TETRA TECH

April 16, 2013

Paul Cincotta
New England Development
One Wells Avenue
Newton, MA 02459

**Re: University Station**
**Response to Comments - DRAFT**

Dear Paul:

Tetra Tech has completed our review of the comments provided by BETA Group dated April 11, 2013. For ease of review, responses are numbered to coincide with the numbering system utilized in the original letters. Responses are shown in *italic* font.

**April 11, 2013 Correspondence from BETA Group**

**General Comments**

Comment 1: Continue to develop the plans to a construction document level of detail. Specific comments and information requirements to be developed are outlined in this memo

*Response:* *Comment acknowledged. Construction Documents will be prepared for the roadway plans.*

Comment 2: Sign type and location should be clarified for the entire project. Clarify to what extent signage will be shown on the "approved plan" or submitted as part of the consistency review.

*Response:* *A signage package is currently under development. Details of the site signage will be provided when available.*

**Summary Plan:**

Comment 1: Prepare summary plan indicating all zoning classification and zoning district boundaries including boundaries of Special Flood Hazard Areas

Engineering and Architecture Services
One Grant Street
Framingham, MA 01701
Tel 508.903.2000 Fax 508.903.2001

and Water Resource Protection Districts as applicable. Include a summary table which for each building identifies , # floors, height, grade elevation, roof elevation, total floor area, units total, # affordable housing by # unit size (# bedrooms) and total units, # moderate income housing by unit size, # of senior residential units by unit size and total, total residential floor area, total retail floor area, and FAR. Provide parking summary in area, # levels as applicable and # spaces, # accessible spaces. As applicable to by-law provide area designated as permanent open space, area and percentage on non-wetland area, area and percentage on impervious area. Identify areas of land within Canton.

*Response:* *A project narrative will be provided as part of the Development Agreement.*

**Existing Lotting Plans:**

Comment 1: It is assumed that the existing lotting plan was derived from the approved Westwood Station Definitive Plan – Please confirm.

*Response:* *The existing lotting plan has been derived from the Westwood Station Definitive Subdivision Plan.*

Comment 2: Is the purpose of these plans reference only. Is it intended that additional plans will be added to the drawing set illustrating the proposed lot lines or will these plans be provided as a separate submission. The location of proposed easements to remain and any proposed easement lines should be also shown on the respective Utility or Roadway Plans.

*Response:* *The existing lotting plans were provided for reference and they represent the current lot configuration on the project site. It is anticipated that the Westwood Station Definitive Subdivision will be dissolved and the lots consolidated and new lots created after Town Meeting.*

**Proposed Layout Plan**

Comment 1: Prepare layout plan showing meets and bounds for proposed roadway layouts.

*Response:* *A roadway layout plan with a metes and bounds description will be submitted in the near future.*

Comment 2: Show slope easements and equipment easements as determined necessary by the Town Engineer. To the extent that public water, sewer and drainage systems reside outside of the public way, show easements. Coordinate with Dedham Westwood Water District to determine easement needs for water supply systems.

*Response:* *Easement plans will be prepared following Town Meeting. Easements will include any required slope easements, utility easements and easements necessary for traffic and street lighting controls.*

Comment 3: The Site Layout plans indicate a proposed property line at the back of sidewalk along University Ave. The property line also indicates that a portion of the site driveways will be included with the street layout. We recommend the property line be revised so that the no portion of the site drive is included in the layout. Easements into private property may be required for various pieces of equipment such a loop detections, controllers etc.

*Response:* *As discussed in the April 9th meeting, the layout line has been drawn so that traffic signal masts and control cabinets fall within the Town's right of way. It was concluded that the layout line would remain as shown.*

**Typical Sections:**

Comment 1: Typical Sections should be provided for primary roadways. Typical sections should be similar in content to MassDOT design requirements and indicate basic materials types and dimensions, cross slopes, lane widths, side slopes, Right of Way etc. The key for typical sections is illustration of the proposed roadway and sidewalk construction and multiple sections would only be necessary to illustrate material changes in type of construction, roadway banking etc.

*Response:* *An updated Layout Roll Plan has been prepared that depicts lane and should widths, basic material type and Right of Way. Typical roadway sections are shown on the Layout Roll Plan and include the pavement details and cross slopes for Rosemont Road, Harvard Street and University Avenue. The University Avenue sections are further broken down to provide a section that details an overlay adjacent to full depth construction as well as a section for full depth construction of University Avenue.*

**Site Layout Plans:**

Comment 1: There is very little proposed work shown on the plans. Please prepare plans showing general material types, dimensions and locations. Show baselines, slope limits, limits of paving, box widening or mill and overlay, lane and shoulder widths proposed drainage information, ROW and easement lines, driveways, sidewalks, pedestrian ramps, curbing, edging, walls and other proposed construction features along with supporting details.

*Response:* *An updated Layout Roll Plan has been prepared and submitted with general material types, roadway and sidewalk dimensions, Right of Way limits, driveways, pedestrian ramps, curbing and retaining walls.*

Comment 2: A Construction Baseline should be provided for each roadway on final construction plans (not required at Site Drives).

*Response:* *The Construction Baseline will be shown on the construction plans for each roadway.*

Comment 3: The northerly Site Driveway from University Avenue is shown with a 12' lane and no shoulder or offset to the curb on either side. Confirm that a one lane access is acceptable to the Fire Department. If acceptable, we further suggest adjusting the median in this section to allow for a single 14' lane. Please provide dimensions on all driveways and consider providing a one foot offset adjacent to the curb line.

*Response:* *As discussed at the April 9th meeting, the median has been reduced by 2 feet and the inbound lane increased to 14 feet.*

Comment 4: Major structural elements above and below ground such as mast arms and foundations and major signs should be shown on the plan. Where information is not available now it should be added to the final construction plans.

*Response:* *Major structural elements will be shown on the Construction Documents.*

Comment 5: Retaining walls are shown in several locations along Rosemont Avenue and within the detention basin area. There are no labels on these walls and it is unclear what type of construction is proposed. The only wall details included are for an MSE Wall. If the walls along the roadway are

intended to be a MSE type wall then the designer should insure that the tie backs do not extend under the roadway.

*Response:* *Retaining wall types are shown on the updated Layout Roll Plan. Retaining wall construction details will be provided as part of the Construction Documents.*

Comment 6: There is an area of handicap parking with a crosswalk for access to Retail Building Q. There is ample opportunity to provide the handicap spaces adjacent to the building and avoid the need for a crosswalk. We suggest the handicap spaces be modified.

*Response:* *As suggested, the handicap parking adjacent to Building Q has been modified and located adjacent to the walk that fronts the building. This is shown on the updated Layout Roll Plan.*

Comment 7: Please provide a summary table of the parking needs broken out by building and use, as well as a table summarizing the available parking proposed.

*Response:* *Please see the attached parking summary and sketch. Retail parking has been provided at a ratio of 4.29 spaces/1000 square feet (Westwood zoning requires 4.0/1000), restaurant parking is provided at 1 space per 4 seats plus 1 space per 2 employees (consistent with Westwood zoning) and the residential parking is provided at 1.62 spaces per unit (there is not a requirement for apartment uses in Westwood zoning).*

Comment 8: The driveway and parking area around Office Buildings B and C do not indicate any portions of the site to include heavy duty pavement. At a minimum the main access drive should be a heavy duty pavement. Please confirm if it is intended that this issue it to be finalized as part of the future phase.

*Response:* *The office area is a future phase. Locations of heavy duty pavement will be shown at the time of Project Design Review for the office phase.*

Comment 9: The future phase area east of University Avenue also does not indicate any areas of heavy duty pavement. At a minimum the main site drives should be a heavy duty pavement. Please confirm if it is intended that this issue it to be finalized as part of the consistency review.

*Response:* *The area east of University Avenue is a future phase. Locations of heavy duty pavement will be shown at the time of Project Design Review for this phase.*

Comment 10: Consider making the circular site roadway in the eastern portion of the site adjacent to the hotel a one way circulation.

*Response:* *Comment acknowledged. Locations of heavy duty pavement will be shown at the time of Project Design Review for this phase.*

Comment 11: Show guard rail locations.

*Response:* *Guard rail locations are shown on the updated Layout Roll Plan. Guardrails in parking areas shall be wood timber guard rails. Guard rails in public right of ways shall be detailed in accordance with MassDOT standards.*

Comment 12: How is the top of the ledge/retaining wall between the office and Core Development protected – by fencing or other means.

*Response:* *The top of the ledge/retaining wall between the office and Core Development area will be protected by fencing in accordance with the Massachusetts Building Code.*

Comment 13: There are two crosswalks in front of Retail Building K that connect handicap parking stalls to the sidewalk but do not show a ramp at the sidewalk. Is the intent to have a flush curb in this area? Please clarify.

**Roadway Profiles (with 5X vertical exaggeration)**

Add profile plans and coordinate the following:

Comment 1: Profile grades should not exceed 5% for new roadways to the extent feasible.

*Response:* *Roadway contours are shown on the March 22, 2013 submission and do not exceed 5% to the extend feasible. The contours indicated that all roadway grades will not exceed 5% on Rosemont Road and University Avenue. However, there are portions of Harvard Street/NStar Way where existing grades exceed 5%.*

Comment 2: Profile grades should not exceed 2% within 50 feet of an intersection.

*Response: Roadway contours shown on the March 22, 2013 submission indicates that grades will not exceed 2% within 50 feet of an intersection. Construction Documents will provide roadway profiles to confirm.*

Comment 3: Sight distance should be included on the profiles at all crest vertical curves.

*Response: Construction Documents will provide sight distances at the crest of all vertical curves.*

Comment 4: Drain and Sewer Trunk lines within the public way should be added to profiles.

*Response: Construction Documents for the roadway construction will include profiles that will show drain and sewer mains.*

**Grading and Drainage:**

Comment 1: Show access and utility easements

*Response: Access and utility easements will be prepared after Town Meeting.*

Comment 2: The proposed detention basin has a bottom contour of 47'. The intersection adjacent to the pond has an elevation of about 46.75'. Clarify whether groundwater mounding below the pond could saturate the roadway sub-base and reduce the life span of the pavements in this area.

*Response: The stormwater basin is designed to be a wet basin and will have an impermeable clay liner to create a standing water surface. Groundwater elevations will not increase as a result of this basin.*

Comment 3: The disposition of the existing drainage system is unclear. Final construction plans should identify which structures and pipes are to be removed, abandoned or left in place.

*Response: Disposition of existing drainage pipes and drainage structures will be identified as part of the Construction Documents.*

Comment 4: Major structural elements above and below ground such as mast arms and foundations and major signs should be shown on the plan. Where information is not available now, it should be added to the final construction plans.

*Response:* *Major structural elements will be shown on the Construction Documents.*

Comment 5: Proposed drainage is not shown for University Avenue, please clarify intention.

*Response:* *Proposed drainage for University Avenue will be shown on the roadway construction plan. General drainage patterns are not anticipated to be altered. In general, street drainage from the north site drive will continue to be directed to the north and discharge to the new drainage system along the Tryder parcel. Road drainage between the north site drive and Dartmouth Steet will be directed to the new 54" RCP drain line. Street drainage between Dartmouth Street and the rail road crossing will be directed to a 48" drain line in Dartmouth Street. Drainage south of the rail line will discharge to the drainage ditch that parallels Canton Street.*

Comment 6: For additional drainage comments please see Stormwater review comments prepared by Phil Paradis.

*Response:* *Comment acknowledged.*

**Utility Plans:**

Comment 1: Show proposed lighting poles, duct and hand holes on final construction plans.

*Response:* *Proposed light poles, duct banks and hand holes will be shown on the final construction plans. Light poles will be designed for 100 mile per hour wind loads.*

Comment 2: Show major structural elements above ground and below ground such as walls including supporting geotextiles, mast arms and foundations, major signs and foundations. Where information is not available now, it should be added to the final construction plans.

*Response:* *Major structural elements will be shown on the Construction Documents.*

Comment 3: Verify trees, lights, plantings and other key streetscape elements are not placed above utility alignments or interfere with the proposed utilities or other infrastructure.

*Response: Final coordination of trees, lights, plantings and other key streetscape elements with other utilities and infrastructure will occur as construction documents are prepared.*

Comment 4 Show access and utility easements.

*Response: Access and utility easements will be prepared after Town Meeting.*

Comment 5: See utility plan comments review prepared by Andy Dennehy for additional comments.

*Response: Comment acknowledged.*

**Pavement Markings Plans:**:

Comment 1: Show all pavement markings and indicate lane and shoulder widths.

*Response: Lane and shoulder widths for the roadways are shown on the Layout Roll Plan.*

Comment 2: Final construction plans should Show all proposed regulatory signs. Coordinate signs locations Urban Design and Lighting Plans.

*Response: Final construction plans will show all required regulatory signs. Sign locations will be coordinated with the Urban Design and Lighting Plans.*

**Signal Plans:**:

Comment 1: Provide signal plans showing layout of equipment, conduit, pull-boxes controller and power source. Plans should include existing and proposed utilities (screened) to demonstrate no conflicts exist. Coordinate signal locations with Urban Design and lighting plans. Strain poles shall not be acceptable.

*Response: Signal plans will be provided with the Construction Documents.*

**Traffic Management Plans:**

Comment 1: Provide traffic management plans that indicate the proposed sequence and staging methodologies.

*Response: A traffic management plan will be prepared at the time of Construction Documents.*

**Detail Sheets:**

Comment 1: Construction details are included for the installation of Highway Guard. There are no indications on the plans of where this is proposed. Future site plans should indicate the limits of where highway guard is proposed. Final construction plans should include the appropriate construction level of detail for driveways, wheelchair ramps and intersection grading. Reinforcement should be added at concrete driveways serving trucks.

*Response: Locations of guard rails have been added to the Layout Roll Plan.*

Comment 2: Final Construction plans for the walls should include details and design calculations stamped by a Massachusetts licensed Structural Engineer indicating the wall type, materials, layout, and profile of all site walls which retain more than four feet of unbalanced fill. Provide any required subsurface explorations, geotechnical and/or subsurface information, as required by the Massachusetts State Building Code as well as for the structural wall between Development Area A and the Core Development to clarify the limits of ledge/wall interface.

*Response: Plans for retaining wall construction and the ledge/wall interface will be prepared as part of the Construction Plans and in support of a building permit application for walls in excess of 4 feet in height. Applicable data will be provided with the building permit to support the design.*

Comment 3: The sign summary table provided is shown in metric units. The detail should be updated.

*Response: The detail will be updated as part of the Construction Documents.*

**Landscape Plans:**

Comment 1: The streetprint graphic at the intersections with University Avenue are potentially confusing to drivers. The circular pattern may be interpreted by

drivers as pavement markings for a roundabout. Encouraging this travel pattern within a signalized intersection is a safety concern and we suggest removal of that detail.

*Response:* *The streetprint graphic will be addressed as part of the Construction Documents.*

Comment 2: Several trees or shrubs appear to be placed on top of the retaining wall along Rosemont Road. Plans should be revised.

*Response:* *Trees and shrub locations adjacent to the retaining wall on Rosemont Road will be coordinated during the preparation of Construction Plans.*

Comment 3: The row of street trees proposed in the median of the North Site Drive is directly on top of a proposed gas main. We suggest that the gas main be placed elsewhere to avoid impacts from the root systems.

*Response:* *The gas main will be relocated. The new location will be shown on the Construction Documents.*

Comment 4: These comments relate to the overall site conditions for more detailed landscape comments please see review prepared by Don Leighton.

*Response:* *Comment acknowledged.*

**Additional Comments**

Comment 1: At the Canton Street intersection the proponent shall coordinate with the MassDOT to incorporate the following:

- **a.** WB-65 vehicles should be able to make all turns with in the intersection without interference, with the exception of the University Avenue northbound left turn and the Canton Street Eastbound right turn.
- **b.** The University Avenue northbound right turn should be extended so through traffic does not cut off access to the right turn lane during peak hours.
- **c.** The Dedham Street westbound approach should be extended so through traffic does not cut off access to the right turn lane during peak hours.

*Response:* *The Proponent will work with MassDOT to resolve the concerns noted above. Since this design is a MassDOT project, final design will be at their discretion.*

Comment 2: At the Blue Hill Drive intersection the proponent shall coordinate with the MassDOT to incorporate a section of depressed median opposite Whitewood Road to provide fire department vehicles access from the westbound side of Blue Hill Drive. The proponent shall also work with MassDOT to facilitate the addition of a pedestrian signal at the right turn lane at this intersection and provision of sound barriers.

*Response: The depressed median is shown on the MassDOT 25% design plans. The Proponent will continue to coordinate with MassDOT as their design progresses.*

Comment 3: The delta island at the right turn lane from Blue Hill Drive is an odd shape and should be adjusted to be more consistent with the proposed pavement markings and truck tracking.

*Response: The Proponent will coordinate with MassDOT.*

Comment 4: Additional wheelchair ramps and crosswalks are to be provided at the signalized intersections along University Avenue to provide pedestrian access at all four legs of the intersection. Right and left turn turn pockets should be adjusted accordingly to maintain storage.

*Response: All signalized intersections provide cross walks at all for legs. Please see the updated Layout Roll Plan.*

Comment5: All left turn pockets should be a minimum of 75' long to provide sufficient stacking room for truck traffic.

*Response: Left turn pockets have been revised to be a minimum of 75 feet. This is shown on the updated Layout Roll Plan.*

Comment 6: Although lane dimensions are not shown on the plans, a review of the electronic files suggests that the lane dimensions at the southern end of University Avenue are inconsistent. Please clarify the intended width of the lanes and shoulder along University Avenue and provide typical sections defining the roadway.

*Response: University Avenue lane widths south of Harvard are anticipated to be 11.5 feet. At the intersection with Canton Street, lane widths are shown per*

*previous discussions with BETA. It should be noted that the Proponent will advocate for the requested lane widths, however, this intersection design is being prepared under the direction of MassDOT. Final lane widths will be at their discretion.*

Comment 7: The pavement design for University Avenue included a full depth pavement design only. It is the intention of the proponent to fully reconstruct the roadway or are there areas where cold plane and overlay may be proposed?

*Response: Construction Documents will identify areas of full depth construction and pavement overlays. A typical section depicting portions of full depth construction adjacent to an overlay is shown on the updated Layout Roll Plan. Also, prior to construction of University Avenue, core samples will be taken confirm adequate asphalt and base depths, in locations where overlays are anticipated.*

Comment 8: Truck turning movements provided for delivery access to Retail Building C indicate that the truck will be travelling eastbound on Harvard Street before beginning its turn into the loading area. Please verify that the trucks will be accessing the site by entering westbound on Harvard Street and utilizing the truck turn around area to reverse direction on Harvard.

*Response: It is the intent for trucks making deliveries to Retail C to travel south to Harvard Street via University Avenue and utilize the truck turnaround behind the Core Retail buildings.*

Comment 9: It appears that the dumpster and trash facilities at most buildings have been added to the plans. A heavy line is shown adjacent to these areas in some cases but no indication is given as to what this is intended to be. We assume it is intended as screening but no proposed materials or details have been shown. Please clarify on Construction Drawings. Final Construction Plans should include details at each loading dock area to demonstrate how by-law requirements are met regarding the prevention of contaminate run off or leachate.

*Response: Construction Documents will be prepared in conformance with the bylaw in terms of screening and containment of leachate.*

Comment 10: The Westwood by-law requires that all businesses greater than 10,000 SF have adequate loading areas. Please verify the location of the loading facilities at retail buildings G, N & O.

*Response:* *Building G will load through the rear of the building. It is anticipated that deliveries for Building G will made by 30-foot box trucks. A turning moving diagram is provided for reference. Buildings N and O are multi-tenant buildings. Loading will be through the front door at these buildings.*

Comment 11: Please provide the latest fire vehicle access plan. Confirm overall access plan has been approved by the fire Chief.

*Response:* *The latest fire truck turning access plan has been provided to BETA. Any additional turning movements required by the Fire Chief will be provided as well.*

**Pavement Design**

Comment 1: The ADT calculations on the pavement notes should be adjusted. The method of averaging the current and future ADT is based on steady growth over the service life. In this case the growth will be almost immediate and we recommend that the initial ADT be based on the Core Development traffic. Calculations suggest that initial ADT of approx. 24,000 on University Avenue, and approximately 4500 on Harvard. ADT on Rosemount is not expected to change significantly immediately following build out of the core development and can remain as noted. Please update the calculation accordingly.

*Response:* *The pavement design calculations have been revised to reflect the higher initial ADT and are attached for review.*

Comment 2: University Avenue should be classified as a Major Arterial. Based on MassDOT standards the subbase course should include Dense Graded Stone. Minimum top course should be 1.75" bituminous.

*Response:* *The pavement design calculations have been revised with University Avenue classified as a major arterial.*

Comment 3: The gravel base design number is derived from one test pit location. Please verify the location of that test pit. The proponent should provide

test pit and sieve data information from multiple locations, say every 500 to 600 feet in areas of full depth to verify the design is appropriate at all points on the roadway. If the required subsurface data is not available now, the data noted above should be obtained prior to any roadway construction commencing. Since the pavement design including gravel sub-bases is 1 to 2 feet deep, sub-base samples should be taken in the band of material 2 to 3 feet below finish grade.

*Response:* *Please see the revised pavement design for details on the CBR test pit location.*

*Additional test pits will be excavated prior to construction to verify design data. Also, cores samples will be obtained in pavement sections that will receive an overlay to verify the pavement profile.*

**Operations and Maintenance**

Comment 1: Incorporate the following requirements into the O+M Plan:

Section 1
Prepare and submit a traffic management plan for holiday shopping periods

Section 4
All back of building areas, with particular emphasis on buildings backing onto Harvard Street and University Avenue, shall be maintained in a neat, clean and orderly fashion.

Section 5
All landscaped areas including plant materials, street furniture and special features shall be promptly repaired or replaced in the event of damage or failure. In regards to plant materials, replacement may be delayed only until seasonal planting conditions prevail.

*Response:* *The Operations and Maintenance Plan will be updated accordingly.*

**Construction.**

Comment 1: Prepare and Submit Construction Management Plan (CMP) for review and approval. The CMP should identify schedule of specific project phases to the level requested by the Town Engineer, specific assumptions and details relative to general construction activity, staging and traffic management, limitation of operations and other construction controls

deemed appropriate by the Town Engineer. The CMP shall also include the various construction permits needed for the project including but not limited to General Construction Permit, Blasting, SWPPP and NPDES.

*Response:* *A CMP will be prepared and it will include copies of relevant Construction Permits. The CMP will also include staging and traffic management plans for work in public roadways as well as a schedule for work in public roadways. The CMP will be prepared with the level of detail that is consistent with industry standards.*

As always, please do not hesitate to contact me should you have any questions or wish to discuss any of the enclosed information in greater detail. I can be reached at (508) 903-2085.

Sincerely,

Nathan H. Cheal, P.E.
Project Manager

C: John Twohig, Esq. – Goulston & Storrs
Bob Daylor, PE, PLS - Tt
Vern Kokosa – Sanborn Head
Ian Ramey – Shadley Associates

Enc: Layout Roll Plan (80 Scale)
Parking Summary with location sketch
Retail G Turning Skech
Revised Pavement Design Calculations

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