.***

- 6) Location and description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other stabilization measures.
  - a) As noted below under Section V. 4 (Site Stabilization), the Plans do not specifically indicate which areas of the site will be stabilized and how they will be stabilized. It is assumed that all areas of the site are to be stabilized. More detail is needed on the Plans to specify which type of stabilization will be applied to each portion of the site. Consider potential alternative stabilization measures such as erosion control blanket if it becomes difficult to achieve vegetative stabilization by hydroseeding this late in the season.

***LDC response: The plans have been revised accordingly.***

- 7) *A description of construction and waste materials expected to be stored on site. The plan shall include a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response [§ 305-8 B(14)].*
  - a) *Add description of any construction and waste materials to be stored on site.*

*LDC response: Waste materials may include construction debris and packaging materials, as well as materials that may have been historically dumped or disposed of at the site prior to clearing. Waste shall be removed from the site regularly. No waste shall be burned or disposed of on site. Straw bales and wattles, wood stakes, and other such materials may remain on site to degrade. There shall be no hazardous or toxic materials stored out of doors at the site. Any spill of a hazardous or toxic material shall be reported to MassDEP and other agencies having jurisdiction and cleaned according to applicable regulations.*

#### IV. Stormwater Report

The only Stormwater Management Standard that appears to apply to this construction phase project is Standard 8. Standard 8 requires that a Construction Period Pollution Prevention Plan (CPPP) be developed to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities. The following comments are provided for the CPPP:

- 1) Volume 1, Chapter 1 of the Massachusetts Stormwater Handbook requires that the CPPP include a narrative. Include a narrative in the CPPP that describes the project and identifies the part(ies) responsible for implementing the CPPP.

*LDC response: There are erosion control notes and a construction sequence on Sheet C-001. The responsible parties, being the Owner's representative and site contractor are listed. A revised CPPP is attached.*

- 2) The CPPP does not include recommended maintenance measures for the erosion control blanket specified in the Plans.

*LDC response: The CPPP has been updated to include the erosion control blankets and turf reinforcement mat (TRM).*

- 3) The CPPP does not include recommended construction period maintenance measures for the "Stormwater Basin" specified on the Plans.

*LDC response: The CPPP has been updated to include the temporary and long term maintenance of the sediment basin as well as the temporary riser pipe (outlet control device).*

- 4) Volume 3 (Standard 8) of the Massachusetts Stormwater Handbook requires that computations be provided demonstrating that the sediment basin is able to store runoff from the 2-year, 24-hour storm or provide 3,600 cubic feet of storage per acre drained, whichever is larger. (See comments below on the Stormwater Basin).

*LDC response: The Stormwater Basin provides 10,896 C.F. of storage to the spillway. This is equivalent to more than one (1) inch of depth across the disturbed area (3,600 cubic feet/acre) as required. Refer to the attached HydroCAD stage-storage table for Pond P110 P.*

#### V. Plans and Site Design

Additional comments are noted based on review of the Plans. The Massachusetts Stormwater Handbook requires that BMPs are designed in accordance with manufacturer specifications, good engineering practices, the Massachusetts Erosion and Sediment Control Guidelines (MA E&S Guidelines), or the EPA Construction General Permit, whichever is more stringent. The comments below are based on a combination of these requirements.

1) **Stormwater Basin** (i.e. Sediment Basin)

- a) The HydroCAD calculations provided indicate that the basin is undersized, based on the total acreage of the contributing drainage area (see item **IV.4** above). The Stormwater Report provided states that Subcatchment S110P is 2.22 acres and contributes 8,390 cubic feet (cf) of runoff to the sediment basin during a 2-yr, 24-hour storm event. Page 12 of the provided HydroCAD calculations states that Pond P110P (sediment basin) provides only 2,293 cubic feet of total storage. It appears that both the bottom elevation of the basin and the outlet pipe invert at the southeastern corner of the basin are set at El. 415'. However, the outlet pipe on the northern end of the basin (P110 P) is inaccurately modeled within the HydroCAD calculations at elevation 416, rather than 415.5, potentially affecting the accuracy of the total storage volume provided.

*LDC response: The basin has sufficient volume as noted above. The plans have been revised to match the calculations.*

- b) The Sediment Basin has only one defined inlet (i.e., "swale to Stormwater Basin") which will collect runoff from the southern portion of the site. Additional defined inlets into the sediment basin and/or diversion ditches would be needed to collect runoff from the southwestern side of the basin and dissipate velocity before entering the basin. The MA E&S Guidelines (p.138) recommend the use of diversion dikes as inlets into sediment basins. Additional energy dissipation measures at the inlet to the sediment basin should also be considered, such as a sediment forebay or stone filter ring.

*LDC response: The existing swale that diverts runoff southeasterly toward the proposed swale has been added to the plan. Stone check dams have been added to the swales.*

- c) The MA E&S Guidelines (p.140) recommend a stormwater basin length-to-width ratio of 2:1 or greater, with length defined as the average distance from the inlet to the outlet. Inflow should be diverted to the upper end of the basin to avoid short-circuiting of flow. It appears that short-circuiting could be an issue with the proposed design.

*LDC response: A stormwater berm (trap rock or sand bags) has been added to the plan and detail sheet. This berm is meant to divert flow past the southern outlet toward the center of the stormwater basin to prevent short circuiting.*

- d) The Sediment Basin does not include an Outlet Control Structure. The MA E&S Guidelines (p. 140) recommend that a perforated riser structure be installed at the outlet of a sediment basin. Outlet control structures may also be surrounded with a stone filter ring and/or PVC skimmer for additional filtering of sediment-laden water prior to discharge. The Sediment Basin outlet detail also does not appear to include an anti-seep collar as recommended by page 141 of the MA E&S Guidelines.

*LDC response: As noted above, a temporary riser pipe has been added to the plan and detail sheets.*

- e) The outlet pipe for the sedimentation basin is specified as CPE (type C), but the detail states that the trenching and pipework will be done with HDPE. CEI suggests revising the “HDPE Trench” detail to include an Outlet Control Detail as previously recommended.

***LDC response: The detail now refers to CPE (corrugated polyethylene) to be consistent with the plan.***

- f) The “Detention Basin Detail” indicates that the Sediment Basin berm will be stabilized with loam and seed, but does not specify the seed mix. Stabilization will likely occur after the growing season (i.e., seeding may be ineffective). Provide provisions for winter stabilization options such as erosion control blanket.

***LDC response: Seed mixes have been specified. The entire disturbed portion of site, including the basin slopes, is to be seeded and covered with erosion control blankets. The interior of the basin should not be covered with blankets as it is anticipated sediment removal will occur throughout the late fall and spring.***

- g) The Plans indicate that 12” Trap Rock Berms are to be installed. There is no detail provided for a Trap Rock Berm.

***LDC response: A detail has been added to C-201.***

- h) On Sheet C-101 on the Plans, there is a “hatched” area at the northern outlet to the Sediment Basin. This hatching is not described on the Sheet C-101 or its legend, and it is unclear what is intended for this area.

***LDC response: The hatched area is labeled as a turf reinforcement mat (TRM) to serve as the overflow spillway and outlet protection for the secondary outlet pipe from the stormwater basin.***

## 2) Check Dams and Diversion Ditches

- a) The Plans include a detail for “Stone Check Dams” placed within a diversion ditch. It is recommended that a specific diversion ditch detail be created, including provisions for stabilization with measures such as erosion control blanket. Check dam spacing within the diversion ditch(es) should be specified on the Plans. The MA E&S Guidelines (p. 65) recommend that each diversion ditch with check dams should accept runoff from no more than 2-acres.

***LDC response: The diversion ditches/swales accept runoff from roughly 75,000 S.F., less than two acres. Note subcatchment S110 P reports an area of 97,039 S.F., however that includes the area of the stormwater basin itself as well as an area of roughly 22,000 S.F. below the diversion ditches/swales.***

## 3) Perimeter Controls

- a) The Plans call for an “Additional Row of ECB”. However, there is no detail provided on Sheet C-401 for ECB. It is assumed that ECB corresponds to the detail for “Silt Fence with Strawbale”. Suggest renaming for consistency.

***LDC response: The various erosion control measures have been renamed and the plans are now consistent with the details.***

- b) According to the “Proposed Watershed Map” submitted with the Stormwater Report, there is large area along the northeastern perimeter of the site (“S100 P”) that will only be protected by a downgradient silt fence / hay bale combination. The MA E&S Guidelines (page 148) provide a maximum upslope distance above the silt fence based on site slope. The maximum distance on the plans exceeds these guidelines. Consider additional BMPs in this area to minimize the potential for silt fence failure.

*LDC response: Additional BMP’s have been added to the plan.*

**4) Site Stabilization**

- a) The Plans do not specifically indicate which areas of the site will be stabilized and how they will be stabilized. It is assumed that all areas of the site are to be stabilized. More detail is needed on the Plans to specify which type of stabilization will be applied to each portion of the site. Consider potential alternative stabilization measures such as erosion control blanket if it becomes difficult to achieve vegetative stabilization by hydroseeding this late in the season.

*LDC response: The plans and details have been revised and sheets C-101 & L-101 now calls for specific cover/stabilization measures.*

- b) Indicate on the Plans where “Slope Terracing” (i.e., soil roughening) will be used.

*LDC response: The entire site is to receive slope terracing (roughening) prior to seeding and installation of erosion control blankets.*

- c) The “Slope Stabilization” detail provided by the plans does not include information on how to install the specified erosion control blanket (i.e., North American Green P300). Add more information to the detail including:

- i. Where the blanket is proposed to be used.

*LDC response: Refer to sheets C-101 & L-101.*

- ii. The staple pattern of the blanket.

*LDC response: The anchoring pattern of the proposed TRM is shown. We have requested shop drawings/cut sheets for the erosion control blankets to confirm the adequacy of the staple pattern that has been used.*

- iii. Specify a seed mix to apply with the erosion blanket. The detail indicates to see “landscaping plan for seed mix”. There is no landscaping plan associated with these Plans.

*LDC response: Seed mixes are noted on sheet L-101.*

- 5) The Plans do not include a stabilized construction entrance or other measures to minimize off-site tracking of sediment.

*LDC response: A stabilized construction entrance has been added to the plan and detail sheets.*

- 6) The Plans do not include a wetland mitigation/restoration plan to address previous impacts to wetlands associated with discharge of sediment from the Site. A proposed wetland mitigation plan should be submitted for review to the Lancaster Conservation Commission.

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*LDC response: The wetland mitigation/restoration plan is depicted on sheet L-101.*


Please note that we have observed the measures described above being utilized and installed during our site visits. We trust that you will find the enclosed information acceptable, and we thank you in advance for your review of the information. Please feel free to contact me should you have any questions or wish to discuss.

Sincerely,

LAND DESIGN COLLABORATIVE



Michael J. Scott, PE  
Principal



James T. Almonte, RLA  
Principal

cc: Mr. Jeffery Vaine, U-Haul of Western MA & VT

[https://ldcollaborative.sharepoint.com/sites/LandDesignCollaborative/Shared Documents/\\_PROJECTS/21-0109 - U-Haul, Lancaster/Permits/Planning Board/21-0109 PB Resp Itr 01.docx](https://ldcollaborative.sharepoint.com/sites/LandDesignCollaborative/Shared Documents/_PROJECTS/21-0109 - U-Haul, Lancaster/Permits/Planning Board/21-0109 PB Resp Itr 01.docx)

## Construction Period Pollution Prevention Plan



Best Management Practice	Frequency Of Inspection	Maintenance (Inspect for these items) and Frequency (major storms being ½" of rain or more)	Inspection (Date) Maintenance (Yes/No)	Maintenance Performed (Date and Initial)
Natural Buffer	Daily	These areas are beyond the Limit of Work and are to be protected. Replace Limit of Work demarcation (flagging, berms/dikes, fencing or ECB's) when deteriorated. Should infringement into Natural Buffers occur, take corrective action immediately and implement mitigation measures (seeding, planting of native trees or shrubs) to restore Natural Buffers.		
Erosion Control Barriers (ECB)	Weekly and after major storms	Remove sediment before it has accumulated to one-half of the above-ground height of ECB's. Replace ECB's before they have deteriorated/decomposed to half their original height or every twelve (12) months, whichever comes first. Sediments to be removed and disposed of above the ECB line in an area to be stabilized later. Fabric to be disposed of offsite. Natural liners and wooden stakes may be left to decompose.		
Equipment Storage and Refueling	Daily	Storage or refueling of construction equipment within one hundred (100) feet of any stormwater conveyance, storm drain inlet, or water of the U.S. (i.e., wetland or stream) is PROHIBITED. Spill kits shall be readily available on site if refueling is to occur. All materials shall be disposed of offsite.		
Soil Stockpiles	Weekly and after major storms	Locate Stockpiles away from stormwater channels and conveyances. Provide ECB or Stone Check Dams around Stockpiles. Stockpiles that will remain unused for more than a month should be seeded with a quick cover crop such as Ryegrass (10-30 lbs./acres). Hosing or sweeping tracked-out sediment into any stormwater conveyance, storm drain inlet, or water of the U.S. (i.e., wetland or stream) is PROHIBITED.		
Dust Control	Daily	Minimizing disturbed areas and rapid seeding/stabilization of disturbed areas is the preferred option. Water or an acceptable Dust Palliative should be used on haul roads to prevent dust from emanating and leaving the site or affecting Natural Buffers.		



## Construction Period Pollution Prevention Plan



Best Management Practice	Frequency Of Inspection	Maintenance (Inspect for these items) and Frequency (major storms being ½" of rain or more)	Inspection (Date) Maintenance (Yes/No)	Maintenance Performed (Date and Initial)
Stone Check Dams	Weekly and after major storms	Remove sediment at least every other month or when sediment is six (6) inches deep.		
Outlet & Channel Protection	Weekly and after major storm events	Observe slopes downgradient of Sediment Basins for stability, integrity, and erosion and repair immediately with seed or Turf Reinforcement Mat (TRM) and seed as necessary.		
Erosion Control Blanket	Weekly and after major storm events (first four months after vegetation emerges)	Confirm blanket to ground contact and install additional staples where required. Blankets that become torn due to vehicular traffic or fallen trees or other manmade or natural causes shall be covered with additional, properly anchored, blankets. Rotary mowers shall not be used on areas stabilized with erosion control blankets.		
Turf Reinforcement Mat (TRM)	Weekly and after major storm events (first twelve months after vegetation emerges)	Confirm TRM to ground contact and install additional anchors where required. TRM's that become torn due to vehicular traffic, fallen trees, or other manmade or natural causes shall be replaced with new, properly anchored, TRM's. Rotary mowers shall not be used on areas stabilized with a TRM for the first twelve months after emergence of vegetation.		
Stormwater Basin	Weekly and after major storm events until stabilized with vegetation  Quarterly and after major storms after stabilized with vegetation	The Stormwater Basin is to serve as Sediment Basin until the site has become stabilized. Sediment shall be removed when it reaches half the height of the temporary riser pipe. Slopes shall be stabilized with vegetation or blankets if rilling or rutting is observed.  The Stormwater Basin is to serve as a detention basin once the site has been stabilized with vegetation. Should sediment accumulation occur, it shall be removed when it reaches six (6) inches. Rills and/or ruts shall be filled and seeded. Blankets or mulch shall be used on newly seeded areas.		
Temporary Riser Pipe	Weekly and after major storm events until site stabilized	Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition. Replace stone and fabric if damaged during maintenance, prior to becoming clogged, or every six months.		

21-0109 EX and PR

Type III 24-hr 2-Year Rainfall=3.20"

Prepared by Land Design Collaborative

HydroCAD® 10.10-6a s/n 11266 © 2020 HydroCAD Software Solutions LLC

Stage-Area-Storage for Pond P110 P: stormwater basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
415.00	3,640	0	416.18	5,779	5,562	417.36	7,871	13,615
415.02	3,676	73	416.20	5,814	5,677	417.38	7,906	13,773
415.04	3,713	147	416.22	5,850	5,794	417.40	7,941	13,931
415.06	3,749	222	416.24	5,885	5,911	417.42	7,977	14,090
415.08	3,786	297	416.26	5,921	6,030	417.44	8,012	14,250
415.10	3,822	373	416.28	5,956	6,148	417.46	8,048	14,411
415.12	3,858	450	416.30	5,992	6,268	417.48	8,083	14,572
415.14	3,895	527	416.32	6,027	6,388	417.50	8,119	14,734
415.16	3,931	606	416.34	6,063	6,509	417.52	8,154	14,897
415.18	3,968	685	416.36	6,098	6,630	417.54	8,190	15,060
415.20	4,004	764	416.38	6,134	6,753	417.56	8,225	15,224
415.22	4,040	845	416.40	6,169	6,876	417.58	8,261	15,389
415.24	4,077	926	416.42	6,204	7,000	417.60	8,296	15,555
415.26	4,113	1,008	416.44	6,240	7,124	417.62	8,331	15,721
415.28	4,150	1,091	416.46	6,275	7,249	417.64	8,367	15,888
415.30	4,186	1,174	416.48	6,311	7,375	417.66	8,402	16,056
415.32	4,222	1,258	416.50	6,346	7,502	417.68	8,438	16,224
415.34	4,259	1,343	416.52	6,382	7,629	417.70	8,473	16,393
415.36	4,295	1,428	416.54	6,417	7,757	417.72	8,509	16,563
415.38	4,332	1,515	416.56	6,453	7,886	417.74	8,544	16,734
415.40	4,368	1,602	416.58	6,488	8,015	417.76	8,580	16,905
415.42	4,404	1,689	416.60	6,524	8,145	417.78	8,615	17,077
415.44	4,441	1,778	416.62	6,559	8,276	417.80	8,651	17,249
415.46	4,477	1,867	416.64	6,594	8,407	417.82	8,686	17,423
415.48	4,514	1,957	416.66	6,630	8,540	417.84	8,721	17,597
415.50	4,550	2,048	416.68	6,665	8,673	417.86	8,757	17,772
415.52	4,586	2,139	416.70	6,701	8,806	417.88	8,792	17,947
415.54	4,623	2,231	416.72	6,736	8,941	417.90	8,828	18,123
415.56	4,659	2,324	416.74	6,772	9,076	417.92	8,863	18,300
415.58	4,696	2,417	416.76	6,807	9,211	417.94	8,899	18,478
415.60	4,732	2,512	416.78	6,843	9,348	417.96	8,934	18,656
415.62	4,768	2,607	416.80	6,878	9,485	417.98	8,970	18,835
415.64	4,805	2,702	416.82	6,913	9,623	418.00	<b>9,005</b>	<b>19,015</b>
415.66	4,841	2,799	416.84	6,949	9,762			
415.68	4,878	2,896	416.86	6,984	9,901			
415.70	4,914	2,994	416.88	7,020	10,041			
415.72	4,950	3,093	416.90	7,055	10,182			
415.74	4,987	3,192	416.92	7,091	10,323			
415.76	5,023	3,292	416.94	7,126	10,465			
415.78	5,060	3,393	416.96	7,162	10,608			
415.80	5,096	3,494	416.98	7,197	10,752			
415.82	5,132	3,597	<b>417.00</b>	<b>7,233</b>	<b>10,896</b>			
415.84	5,169	3,700	417.02	7,268	11,041			
415.86	5,205	3,803	417.04	7,303	11,187			
415.88	5,242	3,908	417.06	7,339	11,333			
415.90	5,278	4,013	417.08	7,374	11,481			
415.92	5,314	4,119	417.10	7,410	11,628			
415.94	5,351	4,226	417.12	7,445	11,777			
415.96	5,387	4,333	417.14	7,481	11,926			
415.98	5,424	4,441	417.16	7,516	12,076			
416.00	5,460	4,550	417.18	7,552	12,227			
416.02	5,495	4,660	417.20	7,587	12,378			
416.04	5,531	4,770	417.22	7,622	12,530			
416.06	5,566	4,881	417.24	7,658	12,683			
416.08	5,602	4,992	417.26	7,693	12,837			
416.10	5,637	5,105	417.28	7,729	12,991			
416.12	5,673	5,218	417.30	7,764	13,146			
416.14	5,708	5,332	417.32	7,800	13,301			
416.16	5,744	5,446	417.34	7,835	13,458			