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September 23, 2021

*[via overnight mail by UPS]*  
Supervisor Kenneth English  
Town of Tuxedo  
One Temple Drive  
Tuxedo, NY 10987

Re: Application to amend Tuxedo Farms 2015 Special Permit

Dear Supervisor English:

On behalf of the holders of the above referenced Special Permit, please consider this letter to be an application to the Town Board to amend the Special Permit. With respect thereto, enclosed please find the following:

1. 5 copies of the 2015 Special Permit with red-lined proposed changes;
2. 5 copies of a clean copy of the 2015 Special Permit with proposed changes;
3. 5 copies of Performance Standards;
4. 5 copies of Regulating Plan; and
5. Short Form Environmental Assessment Form.

Please place this matter on the September 27, 2021 Town Board agenda for presentation, discussion and further proceedings. Thank you for your courtesies.

Respectfully,  
BLUSTEIN, SHAPIRO, FRANK & BARONE, LLP



JAY R. MYROW

Encls.

cc: Client  
Howard Protter, Esq. (via email)

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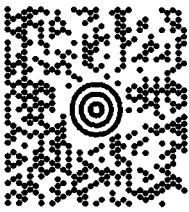
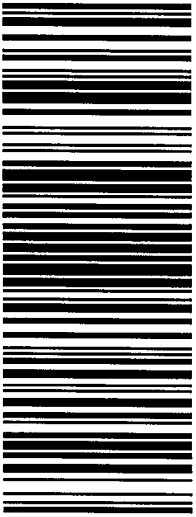

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<p style="text-align: right;"><b>1 OF 1</b></p> <p style="text-align: center;"><b>LTR</b></p> <p>JAY R. MYROW, ESQ.        845-291-0011        BLUSTEIN SHAPIRO FRANK &amp; BARON        10 MATT HEWS STREET        GOSHEN NY 10924</p> <p><b>SHIP TO:</b>        SUPERVISOR KENNETH ENGLISH        TOWN OF TUXEDO        1 TEMPLE DRIVE  <b>TUXEDO PARK NY 10987-4436</b></p>	<p style="font-size: 2em;"><b>NY 125 1-02</b></p>  	<p style="font-size: 3em;"><b>1</b></p> <p><b>UPS NEXT DAY AIR</b></p> <p>TRACKING #: 1Z 21A 653 01 9940 6477</p> 	<p style="text-align: center;"><b>BILLING: P/P</b></p> <p>Reference#1: 15-0282</p> <p style="font-size: 0.8em;">UIS 22.0.1B... WNTNV50 38.OA 09/2021*</p> 
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**2017-2021 SPECIAL PERMIT**  
**TUXEDO FARMS**

**Commented [GG1]:** The redline below are the markups that were presented in Spring of 2021, the blue line and notes on the right are the additional requested changes

This document, including its Articles and Appendices, constitutes the 2017-2021 Special Permit for the Planned Integrated Development known as Tuxedo Farms.<sup>1</sup> This Special Permit replaces and supersedes the 2004 Special Permit, the 2010 Amended and Restated Special Permit, the 2015 Special Permit, and the 2017 Special Permit.

**ARTICLE I. ENUMERATION OF APPROVALS GRANTED**

The following approvals have been granted to the Project:

1. 2017-2021 Special Permit Approval.
2. 2017-2021 Preliminary Plan Approval. The 2017-2021 Preliminary Plan dated December 20, 2017 [March 2021], last revised [March 2021] December 20, 2017, (the "2017 Preliminary Plan"), is attached hereto as Appendix B<sup>2</sup> and incorporated herein by reference.
3. The Design Standards. The Design Standards include:
  - a. the Smart Code for the Project, dated November 2010 [March 2021] (inclusive of the 2017-2021 Regulating Plan), attached hereto as Appendix C and incorporated herein by reference;
  - b. revised Performance Standards for the Project as updated in 2021, dated September 30, 2010, attached hereto as Appendix D and incorporated herein by reference; and
  - c. revised Architectural and Landscape Design Guidelines for the Project, dated December 2017, attached hereto as Appendix E and incorporated herein by reference.

**Commented [GG2]:** Please see separate "Regulating Plan Recommendations" attached (one page map)

**Commented [GG3]:** Please see separate markup of Performance Standards attached (12 pages)

The Approvals apply to all of those lands included in Tuxedo Farms that are set forth in the materials attached hereto as Appendix F and incorporated herein by reference, including all lands added to Tuxedo Farms following approval of the 2004 Special Permit and 2004 Preliminary Plan, the 2010 Special Permit and 2010 Preliminary Plan, and the 2015 Special Permit and 2015 Preliminary Plan.

**ARTICLE II. COMPLIANCE REQUIREMENTS; RECORDATION; BINDING EFFECT; SUCCESSORS; SEVERABILITY**

<sup>1</sup> This Planned Integrated Development is formerly known as "Tuxedo Reserve"  
<sup>2</sup> Exhibits appended to this Special Permit start with Exhibit "B" There is no "Exhibit A" which has been intentionally omitted.

A. Compliance Required

1. The grant and approval of this Special Permit and of the ~~2017-2021~~ Preliminary Plan for the Project is subject to and conditioned upon:

- a. full compliance with the ~~2017-2021~~ Preliminary Plan;
- b. full compliance with this Special Permit, including the Design Standards comprising the Smart Code, Performance Standards, and Architectural and Landscape Design Guidelines, subject to any permitted waiver or modification as authorized herein;
- c. full compliance with all of the mitigation measures, Project specifications, best management practices, performance standards and other commitments, incorporated in the ~~2017-2021~~ Preliminary Plan, the Design Standards (including the Smart Code, Regulating Plan, Performance Standards, and Architectural and Landscape Design Guidelines), the 2009 Technical Memorandum, the Final Supplemental Environmental Impact Statement ("FSEIS"), the 2010 SEQRA Findings Statement, including all of their appendices, and the 2015 Amended SEQRA Findings Statement. The 2004 SEQRA Findings Statement, 2010 SEQRA Findings Statement and the 2015 Amended SEQRA Findings Statement are attached hereto as Appendix I;
- d. full compliance with all mitigation measures, Project specifications, best management practices, and performance standards set forth in earlier environmental impact statements and finding statements for the Project which have not been superseded, modified, or revised by this Special Permit, ~~2017~~ Preliminary Plan, the Design Guidelines, the 2015 Amended Findings Statement, the 2010 Findings Statement, the 2009 Technical Memorandum, or the FSEIS;
- e. full compliance with any subdivision and site plan approved by the Planning Board for the Project including any terms and conditions attendant to such approval and all notes and other information on the approved subdivision plat or site plan; and
- f. full compliance with any permit or approval for the Project issued by any other Federal, State or local agency with jurisdiction over the Project including any terms and conditions attendant to such permit or approval.

2. The Town Board may, after 30 days' prior written notice and an opportunity to be heard, suspend the issuance of building permits or certificates of occupancy for a failure to comply as set forth hereinabove or, may immediately suspend a permit or certificate concerning a specific parcel of property in the event a failure to comply at such parcel presents an imminent threat to the health safety and welfare of the public or the environment. The Town Board may also, after 30 days prior written notice and hearing, revoke this Special Permit for failure to comply with the conditions of this Special Permit. Such revocation shall not abrogate the Applicant's affirmative obligations hereunder for any portion of the Project constructed or partially constructed at the time of revocation.

B. Recording of Special Permit

This Special Permit shall be executed by the Applicant and the Town in a form that is recordable by the Orange County Clerk and the Applicant consents to recording of this Special Permit in the chain of title of the property.

C. Binding Effect and Successors

1. This Special Permit runs with the land and is binding upon the Applicant and any successor in interest to the Applicant, including, without limitation, subsequent purchasers and transferees, vendees, heirs, assignees, distributees, mortgagees, agents, employees and contractors.

2. In the event the Applicant transfers any interest in the Project, it shall provide a copy of this Special Permit to the transferee upon such transfer. Within ten (10) business days of such transfer the Applicant shall provide the Town with written notice of the transfer which notice shall contain the following: (a) the name and address of the transferee (b) the date of the transfer (c) the precise interest in the Project that was transferred and (d) a sworn statement in writing from the transferee that it has received a copy of the 2015 Special Permit, that it understands all of the terms and conditions of this Special Permit and that it agrees to be bound by all of the applicable terms and conditions of the 2015 Special Permit.

D. Severability

Should any part of this Special Permit be rendered or declared invalid by a court of competent jurisdiction, the invalidation of such part or portion of this Special Permit shall not invalidate the remaining portions hereof, and they shall remain in full force and effect.

**ARTICLE III. LIMITATIONS ON PROJECT USES**

A. The Project shall be developed and constructed in compliance with the 2017-2021 Preliminary Plan, this Special Permit, and the Design Standards, including the Smart Code and its associated Regulating Plan, the Performance Standards, and the Architectural and Landscape Design Guidelines as amended from time to time. No more than 4,195<sup>2</sup> 000 residential units may ever be constructed on the Project site without additional approval, and a goal of 1,200 residential units in the<sup>3</sup> North Hills area shall be achieved. ~~No more than 1,200 residential units shall be constructed, which include flats, but not townhouses, flats and duplexes, or other attached single family unit types.~~<sup>4</sup> Except for

<sup>2</sup>The PID Law authorized an additional 180 units of housing for senior citizens and persons in need of congregate care or assisted living, beyond the 4195 residential unit cap set forth in the PID Law. The Applicant did not propose such housing to be included in its 2004 Project and it is not incorporated into the 2004 Preliminary Plan or Special Permit. Nor do the Project Amendment Applications contain any such proposal. If the Applicant proposes to develop such a use in the future within the Project, the Applicant would be required to apply for an amendment to the 2015 Preliminary Plan. Consideration of such an amendment would have to be undertaken in conjunction with such environmental review as is required by SEQRA.

<sup>4</sup>Section 98-23 was amended in its entirety by Local Law #4A of 1999. Section 2 of Local Law #4A of 1999 exempted Taxedo Reserve from review under its provisions and mandated review of the Project under the Planned Integrated Development regulations in effect immediately prior to the adoption of the Local Law. Local Law #4A of 1999 was

the annexation parcels referred to in Article XIV, all residential uses must be located in the Project's Southern Tract.

B. No more than ~~2860~~ 3,460 bedrooms may ever be constructed on the Project Site in units that are not for active adults. There is no bedroom count limit for active adult units.

Commented [GG4]: This language was deleted in the 2021Q2 redline and is being reinstated.

C. Non-residential uses in the Southern Tract shall be limited to the following: (a) Project Amenities and civic facilities, which may include but are not limited to a day care center, fitness facilities, meeting rooms, a post office, a library, community centers, and such similar facilities or amenities; and (b) Commercial Uses, which may include but are not limited to the Greeting Center, a general store, a gourmet delicatessen and/or coffee shop, a bank, a dry cleaner, restaurant, and similar local community retail uses as may be approved by the Planning Board. In no event shall Project Amenities and Commercial Uses on the Southern Tract exceed 100,000 square feet. Subject to obtaining approvals required by the Village of Sloatsburg, a ~~3,000 square foot farm stand~~ retail store shall be a permitted use on the portion of the Project site located within the Village of Sloatsburg near Route 17.

~~D. Subject to the provisions of Article XXI, the Project may also include 196,100 square feet of office/light industrial/flex space on the Northern Tract on the LJO Parcel.~~

**ARTICLE IV. PHASING AND PERMITTED LOT AND UNIT CONVERSIONS**

A. The Project shall be developed in three phases. The Project shall be developed in accordance with the Development Phasing Plan and Construction Phasing Plan analyzed in the FSEIS and the 2010 Findings Statement, which Development Phasing Plan and Construction Phasing Plan may be further refined by the Planning Board prior to the receipt of any final subdivision or site plan approval for the Project. Given the size and duration of the Project, the Town Board authorizes the Planning Board to adjust the Development Phasing Plan and Construction Phasing Plan to assure that the Project is developed in an orderly and reasonable fashion, taking account the flexibility provisions of the Design Standards, and given market conditions and other relevant factors.

~~amended by the Town Board by adoption of Local Law #5 of 2010 concurrent with the approval of the 2010 Special Permit which authorized a revised unit mix for the Project. A copy of Local Law #5 of 2010 is attached hereto as Appendix G and a copy of Local Law #4A of 1999 is attached hereto as Appendix H. Section 2 of Local Law #4A of 1999, is amended by Local Law #5 of 2010 to prescribe the following development standards and limits for Tuxedo Reserve:~~

~~2.5. No more than 1,195 residential dwelling units may be constructed on the Tuxedo Reserve Planned Integrated Development of which no more than 180 units shall be rental and no less than 764 units shall be single family detached and semi-detached. An additional 180 dwelling units may be constructed provided those units are constructed for senior citizens and persons in need of congregate care or assisted living.~~

1. Phase 1 shall be in the locations and with the unit and lot counts as indicated on the ~~2017-2021~~ Preliminary Plan, subject to compliance with Design Standards (as may be waived or modified in accordance with the Special Permit). The non-residential development in the Commons shall be as authorized in Article III. Construction of single-family townhome, and multi-family dwelling units shall be paced to ensure a reasonably balanced mix of single family detached and townhouse/multi-family units during this Phase. Because of the critical place-making function of the Commons, advancement of its construction including multi-family and/or townhome dwellings and non-residential uses may create an initial imbalanced mix of single family homes, townhomes, and multi-family dwelling units. Phase 2 construction will not begin until Phase 1 is substantially complete as determined by the Planning Board. Phase 2 may commence construction prior to completion of Phase 1.

Commented [GG5]: For discussion, do we need to amend the 2017 Preliminary Plan or just rely on the flexibility, subject to required approvals, to evolve?

2. Phases 2 and 3 shall be in the locations and with the unit and lot count as indicated on the 2017 Preliminary Plan, subject to compliance with the Design Standards (as may be waived or modified in accordance with the Special Permit).

3. The Northern Tract non-residential use on the LJO Parcel may be constructed, in whole or in part, in any development phase.

4. The Planning Board is authorized to approve, which approval shall not be unreasonably withheld, delayed, or conditioned, as a minor modification to this Special Permit and the ~~2017-2021~~ Preliminary Plan an increase or decrease of residential development in a given phase by a maximum of not more than 6% of the aggregate number of the units and/or lots approved for that phase so long as such a modification readjusts development within areas approved for residential development as indicated on the ~~2017-2021~~ Preliminary Plan and such areas as shown are not expanded or enlarged.

5. The Planning Board is authorized to approve, which approval shall not be unreasonably withheld, delayed, or conditioned, as a minor modification to this Special Permit and the ~~2017-2021~~ Preliminary Plan the conversion of any cottage lot to a village lot to a different unit type so long as such conversion does not cause the total unit count or bedroom count for the Project to exceed the limitations in Article III; any manor lot to an estate lot, and any multi-family unit to a townhouse unit of the same bedroom count. Such conversion shall not be limited by bedroom count if the conversion is of a lot or unit for active adult housing.

**UNDER NO CIRCUMSTANCE SHALL THE TOTAL NUMBER OF RESIDENTIAL UNITS BEDROOMS IN THE PROJECT EXCEED 4,195,460 (not including bedrooms for active adult units) NOR SHALL THE NUMBER OF SINGLE FAMILY DETACHED OR SEMI-DETACHED UNITS IN THE PROJECT BE LESS THAN 764 NOR SHALL THE NUMBER OF MULTI-FAMILY UNITS (INCLUDING TOWNHOMES) BE GREATER THAN 434,200.**

**ARTICLE V. DESIGN STANDARDS; SMART CODE WAIVER**

Commented [GG6]: Corresponding changes to the Smart Code exhibit to be made to be consist with changes made herein

A. In order to assure that the Project's design is flexible, yet concurrently assure that the Project is developed in accordance with the design, scale, density, and character approved by

the Town Board, this Special Permit incorporates Design Standards specific to the Project. The Design Standards, including the Smart Code and its associated Regulating Plan, the Performance Standards, and the Architectural and Landscape Design Guidelines, collectively establish standards and guidelines for each type of community or area in the Project, including its open space preservation areas, the Commons, and the various communities for residential development.

B. The Smart Code and its associated Regulating Plan establish planning and development standards, including rules for building bulk, lot layout, etc. The Performance Standards establish various engineering and similar design requirements for streets, other infrastructure, etc. The Architectural and Landscape Design Guidelines establish the visual design criteria for the Project's buildings, structures, lighting, and other improvements. Collectively, the Design Standards create a set of standards and guidelines that determine the character of each neighborhood in the Project.

C. The Planning Board is hereby authorized to grant a waiver or waivers to the Design Standards Smart Code on a case by case basis provided the Planning Board finds justification for the grant of such waiver on the following specific grounds:

1. \_\_\_\_\_ the waiver is the result of a site or design condition unique to a particular development site or a few development sites and not otherwise common within the development area;
2. \_\_\_\_\_ the waiver is a result of a change to meet then current demand or otherwise consistent with the goals herein;
3. grant of the waiver will not cause any significant adverse environmental impact;
4. grant of the waiver will not create any nuisance or unsafe condition;
5. grant of the waiver will not prohibit the ability to construct a home on any lot in material accordance with the Architectural and Landscape Design Guidelines (as may be waived or modified in accordance with this Special Permit);
6. grant of the waiver is materially consistent with the ~~2015-2017~~ 2021 Preliminary Plan and this Special Permit (as same may be waived or modified in accordance herein); and
7. grant of waiver for off-street parking requirements for the Commons and North Ridge neighborhoods, provided that no Town-owned road may be used to meet off-street parking obligations or requirements.

D. The Planning Board is hereby authorized to grant a waiver or waivers to the Design Guidelines on a case by case basis provided the Planning Board finds justification for the grant of such waiver on the following specific grounds and procedures:

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1) By letter application to the Planning Board with plans setting forth specific design features that would modify the design guidelines.

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2) Consistency statement from the applicant setting forth information that demonstrate why the proposed modification of the design guidelines is consistent with the spirit and intent of the design guidelines;

3) No public hearing is required and the Planning Board shall place the matter on its next agenda and decide the application within 31 days thereafter;

4) A decision to modify the design guidelines shall apply and be limited to the application made and shall not apply to subsequent proposed development that is not in accordance with the plans provided in the application;

5) The purpose of the grounds and procedures set forth herein is for the purpose of proposing an expedited process to afford relief from the design guidelines in specific instances. Any proposed modifications shall be presumed to be consistent with the design guidelines and shall be approved unless there is substantial evidence that such medication is inconsistent with the spirit and intent of the design guidelines.

1. The Planning Board is authorized to impose reasonable conditions on the grant of any waiver to the Smart Code. Under no circumstance shall the Planning Board waive any of the following:

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1. permitted building uses;
2. building height;
3. minimum lot dimensions;
4. minimum side setbacks;
5. maximum lot coverage;
6. maximum impervious coverage;
7. maximum gross floor area;
8. permitted building types within a Transect Zone;
9. thoroughfare right-of-way width; and
10. off-street parking requirements for single family homes and townhouses as set forth in the Zoning Law and within this Special Permit.

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14. The 2017-2021 Preliminary Plan, which incorporates the Regulating Plan, as amended, is included as Appendix C of this Special Permit. Appendix Q contains the 2010 Layout Plan which shows illustratively the approximate locations intended for residential and nonresidential uses, streets, open space, and infrastructure. The Planning Board may refer to the 2010 Layout Plan during site-specific subdivision and site plan review for guidance as to the approximate locations of uses, streets, and infrastructure, but is bound by the 2017-2021 Preliminary Plan in Appendix C. The Southern Tract Street Hierarchy Layout Plan in Appendix Q, and the Landscape Regulating Plan contained in the Landscape Design Guidelines, are Layout

Commented [GG7]: Please see separate "Regulating Plan-Recommendations" attached (one page map)

Plans which may be varied and revised to comply with the ~~2017-2021~~ Preliminary Plan in Appendix C.

**ARTICLE VI. AUTHORIZED MINOR MODIFICATIONS OF 2017 PRELIMINARY PLAN**

A. During the course of its review of subdivision and site plan applications, and in addition to any other authority granted to the Planning Board herein, the Planning Board is authorized to approve authorized minor deviations from the ~~2017-2021~~ Preliminary Plan so long as the authorized minor deviation in question is materially consistent with this Special Permit, the Design Standards (as may be waived or modified in accordance with the Special Permit), and the maximum bedroom~~let~~ and unit counts set forth in Articles III and IV.

B. Authorized minor deviations include :

1. minor changes in the ~~2017-2021~~ Preliminary Plan to make minor alterations to ~~the~~ the location of infrastructure and roads to address site conditions and engineering considerations, or product type layouts. In approving such minor changes to the ~~2017~~ Preliminary Plan, the Planning Board may authorize disturbance of wetland areas that are not under the jurisdiction of the ACOE or NYSDEC, so long as such wetland areas do not function as vernal pools for species of special concern; and

2. changes resulting from the increase or decrease of units or lots in a particular phase pursuant to phasing flexibility authorized in Article IV; and

3. conversions of a ~~cottage lot to a village lot, a manor lot to an estate lot, and a multi-family unit to a townhouse unit of the same bedroom count,~~ as authorized in Article IV; and.

4. modifications to the Development Phasing Plan or Construction Phasing Plan, as authorized in Article IV.

5. modifications consistent with a lower number Transect (eg if a Transect is labeled T-4, then uses consistent with L-3 (generally lower density) can be substituted)

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**ARTICLE VII. STREETS, DESIGN, DEDICATION, AND MAINTENANCE**

A. All streets in Tuxedo Farms shall be constructed materially in accordance with the ~~2017-2021~~ Preliminary Plan; the Design Standards, including the Smart Code and its associated Regulating Plan, Performance Standards, and to the extent applicable to the Project and not inconsistent with the Project's Design Standards, the Town's street specifications as set forth in the Town subdivision regulations (the "Town Street Specifications"). The Town Highway Superintendent may, on a case by case basis, modify the Town Street Specifications to the extent authorized the Town Code.

B. The Applicant shall offer for dedication to the Town the Project's three spine roads and their rights-of-way as shown on the ~~2015-2021~~ Preliminary Plan: Quail Road, Bridle Trail, and Two Hills Road. Each final subdivision and site plan approval shall be conditioned upon the Applicant making an offer of dedication of that portion of Quail Road, Bridle Trail, and/or Two Hills Road that is within the portion of the Project being granted final subdivision or site plan approval. Upon acceptance of dedication, the Town shall be responsible for the maintenance of these roads and all stormwater drainage facilities and infrastructure in the road right-of-way.

C. Except for those roads accepted for dedication by the Town, the ~~HHGAFFCOA~~ shall maintain at its sole cost and expense all other roads and all stormwater drainage facilities and infrastructure in the road right-of-way. In addition, the ~~HHGAFFCOA~~ shall be responsible for maintenance of all rock walls whether or not such walls are located within a public right-of-way.

#### ARTICLE VIII. ACCESS AND TRAFFIC CONTROL

A. Except as otherwise provided in this paragraph, the Project shall contain the following entry/exit access points as depicted on the Preliminary Plan: Route 17 in the Town of Tuxedo, Route 17 in the Village of Sloatsburg and Eagle Valley Road. In addition, the Project shall contain two "emergency access only" points at Mountain Road and South Gate Road. The Route 17 access point in the Town of Tuxedo, shall be constructed and completed prior to the issuance of the first certificate of occupancy for the Project. The Mountain Road emergency access point shall be constructed and completed not later than the issuance of the 20th certificate of occupancy for the Project. The Eagle Valley Road access shall be constructed and completed prior to the completion of Phase 1 of the Project. The South Gate Road emergency access will be constructed as part of Phase 3 of the Project. If required by Rockland County or New York State, the Applicant shall design and install a traffic signal at the intersection of Eagle Valley Road and County Route 72. The design and installation of this traffic signal shall be reviewed and approved by Rockland County or the State of New York as appropriate.

B. All on-site and off-site traffic mitigation measures shall be implemented in the manner and time frame described in Appendix J. The traffic Monitoring Program established for the Project shall be implemented in the manner and time frame described in Appendix J. A jitney service shall be established, funded and operated by the ~~HHGAFFCOA~~ in the manner and time frame set forth in Appendix J. The jitney service shall be in place prior to the issuance of the 50th certificate of occupancy for the Project. The availability of this jitney service shall be disclosed in the documents filed with the New York State Attorney General for the establishment of the Tuxedo Farms Home Owners' Association. The operation of the jitney service shall be monitored in accordance with the Monitoring Program described in Appendix J. In the event ridership falls below estimates set forth in the FEIS Monitoring Program, modifications to the jitney service shall be made with a goal to increase ridership to projected levels. Notwithstanding the foregoing, to the extent a Jitney service is not a valued or necessary requirement (due to lifestyles of residents, other mobility options, etc) then with the approval of the Town, not to be unreasonably withheld, delayed, or conditioned, the Jitney service shall be modified or eliminated. Disclosure in the documents filed with the NYSAG shall be drafted accordingly.

C. All monitoring required hereunder shall be undertaken by a reputable traffic

consultant selected by the Town. All expenses incurred by the Town in connection with the Traffic Monitoring Program shall be reimbursed to the Town by the Applicant.

D. Construction vehicles shall avoid, to the extent practicable, entering and exiting the Project site between 7:15 and 8:15 AM and between 5:00 pm and 6:00 pm on weekdays. The Applicant shall, at its sole cost and expense, coordinate with local police authorities for appropriate traffic management in the event construction traffic is likely to disrupt normal traffic flows on highways and roads adjacent to the Project site.

**ARTICLE IX. SUBDIVISION AND SITE PLAN REVIEW PROCESS;  
PLOT PLAN; ARCHITECTURAL REVIEW; AND  
ISSUANCE OF BUILDING PERMITS**

The following process is a guide to the Planning Board and other Town Boards, agencies, and employees to facilitate the orderly processing of subdivision, site plan, and other applications necessary for development of Tuxedo Farms. It is in no way intended to supersede the procedural requirements of the Town Code:

A. Subdivision and Site Plan Review Process.

1. Preliminary Subdivision Plat and/or Site Plan Approval. The Planning Board shall review all applications for preliminary subdivision approval and for site plan approval in accordance with the procedures set forth in the Town Code for such review. Prior to approval of a preliminary subdivision plat or a site plan, the application shall be referred to the Architectural Review Board for review and approval of the design of those structures or features, such as park benches, common street elements, and other common infrastructure elements, whose design is to be approved as part of the preliminary subdivision approval or site plan approval, if any.

2. Final Subdivision and/or Site Plan Approval. The Planning Board shall review all applications for final subdivision and/or site plan approval in accordance with the procedures set forth in the Town Code for such review. Prior to issuance of final subdivision and/or site plan approval, the application shall be referred to the Architectural Review Board for review and approval of those structures or features whose design is to be approved as part of the final subdivision and/or site plan approval which have not been approved as part of the preliminary review, if any. As it deems appropriate, the Planning Board shall note applicable requirements by note and/or design on each subdivision and site plan approved by the Planning Board.

3. Plot Plan. A plot plan shall be prepared in conjunction with any application for a building permit for any lot. The plot plan shall show the location of all structures and improvements, proposed landscaping, site grading, and such additional information as the Town's Building Inspector and Engineer may reasonably require. The Building Inspector shall be responsible for review and approval of the plot plan and shall not issue plot plan approval unless the plot plan has been reviewed and approved by the Town Engineer and the ARB, which shall confirm that the plot plan conforms to the Architectural and Landscape Design Guidelines. If a structure does not comply with the plans approved by the ARB for that structure, then the Town Building Inspector may delay issuance of a certificate of occupancy until the structure is brought

into conformance.

4, Building Permit. No building permit shall be issued by the Town Building Inspector for any lot or unit in Tuxedo Farms unless and until:

a. final plan approvals (site plan and/or subdivision, as applicable) have been received from the Planning Board for the applicable phase or sub-phase, if any, of the Project;

b. all applicable required outside agency permits have been obtained;

c. all required fees have been paid and any outstanding accounts brought current;

d. all required financial assurances and bonds have been posted and are maintained;

e. all required approvals have been obtained from the Architectural Review Board, including but not limited to a determination by the ARB that the building or structure is in conformity with the applicable provisions of the Architectural and Landscape Design Guidelines;

f. all prerequisites and requirements for issuance of a building permit have been satisfied, including but not limited to, conformance with the applicable provisions of the New York State Uniform Fire Prevention and Building Code, and approval of the plot plan by the Town Building Inspector; and

g. there is compliance with this Special Permit, the ~~2017~~-2021 Preliminary Plan and the Design Standards.

B. The ARB is hereby empowered to retain architects and landscape architects to assist it in verifying compliance with the applicable Architectural and Landscape Design Guidelines. The Applicant shall reimburse the Town for costs incurred in connection with the architect's review of proposed plot plans and building designs for compliance with the applicable Architectural and Landscape Design Guidelines. The Town Board shall approve the retention of architects and landscape architects to assist the ARB after receiving recommendations from the ARB. The ARB is authorized to pre-approve home designs and infrastructure element designs and to authorize such designs to be replicated on designated lots or locations without need for subsequent ARB approval.

#### **ARTICLE X. CLEARING, GRADING AND FILLING REQUIREMENTS**

Any clearing, grading and filling activities on the Project site shall be conducted in conformance with the requirements of §98-22 Q of the Town of Tuxedo Zoning Law. In addition, there shall be full compliance with the preservation measures set forth in the Performance Standards in the Design Standards related to existing trees, vegetation and soil as reasonably administered by the

Planning Board and with the understanding that strict application of these measures may not be feasible where site conditions make it impossible or impracticable to preserve a tree or trees. In addition, the Planning Board, at the time of preliminary subdivision or site plan approval, may impose additional reasonable conditions on Project construction for the preservation and protection of trees, vegetation and soil.

#### **ARTICLE XI. BLASTING**

A. Any blasting required in connection with the Project shall conform to all State and Town blasting regulations as well as all blasting protocols set forth in the Performance Standards included in the Design Standards. The Planning Board shall review and approve all blasting plans at the time of the Planning Board's final subdivision or site plan approval.

B. In the event blasting resulting from the Project disrupts service to the water supply wells at enumerated properties on those portions of Mountain Road, Hillside Avenue and Southside Place that abut the Project, the Applicant shall immediately, and at its sole cost and expense, take whatever steps are necessary to restore such service including but not limited to repair of the well, replacement of the well or connection to the Project's water system. In the event connection is made to the Project's water system, there shall be no charge to the property owner for such connection or for the water received from the water system.

#### **ARTICLE XII. BULK SUBDIVISION**

For financing and ownership transfer purposes, the Applicant shall be entitled to apply for and obtain from the Planning Board bulk subdivision approval or modifications to previously issued bulk subdivision approvals at any time after issuance of this Amended and Restated Special Permit. No construction or ground disturbance shall be authorized by such bulk subdivision approval or modified bulk subdivision approval and a note to this effect shall be placed on any bulk subdivision plan.

#### **ARTICLE XIII. OPEN SPACE**

A. Southern Tract. As of the date of this Special Permit, land gifts, easements and restrictions have been completed in accordance with the following:

1. Open space areas on the Southern Tract are delineated in the 2017 Preliminary Plan. Areas designated as "shared open spaces" and as "dedicated open spaces" shall be restricted in perpetuity by a Declaration of Covenants and Restrictions which ensures that such open space can never be developed for commercial or residential uses and which ensures that any recreational or other similar activity on or in such open space is consistent with the Project as delineated in this Special Permit, the 2017 Preliminary Plan, the Smart Code's Regulating Plan, and all applicable site plans and subdivision approvals. The Town shall be a designated beneficiary of the Declaration of Covenants and Restrictions. In addition, those lands depicted on the 2017 Preliminary Plan designated to be restricted by conservation easement shall be further encumbered by a Conservation Easement. Such Conservation Easement shall be granted to the Town or a land trust or other open space protection entity acceptable to the Town. The Declaration of Covenants

and Restrictions and the Conservation Easement required herein shall be reviewed and approved by the attorney for the Town prior to their filing and recording in the office of the Orange County Clerk. Such Covenants and Restrictions and the Conservation Easement shall allow installation of Water Supply infrastructure, including wells, pumps, tanks, limited maintenance access ways and similar water infrastructure improvements, as well as any other infrastructure elements for the Project that are designated to be located in the areas to which such Covenants and Restrictions and Conservation Easements are to apply, all subject to Planning Board approval.

2. The 31.682 +/- acre Conservation Buffer depicted on the Preliminary Plan shall be gifted to the Village of Tuxedo Park. A Conservation Easement shall be placed upon such land prohibiting any development of the land for any purpose. Such Conservation Easement shall be granted to the Town. The Village shall comply with and be bound by the terms and conditions of this Special Permit and shall acknowledge such in the manner prescribed in Article II.B. The attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with this provision.

3. A 2.00 +/- acre parcel shall be gifted to the Tuxedo Club in the location designated on the 2015 Preliminary Plan. As provided in Article XXX, this gift shall not be required if the PIPC Land Exchange occurs. The gift of the approximate 2 acre parcel shall be subject to the reservation of an easement by the Applicant and the simultaneous conveyance by the Applicant of an identical easement to the Town for the limited purposes of :

a. providing emergency access to the Project by means of emergency vehicles such as fire trucks, ambulances, and police vehicles but not to be used for access by the general public or as an access for construction or maintenance vehicles of the Applicant or its agents, contractors or employees; such access shall be constructed in a manner provided for by the Planning Board in its site plan review of the Project but, at a minimum, shall be designed to assure, to the maximum extent practicable that the property is not misused by the general public to become an unauthorized point of general ingress and egress ;

b. installing and maintaining such drainage pipes, detention basins, and other structures as may be required by the Planning Board in its site plan review of the Project; and

c. installing and maintaining utilities, lighting and signage. In addition, a Declaration of Covenants and Restrictions shall be placed on the 2.00 +/- acre parcel prohibiting the development of the land for any purpose except the three limited purposes described above. The Town of Tuxedo shall be designated as a beneficiary of the Declaration of Covenants and Restrictions.

The Tuxedo Club shall comply with and be bound by the terms and conditions of this Special Permit and shall acknowledge such in the manner prescribed Article II.B. The attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with this provision.

B. Northern Tract. As of the date of this Special Permit, land gifts, easements and restrictions have been completed in accordance with the following: Pursuant to the offer of the Applicant, open space areas on the Northern Tract shall be gifted or otherwise restricted by conservation easement as depicted on the Preliminary Plan as follows: approximately 702.28 +/- acres to be gifted, and restricted by conservation easement, to a conservation organization acceptable to the Town or to the Town; and, 50.26 +/- to be gifted to the Village of Tuxedo Park as a Conservation Buffer. The terms of such gifts shall require that the open space gifted can never be developed for any purpose and that the donees agree to comply with and be bound by the terms and conditions of this Special Permit. All of these lands shall be encumbered by a Conservation Easement. Such Conservation Easement shall be granted to a land trust or other open space protection entity acceptable to the Town. The attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with the applicable provisions of this Special Permit. The requirement for a Conservation Easement shall not be applicable to any lands gifted to the Palisades Interstate Park Commission.

C. Fox Hill Tract. As of the date of this Special Permit, land gifts, easements and restrictions have been completed in accordance with the following: Pursuant to the offer of the Applicant, the entire Fox Hill Tract, less the annexation parcel of 24.27 +/- acres shall be gifted to the Village of Tuxedo Park. A Conservation Easement shall be placed upon such land prohibiting any development of the land for any purpose except that the Village may use the ravine near the race track located off of Clubhouse Road as a chipping facility to chip leaves and brush. Such Conservation Easement shall be granted to a land trust or other open space protection entity acceptable to the Town. The Village shall comply with and be bound by the terms and conditions of this Special Permit and shall acknowledge such in the manner prescribed in paragraph 3 above. The attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with this provision.

D. All Gifts, Conservation Easements, Declarations, etc. required under this Article shall be made prior to the issuance of the first building permit and prior to the commencement of any construction and of any disturbance of the Project site.

#### **ARTICLE XIV. ANNEXATION PARCELS**

A. The Applicant may petition the Town of Tuxedo and Village of Tuxedo Park to annex the following parcels into the Village of Tuxedo Park: 24.27 +/- acre parcel located on the Fox Hill Tract; 28.65 +/- acre parcel located in the Northern Tract.

B. Upon completion of the annexation, the Applicant may subdivide the Northern Tract annexation parcel into no more than 4 lots for single family detached homes and the Fox Hill annexation parcel into no more than 3 lots for single family detached homes. The annexation parcels shall not be considered part of the Project and are authorized in addition to the maximum number of approved lots and unit types for the Project.

#### ARTICLE XV. PARCEL FORMERLY KNOWN AS "SCHOOL SITE"



As depicted on the 2021 Preliminary Plan, the parcel formerly known as the 'School Site' shall be available for development of hospitality or residential use.

~~ARTICLE XV. — TUXEDO UNION FREE SCHOOL DISTRICT~~

~~———— A. ——— Prior to the issuance of the first building permit for the Project, the Applicant shall:~~

~~———— 1. ——— offer to donate the 42.7 acres depicted on the 2015 Preliminary Plan as a future school site and/or site for athletic fields, playing fields, or other recreation facilities, to the TUFSD. In the event that the TUFSD ever declines or rejects the offer of the donation of the parcel, the Applicant shall then offer the parcel to the Town;~~

~~———— 2. ——— undertake, at its own expense, any environmental remediation of the parcel necessary for the intended use of the parcel; and~~

~~———— 3. ——— comply with the letter agreement between the Applicant and TUFSD dated June 2, 2014, accepted July 1, 2014 (or as amended) attached hereto as Appendix K and made a part hereof;~~

~~———— B. ——— A copy of the agreement between the Applicant and the TUFSD shall be filed with the Town Board and accompanied by an opinion of counsel, in a form approved by the Attorney for the Town, rendered by the attorneys for the school district and the Applicant that the Agreement was properly authorized and an agreement that is binding upon the parties.~~

~~ARTICLE XVI. — TUXEDO PUBLIC LIBRARY~~

~~———— A. ——— The Applicant has offered a site in the Commons, designated on the 2017 Preliminary Plan, of approximately ½ acre which is adequately sized to construct a library facility with required off street parking and drainage facilities. The Library shall notify the Applicant in writing not later than twelve (12) years from the date of the issuance of the first building permit for the Project that it has obtained a financing commitment for construction of the library facility and thereupon the Applicant shall convey title to the Library of the Library site. A different location within Tuxedo Farms for the library may be designated upon mutual agreement of the Applicant and the Library, and subject to the approval of the Planning Board. Such designation shall not alter the required time frames herein.~~

~~———— B. ——— In the event the Library does not timely give such notification to the Applicant that it has obtained a financing commitment, then the Town shall be given three years commencing on the expiration date of the 12 year period described above to secure financing to construct a community space with a similar intensity of use on the half-acre lot. If, within that three-year period, the Town gives notice to the Applicant of its intent to build such a community space, then the Applicant shall convey title to the Town.~~

~~———— C. ——— If the Library does not commence construction within one year of the date of the conveyance to it, or the Town does not commence construction within three years of the date of~~

the conveyance to it, and in either instance complete such construction within 2 years of commencement, the Library site shall revert back to the Applicant.

~~D. At any time during the 12-year period described hereinabove, the Applicant and the Library may enter into an agreement requiring the Applicant to construct a library facility in the Commons for the Library at a location to be approved by the Planning Board. If the Applicant constructs such a library facility for the Library, then both the Library's and the Town's rights hereunder to the half-acre parcel shall be terminated and the Planning Board is authorized, in its discretion, to approve the relocation to the half-acre parcel of residential or non-residential development from elsewhere in the Project.~~

~~E. Prior to any conveyance of the half-acre site to the Library or the Town, as the case may be, or prior to any permitted development of the half-acre site by the Applicant, the Applicant may landscape and/or use the site for recreation purposes.~~

#### **ARTICLE XVII. RECREATION AND TOWN FACILITIES**

A. The trail system in the Southern Tract shall be made permanently available to Town residents on the following terms and conditions:

1. Access to the trail system by Tuxedo residents shall be by use of an annual "free of charge" permit system administered by the Tuxedo Farms Homeowners Association.

2. The Tuxedo Farms Homeowners Association shall be responsible for all trail maintenance and security. The trail system shall be made available to Town residents simultaneous with it being made available for residents of Tuxedo Farms.

3. The offering plan filed in the office of the New York State Attorney General establishing the Tuxedo Farms Homeowners Association shall disclose the permanent availability of the trail system to Town of Tuxedo residents as well the fact that such access shall be free of charge.

4. No motorized vehicles of any nature shall be permitted on the trail system except as necessary for access to maintain the system and for security. Nor shall the trail system be lighted in any manner except for purposes of safety, security and trail heading marking.

5. The Tuxedo Farms Homeowners Association shall be authorized to adopt and enforce rules and regulations for the use and operation of the trails system to maintain and protect the security and safety of the Tuxedo Farms property owners and Town residents. These rules and regulations shall be provided to the Town so the Town can confirm that adequate access is in fact provided.

B. The Applicant shall construct neighborhood parks, playgrounds, one or more indoor recreational facilities, and such other recreational facilities ~~as are shown on the 2017 Preliminary Plan and~~ as approved by the Planning Board on subdivision or site plans, all in accordance with the Design Standards.

The Applicant may obtain land from PIPC that the Town Board deems suitable for development for active recreation use for the residents of the Town. If such lands are donated to the Town, the value of such lands shall be credited toward any recreation fees that the Applicant may be obligated to pay.

C. The Applicant shall pay a recreation fee per unit in accordance with the applicable requirements of the Town's Zoning Law and Subdivision Regulations. The recreation fee shall be paid at the time that a building permit is issued for that unit.

D. The Applicant may pursue the acquisition of other land that may be suitable for use by the Town for active recreation use or construct active recreation facilities to be donated to the Town for Town-wide use. If the Applicant acquires such property or constructs such active recreation facilities for Town-wide use and the Town Board agrees to accept the donation of such land or facilities, then the Applicant shall be credited against the recreation fees payable by the Applicant the fair market value of such land and facilities, as determined by a certified appraisal prepared by a real estate appraiser licensed in the State of New York. Any such credit shall be applied on a pro rata basis to the recreation fees payable for each lot as to which recreation fees have not been paid at the time of the offer of the donation of the land or the facilities.

~~E. Based on the Town's articulated need, the Applicant agrees to offer and donate to the Town the LIO Parcel Greeting Center not later than twelve years after the first residential certificate of occupancy issued or at an earlier time at the discretion of the Applicant, subject to the Applicant's right at the time of the donation to reserve a leasehold of up to 1,000 square feet of the Greeting Center for continued operation of the Project sales office up until the final sellout of the Project and at a market rent payable to the Town equal to the average yearly office rent in the Hamlet at that time. The donation shall be subject to covenants and restrictions limiting the use of the Greeting Center to the Town's governmental administrative offices. The Town may, subject to the prior approval of the Tuxedo Farms Homeowners Association, expand or further improve the structure and its parking areas, but the design of any expansion or alteration shall fully comply with the Project's Architectural and Landscape Design guidelines and shall be approved by both the Homeowners Association Board of Directors and the Town Architectural Review Board.~~

~~F. Based on the Town's articulated need, the Applicant agrees to offer and donate to the Town the section of the Property known as North Ridge, and the TRHOA/TIHOA shall lease to the Town for one dollar per year for 30 years 3,000 square feet of garage/storage space with two dual bays (for a total of four) to be built by the Applicant at such time and at such location as proposed by the Applicant and approved by the Planning Board in consultation with the Highway Superintendent. The garage shall be used by the Town for storage for equipment and materials needed to fulfill its maintenance responsibilities in Tuxedo Farms. The Town and the TRHOA/TIHOA shall maintain appropriate all-risk insurance on the building and the equipment therein, naming each other as additional insureds.~~

~~G. Based on the Applicant's/the Town's articulated need, the Applicant and the TRHOA/TIHOA shall allow the Town Board to conduct special public meetings in the community~~

space to be built in the Commons which will be capable of seating 200 people.

#### **ARTICLE XVIII. WATER SUPPLY**

A. Southern Tract. As of the date of this Special Permit, the Tuxedo Farms Water Transportation Corporation has been formed in accordance with the following: Prior to the issuance of the first building permit for the Project and prior to any construction or disturbance of the Project site, a Water Works Corporation under the Transportation Corporations Law shall be formed to provide pure and wholesome water at reasonable rates to development on the Southern Tract. The establishment of such Water Works Corporation shall, at a minimum, be conditioned upon the following:

1. limitation of the corporation's service area to the Town of Tuxedo and elimination of any extension rights under Transportation Corporation Law Section 46;

2. prohibiting water sales to locations outside the Town and elimination of any extension rights to extend pipes in adjoining Cities, Towns and Villages under Transportation Corporation Law Section 43;

3. granting the Town a right of first refusal giving it the ability to acquire the Corporation's assets or shares at a fair market value in the event the assets or shares are proposed for transfer, merger or consolidation;

4. the right of the Town to take possession and title to the assets in the event the system fails to provide pure and wholesome water at reasonable rates to its customers or is not operated in material compliance with the health and safety standards maintained and issued by the Town, NYS Department of Health, NYSDEC and NYS Public Service Commission (hereafter "Agencies"); however the Corporation shall first be provided with the right and opportunity to correct any deficiency identified by the Agencies in a timely manner;

5. formation of a back-up water district pursuant to the Town Law provisions for special improvement districts to put in place and be effective in the event the Water Works Corporation fails to provide pure and wholesome water at reasonable rates to its customers or is not operated in material compliance with the standards, maintained and issued by the Agencies; however the Corporation shall first be provided with the opportunity to correct any deficiencies identified by the Agencies in a timely manner;

6. the real property tax assessment of the Water Works Corporation facilities for real tax purposes may be on an "income" approach and not subject to challenge as to taxing methodology; and

7. prohibiting the sale or transfer of the Water Works Corporation or any of its assets unless the transferee acquires the Corporation or any of its assets subject to items (1) through (6) set forth above, and all conditions of the original consent to form the Water Works Corporation. For purposes of this provision, water shall be deemed "pure and wholesome" if it meets or exceeds applicable regulatory standards issued by the NYSDEC and NYSDOH for drinking water supplies.

Furthermore, "reasonable rates" shall mean those rates approved by the Public Service Commission for the sale of water by the Water Works Corporation.

~~B. Northern Tract. Water supply in the Northern Tract shall be provided by the development of on-site ground water resources. Well testing, in accordance with NYSDEC requirements, shall be conducted at the time the first site plan subdivision is submitted for the Northern Tract. In the event a community water supply system is required to service Northern tract uses, a Water Works Corporation would be required which, at a minimum, would be subject to all of the same terms and conditions set forth above for the Water Works Corporation in the Southern Tract. Under no circumstance shall any water supply generated on the Northern tract be permitted to be sold outside of the Northern Tract. A backup water improvement district for this Northern Tract shall also be similarly established at the Applicant's cost.~~

C. Prior to conducting any additional well testing for the Project, a water supply testing protocol shall be submitted to the Town Engineer and Planning Board for review and approval. Upon completion of additional well testing for the Project, the results of such testing shall be provided to the Town Engineer and Planning Board who shall confirm that such testing yields a sufficient quantity and quality of water to service the Project or portion of the Project proposed to be constructed.

D. The Planning Board, the Town Engineer, and the New York State Department of Health ("NYSDOH") have determined that Tuxedo Farm's Southern Tract yields a sufficient quantity and quality of water to service the Project. Attached as Appendix L and made a part hereof, are the Planning Board's approval, the determination by the Town Engineer, and the approval letter from NYSDOH.

E. The Applicant or any successor Water Works Corporation shall monitor designated preexisting water supply wells on Mountain Road, Hillside Avenue and Southside Place in accordance with the protocol attached hereto as Appendix L and made a part hereof. All monitoring reports are to be filed with the Town Clerk, the Town Engineer, and the Planning Board. Remedial actions shall be taken by the Applicant or any successor Water Works Corporation, at its sole cost and expense, as required in Appendix L. Failure of the Applicant to undertake such remedial actions as required shall constitute a violation of the Special Permit.

#### **ARTICLE XIX. SANITARY SEWER**

A. Southern Tract. As of the date of this Special Permit, the Tuxedo Farms Local Development Corporation has been formed and it subsequently issued bonds to finance the construction of a new sewage treatment plant, which is substantially complete, in accordance with the provisions of Section 1 below:

Prior to issuance of the first building permit, the Applicant shall either:

1. obtain approval from the NYSDEC of a new sewage treatment plant in the Tuxedo hamlet to replace, on the same site, the existing sewage treatment plant at the end of

Contractor's Road (the "Replacement Sewage Treatment Plant") and comply with the following conditions.

a. Such Replacement Sewage Treatment Plant shall at full capacity be capable of accommodating all sewage flow from planned development on Tuxedo Farm's Southern Tract and the users and property owners served by or entitled to be served by the Town's existing sewage treatment plant facility.

b. Such Replacement Sewage Treatment Plant shall be designed for an advanced tertiary level of treatment capacity.

c. Prior to the issuance of the first certificate of occupancy, such Replacement Sewage Treatment Plant shall be constructed at the Applicant's sole cost and expense in the manner authorized and detailed in the Memorandum of Understanding for Construction & Operation of a New Wastewater Collection System and Sewage Treatment Plant, dated December 29, 2014, and incorporated in Appendix R; or

2. obtain approval to connect the Project to the new Western Ramapo Wastewater Treatment Plant and comply with the following conditions:

a. The Applicant shall comply with all requirements of Rockland County Sewer District No. 1 related to the extension of sewer service to the Project and any agreement that may be negotiated between the Town and Rockland County Sewer District No. 1 for the extension of sewer service to service the Town.

b. The extension of sewer service to the Project and the Town and connection to the Western Ramapo Wastewater Treatment Plant shall be at the Applicant's sole cost and expense.

c. prior to the issuance of the first certificate of occupancy the Project shall be connected to the Western Ramapo Wastewater Treatment Plant.

B. Any sewer district extensions or new sewer district creation for the Tuxedo Farms Project, shall be at the Applicant's sole cost.

~~C. Northern Tract: Sewage treatment in the Northern Tract shall be via a community septic system with a Sewage Works Corporation formed pursuant to the Transportation Corporation Law provided under New York Law or, with a landowner's association which shall own and maintain said system on behalf of landowners within a commercial or industrial condominium. Such system shall be constructed and approved according to plans and specifications approved by the Town of Tuxedo, New York State Department of Health, and the New York State Department of Environmental Conservation. A back-up sewer district shall be established by the Town at the Applicant's cost. The Applicant shall be required to install a package plant if Northern Tract effluent exceeds 13,629 gallons per day.~~

## **ARTICLE XX. HAMLET REVITALIZATION**

A. In order to benefit and preserve Tuxedo's community character and enhance the Tuxedo hamlet as the Town's social and commercial center, the Applicant has offered to provide a ~~four~~ million dollar fund to assist the Town Board in its continuing effort to revitalize the hamlet.

B. The fund shall be established and administered in accordance with the "Hamlet Revitalization Funding Program" attached hereto as Appendix M and made a part hereof. All legal mechanisms and agreements necessary to create and implement the funding program, including the required Guarantee from the Related Companies L.P., shall be completed and in place prior to the issuance of the first building permit for the Project and prior to the commencement of any construction or disturbance of the Project Site.

C. Pursuant to the Hamlet Revitalization Funding Program the Tuxedo Local Development Corporation ("TLDC") has been formed and the Applicant has paid one million dollars (\$1,000,000) to the TLDC and a Guarantee has been provided from the Related Companies L.P., per the documents in Appendix M.

**ARTICLE XXI. — PLEOT**

~~A. In order to assist in having its Project achieve fiscal balance, the Applicant has offered to make payments in lieu of taxes (PLEOT) to the Town on the 88.78 acres of L10-zoned land depicted on the 2015 Preliminary Plan (PLEOT Property) under the following terms and conditions:~~

~~B. The Applicant shall make annual payments to the Town in the amount of \$150,000.00 for a period of 14 years with the first payment to be made simultaneously with the issuance of the first building permit for the Project (hereinafter the "Anniversary Date"). Thereafter, the Applicant shall make payments on or before each Anniversary Date through and including year 14. The \$150,000.00 payment shall be offset by the amount of any real property taxes generated annually by any nonresidential improvements actually constructed on the PLEOT Property during the PLEOT period. The PLEOT obligation shall continue on the same terms and conditions stated above notwithstanding any transfer of the PLEOT Property to PIPC. Nothing herein shall prohibit PIPC from assuming the obligation to make such PLEOT payments if PIPC agrees to do so as part of its exchange agreement with the Applicant.~~

~~C. At the conclusion of the 14-year PLEOT period, the Applicant may elect to continue making PLEOT payments or convey the remaining undeveloped portion of the PLEOT Property to the Town for \$1.00. In the event the Applicant elects to continue to make PLEOT payments the amount to be paid shall be determined to be the amount which would be paid in real property taxes (school, town and county) as determined by an appraisal of the highest and best use of the remaining undeveloped PLEOT Property assuming such highest and best use is actually constructed in accordance with the Town's applicable zoning laws, as calculated and determined by an appraisal conducted by certified appraiser engaged by the Town. During this continuing PLEOT period, payments shall be offset by the amount of any real property taxes generated by new nonresidential improvements actually constructed during that extended period. The Applicant shall continue to make PLEOT payments in this manner on each Anniversary Date until the PLEOT~~

~~Property is fully developed and a full year's real property tax payments (without regard to any tax abatements) are actually made.~~

~~D. Prior to the issuance of any building permit for the Project and prior to commencement of any construction or site disturbance, the terms and conditions of the PHOF shall be reduced to an agreement between the Town and Applicant.~~

## **ARTICLE XXII. CULTURAL RESOURCES**

The Applicant and the OPRHP have entered into a Memorandum of Understanding which sets forth the protocols for identifying, evaluating, and mitigating potential Project impacts on cultural resources. A copy of the MOU is appended hereto as Appendix N and made a part hereof. In February, 2007 OPRHP issued a letter, a copy of which is appended hereto in Appendix N and made a part hereof, confirming that the Applicant submitted a Data Recovery Report for the Project which fulfills the conditions of the Data Recovery Plan for the Project. In April and August 2009, OPRHP issued letters, copies of which are appended hereto in Appendix N and made a part hereof, and which collectively accept the recommendations contained in the Applicant's Phase 1B Cultural Resource Survey Addendum for Phase 1 of the Project and the Applicant's Phase 1B Cultural Resource Survey for Phases 2 and 3 of the Project. In September 2014, OPRHP issued a letter of no effect concerning additional studies of isolated areas as recommended by the Planning Board. Compliance shall continue as required by the MOU. The Applicant shall provide written confirmation of its ongoing compliance with the MOU as a condition of any Planning Board final subdivision or site plan approval.

## ~~ARTICLE XXIII. ACTIVE ADULT HOUSING~~

~~The active adult housing for the Project shall be market rate housing limited to active adults aged 55 years and older. Prior to the issuance of any building permit for active adult housing, the Applicant shall cause a restriction, in a form satisfactory to the attorney for the Town, to be placed on the active adult property ensuring that the required age limitation runs with the land in perpetuity. The Project's active adult housing is located in the East Terrace.~~

## **ARTICLE XXIV. TUXEDO FARMS HOMEOWNERS ASSOCIATION**

A. Prior to the issuance of the first certificate of occupancy for a residential unit within the Project, the Applicant shall create the Tuxedo Farms Home Owners Association for the purposes of (1) owning and managing lands and facilities owned in common by Tuxedo Farms residents (including the jitney service) (2) instituting a permit process for the trail system; and (3) ensuring continued compliance with this Special Permit and all requirements referenced herein. Documents creating the TFHOA shall be provided to and reviewed by the attorney for the Town in accordance with Article XXV.

B. The Applicant shall create covenants and restrictions requiring that all property owners in the Southern Tract of Tuxedo Farms shall be members of the Tuxedo Farms Home Owners Association and requiring compliance with this Special Permit. The covenants and restrictions shall also:



1. require that the TFHOA shall grant the Town police authority to access and patrol ~~TFHOA~~ TFHOA owned roads;

2. require each lot and unit owner to properly maintain the lawns and front yards, including fences;

3. require the TFHOA to undertake such maintenance if a lot or unit owner fails to do so;

4. require each lot and unit owner, at the time of purchase, to pay an appropriate sum into a reserve fund held by the TFHOA so that the TFHOA will have sufficient resources to undertake such maintenance, if necessary. The amount established for such reserve fund shall be reviewed and approved by the Town Engineer; and

5. authorize the TFHOA to bill a lot or unit owner for the costs incurred by the TFHOA to fulfill the owner's maintenance responsibilities and if that bill is not timely paid to place a lien on the property for the costs and expenses incurred by the TFHOA to perform such maintenance and impose the lien. The documents forming the Home Owners Association shall give the TFHOA the right to maintain lots and buildings within the Project if the owner thereof fails to do so and shall also give the TFHOA the right to impose the costs of such maintenance as a lien against the affected property.

**ARTICLE XXV. ATTORNEY GENERAL FILINGS**

All filings with the New York State Attorney General in connection with any matter relating to Tuxedo Farms, including but not limited to creation of homeowners and condominium associations and amendments thereto shall be provided to the attorney for the Town simultaneous with such filing. The attorney for the Town shall ensure that all filings are consistent with this Special Permit, the 2017 Preliminary Plan and the Design Standards. All Homeowners Association and Condominium Association filings and amendments approved by the New York State Attorney General shall be filed in the offices of the Town Clerk and Planning Board.

**ARTICLE XXVI. FEES AND COSTS**

A. The Applicant shall pay all applicable fees and costs as are required under the Town's local laws in the manner prescribed by those local laws. The Applicant shall also reimburse the Town for any additional fees and costs incurred by the Town relating to its administration and enforcement of this Special Permit. Such additional fees and costs may include, but are not limited to, legal fees for preparation, review and interpretation of legal documents required, contemplated under, or resulting from, the Special Permit; legal fees for enforcement matters and proceedings; Planning Board and Town Board consultant review fees; consultant fees for the Traffic Monitoring Program and consultant fees for a professional architect who will be dedicated to the review of architectural plans for Tuxedo Farms.

B. Subject to the remainder of this Article XXVI, all fees and costs required to be

reimbursed hereunder shall be paid within sixty (60) days of the Applicant's receipt of the fee invoice. Failure to pay within such period shall result in no further building permits or certificates of occupancy being issued until payment is made. Failure to make payment within 120 days shall be grounds for revocation of this Special Permit.

C. Notwithstanding anything to the contrary set forth herein, the Applicant shall have the right to challenge the reasonableness and/or validity of any fees or costs for which the Town is seeking reimbursement hereunder. In the event of such a challenge, the Applicant shall notify the Town of such challenge in writing within thirty (30) days of the Applicant's receipt of the fee invoice. Such written notice shall specify the amount being challenged and the reason for such challenge. The Town and the Applicant shall work diligently to reach a resolution as to such challenged amounts. In the event a resolution cannot be reached, the Applicant shall have such remedies as are allowed by law.

#### **ARTICLE XXVII. BONDING OF IMPROVEMENTS**

Prior to the issuance of any building permit for the Project and prior to commencement of construction or disturbance of the Project Site, the Applicant shall post a security in an amount and form acceptable to the Town to secure the completion of all offsite and on-site public improvements and on-site common area improvements required in connection with the development. This security may be posted on a development phase or sub-phase basis and may be reduced as construction proceeds in accordance with applicable procedures in the Town's local laws. The security posted is required to be "evergreen." Notwithstanding the foregoing, the developer may propose alternatives to bonding to be approved by the Town, which approval shall not be unreasonably withheld, delayed, or conditioned (eg. a completion guarantee from a credit worthy entity).

#### **ARTICLE XXVIII. CONTINUING JURISDICTION**

The Town Board shall have continuing jurisdiction over all matters related to this Special Permit so long as the Special Permit is in effect. Nothing herein is intended to restrict or limit the rights, duties, authority or jurisdiction of any Town agency under any Town, State or Federal law, rule or regulation.

#### **ARTICLE XXIX. PRE-CONSTRUCTION SITE ACTIVITIES**

Notwithstanding anything to the contrary in this Special Permit, the Applicant is hereby authorized to undertake limited site disturbance in order to investigate conditions on the Project site in preparation for construction. Such limited site disturbance may include roughing in of the main Project access road from its intersection with Route 17 no more than 6,600 feet into the Project Site, well tests, soil tests, geo-technical borings, wetland delineations, surveys and the like. No rough-in of the main Project access road or access roads to test sites shall be undertaken without it first receiving a clearing and grading permit from the Planning Board. The Planning Board may require the Applicant to post a bond in a form manner acceptable to the Town Board to assure adequate reclamation of any disturbed site area.

~~ARTICLE XXX. — THE PIPC LAND EXCHANGE~~

~~If PIPC approves the PIPC Land Exchange attached hereto as Appendix O and incorporated herein, no further amendment of this Special Permit or the 2017 Preliminary Plan shall be required. The PIPC Land Exchange shall be deemed approved and effective and this Special Permit and the 2017 Preliminary Plan shall be deemed amended upon receipt of documents in a form approved by the Town Attorney confirming that: (1) the 110 Parcel has been conveyed to PIPC; (2) PIPC has accepted the conveyance and provision has been made for PIPC payments to be made to the Town through year 14 as required in Article XXI; and (3) the 21.116 acre parcel has been conveyed to the Applicant. If the PIPC Land Exchange occurs, then the Applicant shall not be required to gift the 2.00 acre parcel of land to the Tuxedo Club as now required in Article XIII. As shown on the plans appended in Appendix O, the road traversing the 21.116 acre parcel, which connects to roads outside Tuxedo Farms, shall be owned by the Town.~~

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# **2021 SPECIAL PERMIT** **TUXEDO FARMS**

This document, including its Articles and Appendices, constitutes the 2021 Special Permit for the Planned Integrated Development known as Tuxedo Farms.<sup>1</sup> This Special Permit replaces and supersedes the 2004 Special Permit, the 2010 Amended and Restated Special Permit, the 2015 Special Permit, and the 2017 Special Permit.

## **ARTICLE I. ENUMERATION OF APPROVALS GRANTED**

The following approvals have been granted to the Project:

1. 2021 Special Permit Approval.
2. 2021 Preliminary Plan Approval. The 2021 Preliminary Plan dated [March 2021], last revised [March 2021], (the “2021 Preliminary Plan”), is attached hereto as Appendix B<sup>2</sup> and incorporated herein by reference.
3. The Design Standards. The Design Standards include:
  - a. the Smart Code for the Project, dated [March 2021] (inclusive of the 2021 Regulating Plan), attached hereto as Appendix C and incorporated herein by reference;
  - b. revised Performance Standards for the Project as updated in 2021, dated September 30, 2010, attached hereto as Appendix D and incorporated herein by reference; and
  - c. revised Architectural and Landscape Design Guidelines for the Project, dated December 2017, attached hereto as Appendix E and incorporated herein by reference.

The Approvals apply to all of those lands included in Tuxedo Farms that are set forth in the materials attached hereto as Appendix F and incorporated herein by reference, including all lands added to Tuxedo Farms following approval of the 2004 Special Permit and 2004 Preliminary Plan, the 2010 Special Permit and 2010 Preliminary Plan, and the 2015 Special Permit and 2015 Preliminary Plan.

## **ARTICLE II. COMPLIANCE REQUIREMENTS; RECORDATION; BINDING EFFECT; SUCCESSORS; SEVERABILITY**

### **A. Compliance Required**

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<sup>1</sup> This Planned Integrated Development is formerly known as “Tuxedo Reserve”.

<sup>2</sup> Exhibits appended to this Special Permit start with Exhibit “B”. There is no “Exhibit A” which has been intentionally omitted.

1. The grant and approval of this Special Permit and of the 2021 Preliminary Plan for the Project is subject to and conditioned upon:

- a. full compliance with the 2021 Preliminary Plan;
- b. full compliance with this Special Permit, including the Design Standards comprising the Smart Code, Performance Standards, and Architectural and Landscape Design Guidelines, subject to any permitted waiver or modification as authorized herein;
- c. full compliance with all of the mitigation measures, Project specifications, best management practices, performance standards and other commitments, incorporated in the 2021 Preliminary Plan, the Design Standards (including the Smart Code, Regulating Plan, Performance Standards, and Architectural and Landscape Design Guidelines), the 2009 Technical Memorandum, the Final Supplemental Environmental Impact Statement (“FSEIS”) , the 2010 SEQRA Findings Statement, including all of their appendices, and the 2015 Amended SEQRA Findings Statement. The 2004 SEQRA Findings Statement, 2010 SEQRA Findings Statement and the 2015 Amended SEQRA Findings Statement are attached hereto as Appendix I;
- d. full compliance with all mitigation measures, Project specifications, best management practices, and performance standards set forth in earlier environmental impact statements and finding statements for the Project which have not been superseded, modified, or revised by this Special Permit, 2021 Preliminary Plan, the Design Guidelines, the 2015 Amended Findings Statement, the 2010 Findings Statement, the 2009 Technical Memorandum, or the FSEIS;
- e. full compliance with any subdivision and site plan approved by the Planning Board for the Project including any terms and conditions attendant to such approval and all notes and other information on the approved subdivision plat or site plan; and
- f. full compliance with any permit or approval for the Project issued by any other Federal, State or local agency with jurisdiction over the Project including any terms and conditions attendant to such permit or approval.

2. The Town Board may, after 30 days’ prior written notice and an opportunity to be heard, suspend the issuance of building permits or certificates of occupancy for a failure to comply as set forth hereinabove or, may immediately suspend a permit or certificate concerning a specific parcel of property in the event a failure to comply at such parcel presents an imminent threat to the health safety and welfare of the public or the environment. The Town Board may also, after 30 days prior written notice and hearing, revoke this Special Permit for failure to comply with the conditions of this Special Permit. Such revocation shall not abrogate the Applicant’s affirmative obligations hereunder for any portion of the Project constructed or partially constructed at the time of revocation.

#### B. Recording of Special Permit

This Special Permit shall be executed by the Applicant and the Town in a form that is recordable

by the Orange County Clerk and the Applicant consents to recording of this Special Permit in the chain of title of the property.

C. Binding Effect and Successors

1. This Special Permit runs with the land and is binding upon the Applicant and any successor in interest to the Applicant, including, without limitation, subsequent purchasers and transferees, vendees, heirs, assignees, distributees, mortgagees, agents, employees and contractors.

2. In the event the Applicant transfers any interest in the Project, it shall provide a copy of this Special Permit to the transferee upon such transfer. Within ten (10) business days of such transfer the Applicant shall provide the Town with written notice of the transfer which notice shall contain the following: (a) the name and address of the transferee (b) the date of the transfer (c) the precise interest in the Project that was transferred and (d) a sworn statement in writing from the transferee that it has received a copy of the 2015 Special Permit, that it understands all of the terms and conditions of this Special Permit and that it agrees to be bound by all of the applicable terms and conditions of the 2015 Special Permit.

D. Severability

Should any part of this Special Permit be rendered or declared invalid by a court of competent jurisdiction, the invalidation of such part or portion of this Special Permit shall not invalidate the remaining portions hereof, and they shall remain in full force and effect.

**ARTICLE III. LIMITATIONS ON PROJECT USES**

A. The Project shall be developed and constructed in compliance with the 2021 Preliminary Plan, this Special Permit, and the Design Standards, including the Smart Code and its associated Regulating Plan, the Performance Standards, and the Architectural and Landscape Design Guidelines as amended from time to time. No more than 2,000 residential units may ever be constructed on the Project site without additional approval, and a goal of 1,200 residential units in Phase 1.<sup>3</sup>No more than 1,200 residential units shall be multi-family residential units (which shall include flats, but not townhouses, duplexes, or other attached single family unit types).<sup>4</sup> Except for the annexation parcels referred to in Article XIV, all residential uses must be located in the Project's Southern Tract.

B. No more than 3,460 bedrooms may ever be constructed on the Project Site in units that are not for active adults. There is no bedroom count limit for active adult units.

C. Non-residential uses in the Southern Tract shall be limited to the following: (a) Project Amenities and civic facilities, which may include but are not limited to a day care center, fitness facilities, meeting rooms, a post office, a library, community centers, and such similar facilities or amenities; and (b) Commercial Uses, which may include but are not limited to the Greeting Center, a general store, a gourmet delicatessen and/or coffee shop, a bank, a dry cleaner,

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restaurant, and similar local community retail uses as may be approved by the Planning Board. In no event shall Project Amenities and Commercial Uses on the Southern Tract exceed 100,000 square feet. Subject to obtaining approvals required by the Village of Sloatsburg, a retail store shall be a permitted use on the portion of the Project site located within the Village of Sloatsburg near Route 17.

#### **ARTICLE IV. PHASING AND PERMITTED LOT AND UNIT CONVERSIONS**

A. The Project shall be developed in three phases. The Project shall be developed in accordance with the Development Phasing Plan and Construction Phasing Plan analyzed in the FSEIS and the 2010 Findings Statement, which Development Phasing Plan and Construction Phasing Plan may be further refined by the Planning Board prior to the receipt of any final subdivision or site plan approval for the Project. Given the size and duration of the Project, the Town Board authorizes the Planning Board to adjust the Development Phasing Plan and Construction Phasing Plan to assure that the Project is developed in an orderly and reasonable fashion, taking account the flexibility provisions of the Design Standards, and given market conditions and other relevant factors.

1. Phase 1 shall be in the locations as indicated on the 2021 Preliminary Plan, subject to compliance with Design Standards (as may be waived or modified in accordance with the Special Permit). The non-residential development in the Commons shall be as authorized in Article III. Phase 2 may commence construction prior to completion of Phase 1.

2. Phases 2 and 3 shall be in the locations as indicated on the 2017 Preliminary Plan, subject to compliance with the Design Standards (as may be waived or modified in accordance with the Special Permit).

3. The Planning Board is authorized to approve, which approval shall not be unreasonably withheld, delayed, or conditioned, as a minor modification to this Special Permit and the 2021 Preliminary Plan an increase or decrease of residential development in a given phase so long as such a modification readjusts development within areas approved for residential development as indicated on the 2021 Preliminary Plan and such areas as shown are not expanded or enlarged.

4. The Planning Board is authorized to approve, which approval shall not be unreasonably withheld, delayed, or conditioned, as a minor modification to this Special Permit and the 2021 Preliminary Plan the conversion of any lot to a different unit type so long as such conversion to does not cause the total unit count or bedroom count for the Project to exceed the limitations in Article III.

**UNDER NO CIRCUMSTANCE SHALL THE TOTAL NUMBER OF RESIDENTIAL BEDROOMS IN THE PROJECT EXCEED 3,460 (not including bedrooms for active adult units) NOR SHALL THE NUMBER OF MULTI-FAMILY UNITS BE GREATER THAN 1,200.**

## ARTICLE V. DESIGN STANDARDS; SMART CODE WAIVER

A. In order to assure that the Project's design is flexible, yet concurrently assure that the Project is developed in accordance with the design, scale, density, and character approved by the Town Board, this Special Permit incorporates Design Standards specific to the Project. The Design Standards, including the Smart Code and its associated Regulating Plan, the Performance Standards, and the Architectural and Landscape Design Guidelines, collectively establish standards and guidelines for each type of community or area in the Project, including its open space preservation areas, the Commons, and the various communities for residential development.

B. The Smart Code and its associated Regulating Plan establish planning and development standards, including rules for building bulk, lot layout, etc. The Performance Standards establish various engineering and similar design requirements for streets, other infrastructure, etc. The Architectural and Landscape Design Guidelines establish the visual design criteria for the Project's buildings, structures, lighting, and other improvements. Collectively, the Design Standards create a set of standards and guidelines that determine the character of each neighborhood in the Project.

C. The Planning Board is hereby authorized to grant a waiver or waivers to the Design Standards on a case by case basis provided the Planning Board finds justification for the grant of such waiver on the following specific grounds:

1. the waiver is the result of a site or design condition unique to a particular development site or a few development sites and not otherwise common within the development area;
2. the waiver is a result of a change to meet then current demand or otherwise consistent with the goals herein;
3. grant of the waiver will not cause any significant adverse environmental impact;
4. grant of the waiver will not create any nuisance or unsafe condition;
5. grant of the waiver will not prohibit the ability to construct a home on any lot in material accordance with the Architectural and Landscape Design Guidelines (as may be waived or modified in accordance with this Special Permit);
6. grant of the waiver is materially consistent with the 2021 Preliminary Plan and this Special Permit (as same may be waived or modified in accordance herein); and
7. grant of waiver for off-street parking requirements for the Commons and North Ridge neighborhoods, provided that no Town-owned road may be used to meet off-street parking obligations or requirements.



D. The Planning Board is hereby authorized to grant a waiver or waivers to the Design Guidelines on a case-by-case basis provided the Planning Board finds justification for the grant of such waiver on the following specific grounds and procedures:

1) By letter application to the Planning Board with plans setting forth specific design features that would modify the design guidelines;

2) Consistency statement from the applicant setting forth information that demonstrates why the proposed modification of the design guidelines is consistent with the spirit and intent of the design guidelines;

3) No public hearing is required and the Planning Board shall place the matter on its next agenda and decide the application within 31 days thereafter;

4) A decision to modify the design guidelines shall apply and be limited to the application made and shall not apply to subsequent proposed development that is not in accordance with the plans provided in the application;

5) The purpose of the grounds and procedures set forth herein is for the purpose of proposing an expedited process to afford relief from the design guidelines in specific instances. Any proposed modifications shall be presumed to be consistent with the design guidelines and shall be approved unless there is substantial evidence that such modification is inconsistent with the spirit and intent of the design guidelines.

E. The Planning Board is authorized to impose reasonable conditions on the grant of any waiver to the Smart Code.

F. The 2021 Preliminary Plan, which incorporates the Regulating Plan as amended, is included as Appendix C of this Special Permit. Appendix Q contains the 2010 Layout Plan which shows illustratively the approximate locations intended for residential and nonresidential uses, streets, open space, and infrastructure. The Planning Board may refer to the 2010 Layout Plan during site-specific subdivision and site plan review for guidance as to the approximate locations of uses, streets, and infrastructure, but is bound by the 2021 Preliminary Plan in Appendix C. The Southern Tract Street Hierarchy Layout Plan in Appendix Q, and the Landscape Regulating Plan contained in the Landscape Design Guidelines, are Layout Plans which may be varied and revised to comply with the 2021 Preliminary Plan in Appendix C.

## **ARTICLE VI. AUTHORIZED MINOR MODIFICATIONS OF 2017 PRELIMINARY PLAN**

A. During the course of its review of subdivision and site plan applications, and in addition to any other authority granted to the Planning Board herein, the Planning Board is authorized to approve authorized minor deviations from the 2021 Preliminary Plan so long as the authorized minor deviation in question is materially consistent with this Special Permit, the Design

Standards (as may be waived or modified in accordance with the Special Permit), and the maximum bedroom and unit counts set forth in Articles III and IV.

B. Authorized minor deviations include :

1. minor changes in the 2021 Preliminary Plan to make minor alterations to the location of infrastructure and roads to address site conditions and engineering considerations, or product type layouts. In approving such minor changes to the 2021 Preliminary Plan, the Planning Board may authorize disturbance of wetland areas that are not under the jurisdiction of the ACOE or NYSDEC, so long as such wetland areas do not function as vernal pools for species of special concern; and
2. changes resulting from the increase or decrease of units or lots in a particular phase pursuant to phasing flexibility authorized in Article IV; and
3. conversions of a lot, as authorized in Article IV; and.
4. modifications to the Development Phasing Plan or Construction Phasing Plan, as authorized in Article IV.
5. modifications consistent with a lower number Transect (eg if a Transect is labeled T-4, then uses consistent with T-3 (generally lower density) can be substituted)

**ARTICLE VII. STREETS, DESIGN, DEDICATION, AND MAINTENANCE**

A. All streets in Tuxedo Farms shall be constructed materially in accordance with the 2021 Preliminary Plan; the Design Standards, including the Smart Code and its associated Regulating Plan, Performance Standards, and to the extent applicable to the Project and not inconsistent with the Project's Design Standards, the Town's street specifications as set forth in the Town subdivision regulations (the "Town Street Specifications"). The Town Highway Superintendent may, on a case by case basis, modify the Town Street Specifications to the extent authorized the Town Code.

B. The Applicant shall offer for dedication to the Town the Project's three spine roads and their rights-of-way as shown on the 2021 Preliminary Plan: Quail Road, Bridle Trail, and Two Hills Road. Each final subdivision and site plan approval shall be conditioned upon the Applicant making an offer of dedication of that portion of Quail Road, Bridle Trail, and/or Two Hills Road that is within the portion of the Project being granted final subdivision or site plan approval. Upon acceptance of dedication, the Town shall be responsible for the maintenance of these roads and all stormwater drainage facilities and infrastructure in the road right-of-way.

C. Except for those roads accepted for dedication by the Town, the TFHOA shall maintain at its sole cost and expense all other roads and all stormwater drainage facilities and infrastructure in the road right-of-way. In addition, the TFHOA shall be responsible for maintenance of all rock walls whether or not such walls are located within a public right-of-way.

## **ARTICLE VIII. ACCESS AND TRAFFIC CONTROL**

A. Except as otherwise provided in this paragraph, the Project shall contain the following entry/exit access points as depicted on the Preliminary Plan: Route 17 in the Town of Tuxedo, Route 17 in the Village of Sloatsburg and Eagle Valley Road. In addition, the Project shall contain two “emergency access only” points at Mountain Road and South Gate Road. The Route 17 access point in the Town of Tuxedo, shall be constructed and completed prior to the issuance of the first certificate of occupancy for the Project. The Mountain Road emergency access point shall be constructed and completed not later than the issuance of the 20th certificate of occupancy for the Project. The Eagle Valley Road access shall be constructed and completed prior to the completion of Phase 1 of the Project. The South Gate Road emergency access will be constructed as part of Phase 3 of the Project. If required by Rockland County or New York State, the Applicant shall design and install a traffic signal at the intersection of Eagle Valley Road and County Route 72. The design and installation of this traffic signal shall be reviewed and approved by Rockland County or the State of New York as appropriate.

B. All on-site and off-site traffic mitigation measures shall be implemented in the manner and time frame described in Appendix J. The traffic Monitoring Program established for the Project shall be implemented in the manner and time frame described in Appendix J. A jitney service shall be established, funded and operated by the TFHOA in the manner and time frame set forth in Appendix J. The jitney service shall be in place prior to the issuance of the 50th certificate of occupancy for the Project. The availability of this jitney service shall be disclosed in the documents filed with the New York State Attorney General for the establishment of the Tuxedo Farms Home Owners’ Association. The operation of the jitney service shall be monitored in accordance with the Monitoring Program described in Appendix J. In the event ridership falls below estimates set forth in the FEIS Monitoring Program, modifications to the jitney service shall be made with a goal to increase ridership to projected levels. Notwithstanding the foregoing, to the extent a Jitney service is not a valued or necessary requirement (due to lifestyles of residents, other mobility options, etc) then with the approval of the Town, not to be unreasonably withheld, delayed, or conditioned, the Jitney service shall be modified or eliminated. Disclosure in the documents filed with the NYSAG shall be drafted accordingly.

C. All monitoring required hereunder shall be undertaken by a reputable traffic consultant selected by the Town. All expenses incurred by the Town in connection with the Traffic Monitoring Program shall be reimbursed to the Town by the Applicant.

D. Construction vehicles shall avoid, to the extent practicable, entering and exiting the Project site between 7:15 and 8:15 AM and between 5:00 pm and 6:00 pm on weekdays. The Applicant shall, at its sole cost and expense, coordinate with local police authorities for appropriate traffic management in the event construction traffic is likely to disrupt normal traffic flows on highways and roads adjacent to the Project site.

## **ARTICLE IX. SUBDIVISION AND SITE PLAN REVIEW PROCESS; PLOT PLAN; ARCHITECTURAL REVIEW; AND ISSUANCE OF BUILDING PERMITS**

The following process is a guide to the Planning Board and other Town Boards, agencies, and employees to facilitate the orderly processing of subdivision, site plan, and other applications necessary for development of Tuxedo Farms. It is in no way intended to supersede the procedural requirements of the Town Code:

A. Subdivision and Site Plan Review Process.

1. Preliminary Subdivision Plat and/or Site Plan Approval. The Planning Board shall review all applications for preliminary subdivision approval and for site plan approval in accordance with the procedures set forth in the Town Code for such review. Prior to approval of a preliminary subdivision plat or a site plan, the application shall be referred to the Architectural Review Board for review and approval of the design of those structures or features, such as park benches, common street elements, and other common infrastructure elements, whose design is to be approved as part of the preliminary subdivision approval or site plan approval, if any.

2. Final Subdivision and/or Site Plan Approval. The Planning Board shall review all applications for final subdivision and/or site plan approval in accordance with the procedures set forth in the Town Code for such review. Prior to issuance of final subdivision and/or site plan approval, the application shall be referred to the Architectural Review Board for review and approval of those structures or features whose design is to be approved as part of the final subdivision and/or site plan approval which have not been approved as part of the preliminary review, if any. As it deems appropriate, the Planning Board shall note applicable requirements by note and/or design on each subdivision and site plan approved by the Planning Board.

3. Plot Plan. A plot plan shall be prepared in conjunction with any application for a building permit for any lot. The plot plan shall show the location of all structures and improvements, proposed landscaping, site grading, and such additional information as the Town's Building Inspector and Engineer may reasonably require. The Building Inspector shall be responsible for review and approval of the plot plan and shall not issue plot plan approval unless the plot plan has been reviewed and approved by the Town Engineer and the ARB, which shall confirm that the plot plan conforms to the Architectural and Landscape Design Guidelines. If a structure does not comply with the plans approved by the ARB for that structure, then the Town Building Inspector may delay issuance of a certificate of occupancy until the structure is brought into conformance.

4. Building Permit. No building permit shall be issued by the Town Building Inspector for any lot or unit in Tuxedo Farms unless and until:

- a. final plan approvals (site plan and/or subdivision, as applicable) have been received from the Planning Board for the applicable phase or sub-phase, if any, of the Project;
- b. all applicable required outside agency permits have been obtained;
- c. all required fees have been paid and any outstanding accounts brought current;

d. all required financial assurances and bonds have been posted and are maintained;

e. all required approvals have been obtained from the Architectural Review Board, including but not limited to a determination by the ARB that the building or structure is in conformity with the applicable provisions of the Architectural and Landscape Design Guidelines;

f. all prerequisites and requirements for issuance of a building permit have been satisfied, including but not limited to, conformance with the applicable provisions of the New York State Uniform Fire Prevention and Building Code, and approval of the plot plan by the Town Building Inspector; and

g. there is compliance with this Special Permit, the 2021 Preliminary Plan and the Design Standards.

B. The ARB is hereby empowered to retain architects and landscape architects to assist it in verifying compliance with the applicable Architectural and Landscape Design Guidelines. The Applicant shall reimburse the Town for costs incurred in connection with the architect's review of proposed plot plans and building designs for compliance with the applicable Architectural and Landscape Design Guidelines. The Town Board shall approve the retention of architects and landscape architects to assist the ARB after receiving recommendations from the ARB. The ARB is authorized to pre-approve home designs and infrastructure element designs and to authorize such designs to be replicated on designated lots or locations without need for subsequent ARB approval.

#### **ARTICLE X. CLEARING, GRADING AND FILLING REQUIREMENTS**

Any clearing, grading and filling activities on the Project site shall be conducted in conformance with the requirements of §98-22 Q of the Town of Tuxedo Zoning Law. In addition, there shall be full compliance with the preservation measures set forth in the Performance Standards in the Design Standards related to existing trees, vegetation and soil as reasonably administered by the Planning Board and with the understanding that strict application of these measures may not be feasible where site conditions make it impossible or impracticable to preserve a tree or trees. In addition, the Planning Board, at the time of preliminary subdivision or site plan approval, may impose additional reasonable conditions on Project construction for the preservation and protection of trees, vegetation and soil.

#### **ARTICLE XI. BLASTING**

A. Any blasting required in connection with the Project shall conform to all State and Town blasting regulations as well as all blasting protocols set forth in the Performance Standards included in the Design Standards. The Planning Board shall review and approve all blasting plans at the time of the Planning Board's final subdivision or site plan approval.

B. In the event blasting resulting from the Project disrupts service to the water supply wells at enumerated properties on those portions of Mountain Road, Hillside Avenue and Southside Place that abut the Project, the Applicant shall immediately, and at its sole cost and expense, take whatever steps are necessary to restore such service including but not limited to repair of the well, replacement of the well or connection to the Project's water system. In the event connection is made to the Project's water system, there shall be no charge to the property owner for such connection or for the water received from the water system.

## **ARTICLE XII. BULK SUBDIVISION**

For financing and ownership transfer purposes, the Applicant shall be entitled to apply for and obtain from the Planning Board bulk subdivision approval or modifications to previously issued bulk subdivision approvals at any time after issuance of this Amended and Restated Special Permit. No construction or ground disturbance shall be authorized by such bulk subdivision approval or modified bulk subdivision approval and a note to this effect shall be placed on any bulk subdivision plan.

## **ARTICLE XIII. OPEN SPACE**

A. Southern Tract. As of the date of this Special Permit, land gifts, easements and restrictions have been completed in accordance with the following:

1. Open space areas on the Southern Tract are delineated in the 2017 Preliminary Plan. Areas designated as "shared open spaces" and as "dedicated open spaces" shall be restricted in perpetuity by a Declaration of Covenants and Restrictions which ensures that such open space can never be developed for commercial or residential uses and which ensures that any recreational or other similar activity on or in such open space is consistent with the Project as delineated in this Special Permit, the 2017 Preliminary Plan, the Smart Code's Regulating Plan, and all applicable site plans and subdivision approvals. The Town shall be a designated beneficiary of the Declaration of Covenants and Restrictions. In addition, those lands depicted on the 2017 Preliminary Plan designated to be restricted by conservation easement shall be further encumbered by a Conservation Easement. Such Conservation Easement shall be granted to the Town or a land trust or other open space protection entity acceptable to the Town. The Declaration of Covenants and Restrictions and the Conservation Easement required herein shall be reviewed and approved by the attorney for the Town prior to their filing and recording in the office of the Orange County Clerk. Such Covenants and Restrictions and the Conservation Easement shall allow installation of Water Supply infrastructure, including wells, pumps, tanks, limited maintenance access ways and similar water infrastructure improvements, as well as any other infrastructure elements for the Project that are designated to be located in the areas to which such Covenants and Restrictions and Conservation Easements are to apply, all subject to Planning Board approval.

2. The 31.682 +/- acre Conservation Buffer depicted on the Preliminary Plan shall be gifted to the Village of Tuxedo Park. A Conservation Easement shall be placed upon such land prohibiting any development of the land for any purpose. Such Conservation Easement shall be granted to the Town. The Village shall comply with and be bound by the terms and conditions of this Special Permit and shall acknowledge such in the manner prescribed in Article II.B. The

attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with this provision.

3. A 2.00 +/- acre parcel shall be gifted to the Tuxedo Club in the location designated on the 2015 Preliminary Plan. As provided in Article XXX, this gift shall not be required if the PIPC Land Exchange occurs. The gift of the approximate 2 acre parcel shall be subject to the reservation of an easement by the Applicant and the simultaneous conveyance by the Applicant of an identical easement to the Town for the limited purposes of :

a. providing emergency access to the Project by means of emergency vehicles such as fire trucks, ambulances, and police vehicles but not to be used for access by the general public or as an access for construction or maintenance vehicles of the Applicant or its agents, contractors or employees; such access shall be constructed in a manner provided for by the Planning Board in its site plan review of the Project but, at a minimum, shall be designed to assure, to the maximum extent practicable that the property is not misused by the general public to become an unauthorized point of general ingress and egress ;

b. installing and maintaining such drainage pipes, detention basins, and other structures as may be required by the Planning Board in its site plan review of the Project; and

c. installing and maintaining utilities, lighting and signage. In addition, a Declaration of Covenants and Restrictions shall be placed on the 2.00 +/- acre parcel prohibiting the development of the land for any purpose except the three limited purposes described above. The Town of Tuxedo shall be designated as a beneficiary of the Declaration of Covenants and Restrictions.

The Tuxedo Club shall comply with and be bound by the terms and conditions of this Special Permit and shall acknowledge such in the manner prescribed Article II.B. The attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with this provision.

B. Northern Tract. As of the date of this Special Permit, land gifts, easements and restrictions have been completed in accordance with the following: Pursuant to the offer of the Applicant, open space areas on the Northern Tract shall be gifted or otherwise restricted by conservation easement as depicted on the Preliminary Plan as follows: approximately 702.28 +/- acres to be gifted, and restricted by conservation easement, to a conservation organization acceptable to the Town or to the Town; and, 50.26 +/- to be gifted to the Village of Tuxedo Park as a Conservation Buffer. The terms of such gifts shall require that the open space gifted can never be developed for any purpose and that the donees agree to comply with and be bound by the terms and conditions of this Special Permit. All of these lands shall be encumbered by a Conservation Easement. Such Conservation Easement shall be granted to a land trust or other open space protection entity acceptable to the Town. The attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with the applicable provisions of this Special Permit. The requirement for a

Conservation Easement shall not be applicable to any lands gifted to the Palisades Interstate Park Commission.

C. Fox Hill Tract. As of the date of this Special Permit, land gifts, easements and restrictions have been completed in accordance with the following: Pursuant to the offer of the Applicant, the entire Fox Hill Tract, less the annexation parcel of 24.27 +/- acres shall be gifted to the Village of Tuxedo Park. A Conservation Easement shall be placed upon such land prohibiting any development of the land for any purpose except that the Village may use the ravine near the race track located off of Clubhouse Road as a chipping facility to chip leaves and brush. Such Conservation Easement shall be granted to a land trust or other open space protection entity acceptable to the Town. The Village shall comply with and be bound by the terms and conditions of this Special Permit and shall acknowledge such in the manner prescribed in paragraph 3 above. The attorney for the Town shall be provided with copies of all documents of agreement and transfer for review and approval to ensure donor and donee's compliance with this provision.

D. All Gifts, Conservation Easements, Declarations, etc. required under this Article shall be made prior to the issuance of the first building permit and prior to the commencement of any construction and of any disturbance of the Project site.

#### **ARTICLE XIV. ANNEXATION PARCELS**

A. The Applicant may petition the Town of Tuxedo and Village of Tuxedo Park to annex the following parcels into the Village of Tuxedo Park: 24.27 +/- acre parcel located on the Fox Hill Tract; 28.65 +/- acre parcel located in the Northern Tract.

B. Upon completion of the annexation, the Applicant may subdivide the Northern Tract annexation parcel into no more than 4 lots for single family detached homes and the Fox Hill annexation parcel into no more than 3 lots for single family detached homes. The annexation parcels shall not be considered part of the Project and are authorized in addition to the maximum number of approved lots and unit types for the Project.

#### **ARTICLE XV. PARCEL FORMERLY KNOWN AS "SCHOOL SITE"**

As depicted on the 2021 Preliminary Plan, the parcel formerly known as the "School Site" shall be available for development of hospitality or residential use.

#### **ARTICLE XVII. RECREATION AND TOWN FACILITIES**

A. The trail system in the Southern Tract shall be made permanently available to Town residents on the following terms and conditions:

1. Access to the trail system by Tuxedo residents shall be by use of an annual "free of charge" permit system administered by the Tuxedo Farms Homeowners Association.



2. The Tuxedo Farms Homeowners Association shall be responsible for all trail maintenance and security. The trail system shall be made available to Town residents simultaneous with it being made available for residents of Tuxedo Farms.

3. The offering plan filed in the office of the New York State Attorney General establishing the Tuxedo Farms Homeowners Association shall disclose the permanent availability of the trail system to Town of Tuxedo residents as well the fact that such access shall be free of charge.

4. No motorized vehicles of any nature shall be permitted on the trail system except as necessary for access to maintain the system and for security. Nor shall the trail system be lighted in any manner except for purposes of safety, security and trail heading marking.

5. The Tuxedo Farms Homeowners Association shall be authorized to adopt and enforce rules and regulations for the use and operation of the trails system to maintain and protect the security and safety of the Tuxedo Farms property owners and Town residents. These rules and regulations shall be provided to the Town so the Town can confirm that adequate access is in fact provided.

B. The Applicant shall construct neighborhood parks, playgrounds, one or more indoor recreational facilities, and such other recreational facilities as approved by the Planning Board on subdivision or site plans, all in accordance with the Design Standards.

The Applicant may obtain land from PIPC that the Town Board deems suitable for development for active recreation use for the residents of the Town. If such lands are donated to the Town, the value of such lands shall be credited toward any recreation fees that the Applicant may be obligated to pay.

C. The Applicant shall pay a recreation fee per unit in accordance with the applicable requirements of the Town's Zoning Law and Subdivision Regulations. The recreation fee shall be paid at the time that a building permit is issued for that unit.

D. The Applicant may pursue the acquisition of other land that may be suitable for use by the Town for active recreation use or construct active recreation facilities to be donated to the Town for Town-wide use. If the Applicant acquires such property or constructs such active recreation facilities for Town-wide use and the Town Board agrees to accept the donation of such land or facilities, then the Applicant shall be credited against the recreation fees payable by the Applicant the fair market value of such land and facilities, as determined by a certified appraisal prepared by a real estate appraiser licensed in the State of New York. Any such credit shall be applied on a pro rata basis to the recreation fees payable for each lot as to which recreation fees have not been paid at the time of the offer of the donation of the land or the facilities.

A. Southern Tract. As of the date of this Special Permit, the Tuxedo Farms Water Transportation Corporation has been formed in accordance with the following: Prior to the issuance of the first building permit for the Project and prior to any construction or disturbance of the Project site, a Water Works Corporation under the Transportation Corporations Law shall be formed to provide pure and wholesome water at reasonable rates to development on the Southern Tract. The establishment of such Water Works Corporation shall, at a minimum, be conditioned upon the following:

1. limitation of the corporation's service area to the Town of Tuxedo and elimination of any extension rights under Transportation Corporation Law Section 46;
2. prohibiting water sales to locations outside the Town and elimination of any extension rights to extend pipes in adjoining Cities, Towns and Villages under Transportation Corporation Law Section 43;
3. granting the Town a right of first refusal giving it the ability to acquire the Corporation's assets or shares at a fair market value in the event the assets or shares are proposed for transfer, merger or consolidation;
4. the right of the Town to take possession and title to the assets in the event the system fails to provide pure and wholesome water at reasonable rates to its customers or is not operated in material compliance with the health and safety standards maintained and issued by the Town, NYS Department of Health, NYSDEC and NYS Public Service Commission (hereafter "Agencies"); however the Corporation shall first be provided with the right and opportunity to correct any deficiency identified by the Agencies in a timely manner;
5. formation of a back-up water district pursuant to the Town Law provisions for special improvement districts to put in place and be effective in the event the Water Works Corporation fails to provide pure and wholesome water at reasonable rates to its customers or is not operated in material compliance with the standards, maintained and issued by the Agencies; however the Corporation shall first be provided with the opportunity to correct any deficiencies identified by the Agencies in a timely manner;
6. the real property tax assessment of the Water Works Corporation facilities for real tax purposes may be on an "income" approach and not subject to challenge as to taxing methodology; and
7. prohibiting the sale or transfer of the Water Works Corporation or any of its assets unless the transferee acquires the Corporation or any of its assets subject to items (1) through (6) set forth above, and all conditions of the original consent to form the Water Works Corporation. For purposes of this provision, water shall be deemed "pure and wholesome" if it meets or exceeds applicable regulatory standards issued by the NYSDEC and NYSDOH for drinking water supplies. Furthermore, "reasonable rates" shall mean those rates approved by the Public Service Commission for the sale of water by the Water Works Corporation.

C. Prior to conducting any additional well testing for the Project, a water supply testing protocol shall be submitted to the Town Engineer and Planning Board for review and approval. Upon completion of additional well testing for the Project, the results of such testing shall be provided to the Town Engineer and Planning Board who shall confirm that such testing yields a sufficient quantity and quality of water to service the Project or portion of the Project proposed to be constructed.

D. The Planning Board, the Town Engineer, and the New York State Department of Health (“NYSDOH”) have determined that Tuxedo Farm’s Southern Tract yields a sufficient quantity and quality of water to service the Project. Attached as Appendix L and made a part hereof, are the Planning Board’s approval, the determination by the Town Engineer, and the approval letter from NYSDOH.

E. The Applicant or any successor Water Works Corporation shall monitor designated preexisting water supply wells on Mountain Road, Hillside Avenue and Southside Place in accordance with the protocol attached hereto as Appendix L and made a part hereof. All monitoring reports are to be filed with the Town Clerk, the Town Engineer, and the Planning Board. Remedial actions shall be taken by the Applicant or any successor Water Works Corporation, at its sole cost and expense, as required in Appendix L. Failure of the Applicant to undertake such remedial actions as required shall constitute a violation of the Special Permit.

#### **ARTICLE XIX. SANITARY SEWER**

A. Southern Tract. As of the date of this Special Permit, the Tuxedo Farms Local Development Corporation has been formed and it subsequently issued bonds to finance the construction of a new sewage treatment plant, which is substantially complete, in accordance with the provisions of Section 1 below:

Prior to issuance of the first building permit, the Applicant shall either:

1. obtain approval from the NYSDEC of a new sewage treatment plant in the Tuxedo hamlet to replace, on the same site, the existing sewage treatment plant at the end of Contractor's Road (the “Replacement Sewage Treatment Plant”) and comply with the following conditions.

a. Such Replacement Sewage Treatment Plant shall at full capacity be capable of accommodating all sewage flow from planned development on Tuxedo Farm's Southern Tract and the users and property owners served by or entitled to be served by the Town’s existing sewage treatment plant facility.

b. Such Replacement Sewage Treatment Plant shall be designed for an advanced tertiary level of treatment capacity.

c. Prior to the issuance of the first certificate of occupancy, such Replacement Sewage Treatment Plant shall be constructed at the Applicant’s sole cost and expense

in the manner authorized and detailed in the Memorandum of Understanding for Construction & Operation of a New Wastewater Collection System and Sewage Treatment Plant, dated December 29, 2014, and incorporated in Appendix R; or

2. obtain approval to connect the Project to the new Western Ramapo Wastewater Treatment Plant and comply with the following conditions:

a. The Applicant shall comply with all requirements of Rockland County Sewer District No. 1 related to the extension of sewer service to the Project and any agreement that may be negotiated between the Town and Rockland County Sewer District No. 1 for the extension of sewer service to service the Town.

b. The extension of sewer service to the Project and the Town and connection to the Western Ramapo Wastewater Treatment Plant shall be at the Applicant's sole cost and expense.

c. prior to the issuance of the first certificate of occupancy the Project shall be connected to the Western Ramapo Wastewater Treatment Plant.

B. Any sewer district extensions or new sewer district creation for the Tuxedo Farms Project, shall be at the Applicant's sole cost.

## **ARTICLE XX. HAMLET REVITALIZATION**

A. In order to benefit and preserve Tuxedo's community character and enhance the Tuxedo hamlet as the Town's social and commercial center, the Applicant has offered to provide a million dollar fund to assist the Town Board in its continuing effort to revitalize the hamlet.

B. The fund shall be established and administered in accordance with the "Hamlet Revitalization Funding Program" attached hereto as Appendix M and made a part hereof. All legal mechanisms and agreements necessary to create and implement the funding program, including the required Guarantee from the Related Companies L.P., shall be completed and in place prior to the issuance of the first building permit for the Project and prior to the commencement of any construction or disturbance of the Project Site.

C. Pursuant to the Hamlet Revitalization Funding Program the Tuxedo Local Development Corporation ("TLDC") has been formed and the Applicant has paid one million dollars (\$1,000,000.) to the TLDC, per the documents in Appendix M.

## **ARTICLE XXII. CULTURAL RESOURCES**

The Applicant and the OPRHP have entered into a Memorandum of Understanding which sets forth the protocols for identifying, evaluating, and mitigating potential Project impacts on cultural resources. A copy of the MOU is appended hereto as Appendix N and made a part hereof. In February, 2007 OPRHP issued a letter, a copy of which is appended hereto in Appendix N and made a part hereof, confirming that the Applicant submitted a Data Recovery Report for the Project which fulfills the conditions of the Data Recovery Plan for the Project. In April and August 2009,

OPRHP issued letters, copies of which are appended hereto in Appendix N and made a part hereof, and which collectively accept the recommendations contained in the Applicant's Phase 1B Cultural Resource Survey Addendum for Phase 1 of the Project and the Applicant's Phase 1B Cultural Resource Survey for Phases 2 and 3 of the Project. In September 2014, OPRHP issued a letter of no effect concerning additional studies of isolated areas as recommended by the Planning Board. Compliance shall continue as required by the MOU. The Applicant shall provide written confirmation of its ongoing compliance with the MOU as a condition of any Planning Board final subdivision or site plan approval.

#### **ARTICLE XXIV. TUXEDO FARMS HOMEOWNERS ASSOCIATION**

A. Prior to the issuance of the first certificate of occupancy for a residential unit within the Project, the Applicant shall create the Tuxedo Farms Home Owners Association for the purposes of (1) owning and managing lands and facilities owned in common by Tuxedo Farms residents (including the jitney service) (2) instituting a permit process for the trail system; and (3) ensuring continued compliance with this Special Permit and all requirements referenced herein. Documents creating the TFHOA shall be provided to and reviewed by the attorney for the Town in accordance with Article XXV.

B. The Applicant shall create covenants and restrictions requiring that all property owners in the Southern Tract of Tuxedo Farms shall be members of the Tuxedo Farms Home Owners Association and requiring compliance with this Special Permit. The covenants and restrictions shall also:

1. require that the TFHOA shall grant the Town police authority to access and patrol TFHOA owned roads;
2. require each lot and unit owner to properly maintain the lawns and front yards, including fences;
3. require the TFHOA to undertake such maintenance if a lot or unit owner fails to do so;
4. require each lot and unit owner, at the time of purchase, to pay an appropriate sum into a reserve fund held by the TFHOA so that the TFHOA will have sufficient resources to undertake such maintenance, if necessary. The amount established for such reserve fund shall be reviewed and approved by the Town Engineer; and
5. authorize the TFHOA to bill a lot or unit owner for the costs incurred by the TFHOA to fulfill the owner's maintenance responsibilities and if that bill is not timely paid to place a lien on the property for the costs and expenses incurred by the TFHOA to perform such maintenance and impose the lien. The documents forming the Home Owners Association shall give the TFHOA the right to maintain lots and buildings within the Project if the owner thereof fails to do so and shall also give the TFHOA the right to impose the costs of such maintenance as a lien against the affected property.

## **ARTICLE XXV. ATTORNEY GENERAL FILINGS**

All filings with the New York State Attorney General in connection with any matter relating to Tuxedo Farms, including but not limited to creation of homeowners and condominium associations and amendments thereto shall be provided to the attorney for the Town simultaneous with such filing. The attorney for the Town shall ensure that all filings are consistent with this Special Permit, the 2017 Preliminary Plan and the Design Standards. All Homeowners Association and Condominium Association filings and amendments approved by the New York State Attorney General shall be filed in the offices of the Town Clerk and Planning Board.

## **ARTICLE XXVI. FEES AND COSTS**

A. The Applicant shall pay all applicable fees and costs as are required under the Town's local laws in the manner prescribed by those local laws. The Applicant shall also reimburse the Town for any additional fees and costs incurred by the Town relating to its administration and enforcement of this Special Permit. Such additional fees and costs may include, but are not limited to, legal fees for preparation, review and interpretation of legal documents required, contemplated under, or resulting from, the Special Permit; legal fees for enforcement matters and proceedings; Planning Board and Town Board consultant review fees; consultant fees for the Traffic Monitoring Program and consultant fees for a professional architect who will be dedicated to the review of architectural plans for Tuxedo Farms.

B. Subject to the remainder of this Article XXVI, all fees and costs required to be reimbursed hereunder shall be paid within sixty (60) days of the Applicant's receipt of the fee invoice. Failure to pay within such period shall result in no further building permits or certificates of occupancy being issued until payment is made. Failure to make payment within 120 days shall be grounds for revocation of this Special Permit.

C. Notwithstanding anything to the contrary set forth herein, the Applicant shall have the right to challenge the reasonableness and/or validity of any fees or costs for which the Town is seeking reimbursement hereunder. In the event of such a challenge, the Applicant shall notify the Town of such challenge in writing within thirty (30) days of the Applicant's receipt of the fee invoice. Such written notice shall specify the amount being challenged and the reason for such challenge. The Town and the Applicant shall work diligently to reach a resolution as to such challenged amounts. In the event a resolution cannot be reached, the Applicant shall have such remedies as are allowed by law.

## **ARTICLE XXVII. BONDING OF IMPROVEMENTS**

Prior to the issuance of any building permit for the Project and prior to commencement of construction or disturbance of the Project Site, the Applicant shall post a security in an amount and form acceptable to the Town to secure the completion of all offsite and on-site public improvements and on-site common area improvements required in connection with the development. This security may be posted on a development phase or sub-phase basis and may be reduced as construction proceeds in accordance with applicable procedures in the Town's local laws. The security posted is required to be "evergreen." Notwithstanding the foregoing, the

developer may propose alternatives to bonding to be approved by the Town, which approval shall not be unreasonably withheld, delayed, or conditioned (eg a completion guarantee from a credit worthy entity).

#### **ARTICLE XXVIII. CONTINUING JURISDICTION**

The Town Board shall have continuing jurisdiction over all matters related to this Special Permit so long as the Special Permit is in effect. Nothing herein is intended to restrict or limit the rights, duties, authority or jurisdiction of any Town agency under any Town, State or Federal law, rule or regulation.

#### **ARTICLE XXIX. PRE-CONSTRUCTION SITE ACTIVITIES**

Notwithstanding anything to the contrary in this Special Permit, the Applicant is hereby authorized to undertake limited site disturbance in order to investigate conditions on the Project site in preparation for construction. Such limited site disturbance may include roughing in of the main Project access road from its intersection with Route 17 no more than 6,600 feet into the Project Site, well tests, soil tests, geo-technical borings, wetland delineations, surveys and the like. No rough-in of the main Project access road or access roads to test sites shall be undertaken without it first receiving a clearing and grading permit from the Planning Board. The Planning Board may require the Applicant to post a bond in a form manner acceptable to the Town Board to assure adequate reclamation of any disturbed site area.

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# **TUXEDO RESERVE PERFORMANCE STANDARDS FOR**

**Stormwater Management**

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**Grading and Steep Slope Protection**

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**Road Standards**

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**Sanitary Sewer**

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**Water Supply**

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**Soil Erosion and Sediment Control**

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**Tree Surveys**

\*

**Water Quality Testing**

\*

**Environmental Compliance**

\*

**Rock Blasting and Stabilization**



## DOCUMENT INTENT

These Performance Standards, which consist of detailed engineering and construction specifications and requirements, are a component of the Design Standards which have been incorporated into and made part of the Special Permit for Tuxedo Reserve. They have been designed to address conditions specific to the Tuxedo Reserve site. In the event of any conflict between a Performance Standard and an otherwise applicable general Town standard, the Performance Standard shall apply unless such standard is otherwise expressly prohibited by the provisions for Design Standards in the Planned Integrated Development Law under which the Project is grandfathered. In the instances where a Performance Standard is not identified, the relevant Town of Tuxedo or New York State standard, whichever is more stringent, shall apply.

### A. STORMWATER MANAGEMENT

The stormwater management system shall be designed in accordance with the current requirements of the NYSDEC Stormwater Management Design Manual.

Design shall meet the NYSDEC sizing requirements for water quality volume, channel protection volume, overbank flood control and extreme flood control. Requirements for channel protection overbank and extreme flood control may be waived in certain instances where the conditions specified in the NYSDEC Manual are met.

Where required, stormwater management systems shall be designed to provide for a zero net increase in the peak rate of stormwater runoff from the developed project to Offsite areas. In addition to the water quantity structural controls to be provided, grassed swales, water quality basins or other means will be developed to provide for water quality control measures. These water quality control best management practices will be provided in accordance with current NYSDEC requirements. Appropriate hydrologic and hydraulic calculations will be provided to demonstrate project impact to receiving channels or drainage systems immediately downstream.

#### 1. Storm Drain System

##### a. Drainage Collection System

- 1) For watersheds with drainage areas of less than 320 acres the storm sewer system will be designed to convey the peak runoff for a 25-year storm event. For watershed with drainage areas of between 320 and 640 acres the storm sewer system will be designed to convey the peak runoff for a 50-year storm event. For watersheds with drainage areas larger than one square mile, the structures should be designed to carry peak runoff for a 100-year storm event.
- 2) The Rational Method  $Q=CIA$  shall be used to size storm water conveyance pipes where the drainage area is less than half a square mile or 320 acres. Where the drainage area is greater than 320 acres, Town of Tuxedo or NYSDEC standards, whichever is more stringent, shall apply.

$Q$  = The peak runoff rate in cubic feet per second (CFS)

$C$  = The composite runoff coefficient based on the surface conditions:

<u>Condition</u>	<u>C</u>
Grass/ Landscape areas	0.65
Wooded areas	0.59
Paved/ Impervious area	0.99

$I$  = The average rainfall intensity in inches per hour, taken from the intensity-duration-frequency curve for Orange County, NY.

Tc = The time of concentration in minutes, and the minimum Tc shall be 6 minutes.

A = The size of the drainage area in acres.

- 3) USDA Soil Conservation Service Technical Release TR-20 methodology shall be used to size stormwater conveyance pipes where the drainage area is greater than half a square mile or 320 acres.
- 4) The stormwater management report shall analyze the 25-yr storm event to determine the effect of stormwater runoff from the proposed development to existing downstream drainage facilities outside the area of the subdivision. Impacts to the existing downstream drainage facilities shall be addressed in accordance with the requirements of the agency having jurisdiction.
- 5) Storm drainage pipes will be sized based on Manning's Equation (with  $n=0.012$  for RCP and HDPE sewer pipes). Minimum pipe slope shall be 0.50%.
  - a) Minimum storm sewer pipe shall be 18" diameter
  - b) Maximum distance between inlet and manhole structures on roads will be 300'.
  - c) Each catch basin shall be designed in accordance with acceptable flow rates to the specific basin, but not to exceed 6 cfs in any case.

b. Storm Drain Culvert

- 1) The Soil Conservation Service Method TR20 shall be used for designing storm drain culverts.
- 2) Storm drainage culverts for roadways and pavements are to be designed for a 50 year storm except that any facilities provided at a low point of the pavement/structure shall be able to pass a 100-year storm under surcharge conditions without flooding the roadway.
- 4) The type of culvert structure material shall be selected based on size, structural strength, constructability, preservation of natural stream channel, aesthetics and cost.
- 5) In vehicular areas, provide a minimum cover of 18 inches or Class V RCP where cover is less than 18 inches.

**2. Stormwater Detention Basins**

- a. Hydrology for stormwater detention basins shall be based on USDA Soil Conservation Service Technical Release TR-20 methodology.
- b. Where detention facilities are required, the release of stormwater runoff to offsite areas shall not exceed the pre-development peak rate of runoff. To accomplish this, the rate of stormwater runoff shall be controlled through the use of detention basins or underground detention facilities, so that the post-development discharge rate is equal to or less than the existing discharge rate.
- c. The runoff generated from a 2 year, 10 year, and a 100 year storm shall be based on the 24 hour SCS Type III cumulative rainfall distribution for both existing and proposed conditions.

- d. Unless a site-specific soils evaluation is provided, the Rockland and Orange County soils maps shall be used to determine soil types to calculate CN factors. Additionally, the Town can require soil testing for specific locations.
- e. The water quantity basin design shall conform to the current design requirements contained in the NYSDEC Stormwater Management Design Manual.

### 3. Water Quality Basin Design

- a. The water quality basin design shall conform to the current design requirements contained in the NYSDEC Stormwater Management Design Manual.
- b. The design approach shall utilize a "kit of parts" philosophy that encourages a variety of stormwater management practice (SMP) types. The selection of a specific SMP shall be based upon guidance from Chapter 7 of the Design Manual, and shall be depend on topography, soil and groundwater conditions, habitat, watershed characteristics, aesthetics, and other pertinent factors. Examples of SMP types to be considered from Chapter 6 of the Design Manual include:
  - ponds
  - wetlands
  - infiltration practices (infiltration trenches, basins, dry wells)
  - filtering systems (sand filters, organic filters, bioretention facilities)
  - open channels (wet swales, dry swales).

Where practicable, alternative approaches from Chapter 9 of the Design Manual shall also be considered to mitigate potential adverse impacts. These measures include:

- rain gardens
  - green roofs
  - stormwater planters
  - permeable paving
  - cisterns.
- c. Where appropriate, water quality basins may be designed and incorporated as part of stormwater detention basin systems.
  - d. Underground water quality treatment units may be used to satisfy the NYSDEC "pretreatment" criteria.
  - e. Water quality treatment practices may include small decentralized facilities to serve localized drainage areas.

### 4. Open Channels

- a. Side slopes should not be greater than 2H:1V.
- b. Channels shall have a capacity to convey the runoff from a 25-year storm event with 0.5 foot of free board.
- c. The top width of parabolic waterway shall not exceed 30'; and the bottom width of trapezoidal waterway shall not exceed 15 feet.
- d. Channel stabilization measures shall be provided as required to prevent erosion.

- e. Rock Catchment areas may also be used to convey storm water runoff.

## B. GRADING & EARTHWORK AND STEEP SLOPE PROTECTION

### 1. Grading & Earthwork

To minimize impacts to the natural resources, grading activities will be kept to the absolute minimum. Development activities will be generally limited to within those areas where the ground surface slope is no greater than 33%. The design of the roads and building areas will be completed to maintain less than a 20 foot cut or fill where ever possible. There will be those areas within the project site with existing topographic conditions which will require cuts and/or fills to be greater than 20 feet.

- a. Maximum slope for embankments and all landscaping areas shall be 2 horizontal to 1 vertical. Rock cut slopes and rock catchment areas will be based on the analysis and recommendations of the project geotechnical engineer.
- b. Grading plans to be designed to produce a minimum disturbance to natural resources. Balance earthwork where possible. Reuse excess rock for general fill and, if possible, for slope stabilization (i.e.; gabion walls) or for channel stabilization.
- c. Erosion control will be in compliance with New York State Guidelines. An erosion control plan will accompany all grading, utility and paving plans for both on-site and off-site improvements.
- d. Border areas shall be provided along Major, Collector, Local, Country and private roads. Guide rail should be considered where minimum border area cannot be provided.
  - (1) Major and Collector Road Border Area = min 9 ft wide measured from the edge of cartway. Maximum slope 3H:1V.
  - (2) Local, Country and Private Road Border Area = min 6 ft wide measured from the edge of cartway. Maximum slope 3H:1V.
- e. Retaining walls, rock catchments and slopes shall be permitted within the road R.O.W. provided these elements are located outside of the road border area or coordinated with guide rail protection.

### 2. Blasting

See Rock Blasting and Stabilization Protocol attached as Exhibit A.

## C. ROAD STANDARDS

### 1. Streets

Street hierarchy and guidelines for gradients, sight distances, intersections, horizontal and vertical alignment, driveways, curbs and sidewalk have been addressed in Table 4C of the SMART CODE

update references as required

### 2. Paving

Pavement sections will be based on Geotechnical Engineers recommendations and after completing a paving design analysis. The following are typical bituminous pavement sections to be used.

Major:	1½" Asphalt Concrete Top Course, NYSDOT Type 6 1½" Asphalt Concrete Binder 4" Asphalt Concrete Base Course, NYSDOT Type 2 8" Subbase, NYSDOT Type 1
Collector:	1½" Asphalt Concrete Top Course, NYSDOT Type 6 4" Asphalt Concrete Base Course, NYSDOT Type 2 8" Subbase, NYSDOT Type 1
Residential, Local, Private: Country Lane	1½" Asphalt Concrete Top Course, NYSDOT Type 6 3" Asphalt Concrete Base Course, NYSDOT Type 2 8" Subbase, NYSDOT Type 1
Parking Lots:	1½" Asphalt Concrete, NYSDOT Top Course, NYSDOT Type 6 2" Asphalt Concrete Base Course, NYSDOT Type 2 6" Subbase, NYSDOT Type 1

**D. SANITARY SEWER**

Sanitary sewers shall be designed based on the standards and regulations of Orange County Health Departments and the NYS DEC Design Standards for Wastewater Treatment Works.

**1. Wastewater Design Flow** change to 2014 or say  
latest edition

The flow rate is based on the NYS DEC Design Standards for Wastewater Treatment Works 1988, Table 3, or the most current version. Expected Hydraulic Loading Rate incorporates a 20% reduction for the use of water-saving plumbing fixtures.

Assumed bank, postal office, food, sport/health, day care, retail, office & business center all based on the flow rate of 0.10 gpd/sf in Southern Tract; and 0.08 gpd/sf for office, light industrial and warehouse in Northern Tract.

Wastewater peak wet weather design flows will be based on the following:

- Domestic sanitary flows based on above average daily domestic sanitary flow rate times a peak hourly factor of 4
- Infiltration flow allowance (additional 15% of average daily domestic sanitary flow)

**2. Gravity Sewer**

a. Pipe

- 1) Gravity system shall be designed for peak wet weather flow and without surcharging the system. Gravity sewers shall be designed when possible to provide a minimum velocity of not less than 2 fps when flowing half full. During initial years of development frequent sewer line flushing or cleaning may be required to flush and sediments that may be deposited during the low flows.
- 2) Minimum diameter of sewer lateral shall be 6" for commercial connection, 4" for residential connection, and 8" for public sewer extension.
- 3) Cleanout shall be provided at each lateral connection.

- 4) Sanitary pipes will be designed with following minimum hydraulic slope for all pipe types using  $n=0.013$  for ductile iron and  $n=0.010$  for PVC to provide a minimum velocity of 2 fps.
  - 5) The maximum velocity shall be 15 fps, where 10 fps is preferred where possible.
  - 6) When a smaller sewer joins a larger one, the invert of the larger sewer should be lowered to place the 0.8 depth point of both sewers at the same elevation.
  - 7) Minimum cover above sanitary sewer pipe shall be 4'.
  - 8) Minimum 3' of cover from the bottom of stream at stream crossing.
  - 9) Minimum 10' of lateral separation and 18" of vertical separation shall be provided between sanitary sewers and water main.
  - 10) Where appropriate separation from a water main is not possible, the sewer shall be encased in concrete or constructed of ductile iron pipe using mechanical or slip-on joints for a distance of at least 10' on either side of the crossing.
  - 11) No sewer main shall be constructed within:
    - 200' from a water supply well or a below-grade reservoir, unless otherwise approved by the Orange County Department of Health;
    - 25' from surface water or open drainage/ culvert;
    - 10' from a water pipe;
    - 25' from top of embankment or steep slope.
  - 12) Sanitary sewers crossing streams or wetlands, or located within 25' of the stream embankment shall be constructed of steel, reinforced concrete or ductile iron pipes.
  - 13) Maximum distance between manholes shall not exceed 400 feet.
  - 14) Sewers on 20% slopes or greater shall be anchored securely with concrete or equal, anchors spaced as below:
    - Not over 36' center to center on grades 20% and up to 35%;
    - Not over 24' center to center on grades 35% and up to 50%;
    - Not over 16' center to center on grades 50% and over.
  - 15) Except where otherwise approved by municipality or utility authority, the centerline of sanitary sewer manholes, when located within the municipal right-of-way, shall be located where possible 5ft from the center line of the paved cartway. If conditions prevent location near the centerline, the manhole shall be located within the cartway a minimum of five-feet from the gutterline.
- b. Sanitary Sewer Manholes
- 1) Minimum inside manhole diameter shall be 60".
  - 2) Provide minimum 0.1' drop across the sanitary sewer manhole.
  - 3) Provide a drop connection when the difference between inverts is more than 2 feet. Inside or outside drop shall be used. Inside drop connections shall require a larger inside diameter manhole

- 4) No manholes are permitted within 100' of a public water supply well or a below grade reservoir.
- 5) Watertight manhole cover shall be provided within the 100-year flood level or 50' from the wetlands limit.

**3. Force Main**

- a. The minimum building service connections from individual grinder pumps to the collectors shall be 1-1/4" PVC pipe.
- b. The minimum force main diameter shall be 4".
- c. The minimum velocity shall be 2 fps.
- d. Force main shall enter the gravity sewer system at a point not more than 2 feet above the flow line of the receiving manhole.
- e. Cleanout shall be provided every 400' to 500', at major change in direction, and at where one collector main joins another main.

**4. Pump Station**

- a. Pump station shall be located outside of the 100-year floodplain and be accessible during the 25 year flood.
- b. Pump suction and discharge openings shall be at least 4" in diameter, unless otherwise approved in writing by the Town.

**5. Sewage Disposal System**

- a. All design and construction of sewage disposal systems shall be in accordance with the standards and regulations of Orange County Department of Health, and New York Department of Environmental Conservation, as outlined in the with Appendix 75-A of Part 75 of the Administrative Rules and Regulations contained in Chapter 11 of Title 10 (Health) of the Official Compilation of Codes, rules and Regulations of the State of New York.
- b. Mounded septic system is not permitted in Orange County

**E. WATER**

Water mains, pumping facilities and distribution storage design shall be designed in accordance with the latest edition of Recommended Standards for Water Work (also know as the Ten State Standards) and Part 5 of the New York State Sanitary Sewer Code.

**1. Water Demand**

update

Water demand is the sum of the residential and non-residential water demand. Fire flow volume is provided in dedicated storage and is, therefore, not a demand. The residential and non-residential water demand will be based on the following:

Parameter	Water per Unit Basis	2010, No PIPC	Water Demand	2010, PIPC	Water Demand
<b>Residential</b>					
1BR Dwellings	150 gal/unit/day @80%	20 units	2,400 gpd	20 units	2,400 gpd
2BR Dwellings	300 gal/unit/day @80%	409 units	98,160 gpd	409 units	98,160 gpd
3BR Dwellings	400 gal/unit/day @80%	638 units	204,160 gpd	607 units	194,240 gpd
4BR Dwellings	475 gal/unit/day @80%	128 units	48,640 gpd	159 units	60,420 gpd
<b>Residential Average Daily Demand</b>			<b>353,360 gpd</b>		<b>355,220 gpd</b>
Max Month to Average Day Peaking Factor		1.3	459,368 gpd	1.3	461,786 gpd
<b>Residential Maximum Day Demand</b>		<b>2.139</b>	<b>755,837 gpd</b>	<b>2.139</b>	<b>759,816 gpd</b>
<b>Non-Residential</b>					
Commercial & Amenity Uses	0.16 gal/sf/day	100,000 sq. feet	16,000 gpd	100,000 sq. feet	16,000 gpd
Future School	20 gallons per student per day	500 students	10,000 gpd	500 students	10,000 gpd
<b>Non-Residential Average Daily Demand</b>			<b>26,000 gpd</b>		<b>26,000 gpd</b>
Max Month to Average Day Peaking Factor		1.3	33,800 gpd	1.3	33,800 gpd
<b>Non-Residential Maximum Day Demand</b>		<b>1.5</b>	<b>39,000 gpd</b>	<b>1.5</b>	<b>39,000 gpd</b>
<b>Totals</b>					
<b>Total Avg Daily Demand</b>			<b>379,360 gpd</b>		<b>381,220 gpd</b>
<b>Total Max Day Demand</b>			<b>794,837 gpd</b>		<b>798,816 gpd</b>
<b>Total Max Day Supply (24 hrs per day)</b>			<b>835,200 gpd</b>		<b>835,200 gpd</b>
Notes:					
1) Up to 2,860 bedrooms for non-age restricted residential units and no bedroom limitation for age restricted residential units will be allowed.					
2) Weighted Average Peaking Factor is calculated as follows: [(SFD X 2.5) + (MFD X 1.5)] / Total Units (SFD) Single Family Dwellings: 764 units (MFD) Multi Family Dwellings: 431 units Total: 1,195 units Peaking Factor: [(764 X 2.5) + (431 X 1.5)] / 1,195 = 2.139					



The water supply system should be designed to carry and deliver the peak-hour flow demand and the fire flow requirement whichever is greater. The storage facility shall contain average day demand plus the fire flow requirement.

## 2. Fire Flow

The fire protection need will be based on Insurance Services Office (ISO), *Fire Suppression Rating Schedule* and the ISO formula for estimated Needed Fire Flow (NFF) and the American Water Works Association's (AWWA). Manual of Practice 31, *Distribution System Requirements for Fire Protection (M31)*.

The following fire flow values will be provided:

- 2000 gpm for 2 hours for the multi-family dwellings
- 1060 gpm for 2 hours will be provided to the school
- 1000 gpm for 2 hours will be provided for the single family homes.

The minimum fire flow requirement is based on 2000 gpm for two hours.

## 3. Fire Hydrant

- a. Fire hydrants shall be spaced in accordance with New York State requirements.
- b. Fire hydrants shall be generally located in the vicinity of low and high points of the streets and in the vicinity of street dead ends.

## 4. Water Main

- a. All water mains shall be sized to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow, including fire.
- b. The normal working pressure in the distribution system should be approximately 60 psi and not less than 35 psi.
- c. Water main shall be separated both horizontally by 10' minimum and vertically by 18" minimum with any pipe lines carrying non-potable water such as sanitary and storm sewer.
- d. Water mains will be installed with minimum 4 feet of cover. PVC C-900 or as approved by the OCDOH
- e. Minimum water main size shall be 6" diameter cement-lined ductile iron pipe. OCDOH
- f. Maximum valve spacing shall be 500' for commercial and 800' for residential development.
- g. Water mains shall be installed with minimum 2 feet of cover when crossing water course 15 feet wide. The pipe shall be of special construction having flexible watertight joint, and valves and permanent taps shall be provided on both sides of major stream crossings.

## 5. Water Storage Tank

- a. Water Storage tank shall be tucked below the ridge lines where possible.
- b. The minimum capacity of a water storage facility shall contain average day demand and fire flow for a total of 621,220 gallons (assuming an average flow of 381,220 gpd).

## 6. Wells

Public water supply wells shall be located to meet State regulatory requirements.

## F. SOIL EROSION AND SEDIMENT CONTROL

Soil Erosion and sediment control devices and application shall be in accordance with NY State Guidelines for Urban Erosion and Sediment Control standards and regulations.

## G. TREE SURVEYS

Given the intention of clustered development at Tuxedo Reserve is to preserve large swaths of open space, it is understood that construction activities within the limits of disturbance of roads and lots will generally require the clear-cutting of trees. In addition to clearing, grading activities will generally prohibit the ability to preserve specific trees on proposed lots. To mitigate the visual impact of these clearing and grading activities, the Special Permit adopted the Design Guidelines which includes standards for on-lot landscaping.

The Planning Board may require a tree survey and protective measures to ensure the survival of the tree or stand of trees in the specific circumstances when a specimen tree or a stand of specimen trees (pertaining to trees 18 inches caliper DBH and larger) are located within the limits of disturbance and:

1. The preservation of the tree or trees does not significantly alter the alignment of a road or its associated infrastructure;
2. The preservation of the tree or trees does not eliminate or require the relocation of any lot or lots such that the new lot or lots have less usable land area;
3. The preservation of the tree or trees does not render any lot unbuildable, or substantially increase the cost or difficulty of developing a lot;
4. The proposed grading is such that the tree's or stand of trees' survival is feasible.

## H. WATER QUALITY TESTING

To ensure the protection and preservation of the water quality at Tuxedo Lake, Mountain Lake, and on the site, in general, the applicant must test surface water samples following any storm greater than 1.25 inches as follows:

Construction Occurring Within:	Test samples taken from:	Any time before construction, test for:	During construction, test for:	<u>Six months post-construction and soil stabilization, test for:</u>
All Phases	The existing stream on the Sloatsburg parcel before it enters the culvert in Route 17	<ul style="list-style-type: none"> <li>• Total suspended solids (TSS)</li> <li>• Total phosphorus</li> <li>• Total nitrogen</li> <li>• pH</li> <li>• Chloride</li> </ul>	<ul style="list-style-type: none"> <li>• Total suspended solids (TSS)</li> <li>• If a spill occurs, test for appropriate substances (e.g. petroleum products)</li> </ul>	<ul style="list-style-type: none"> <li>• Total suspended solids (TSS)</li> <li>• Total phosphorus</li> <li>• Total nitrogen</li> <li>• pH</li> <li>• Chloride</li> </ul>
1,000 feet of the nearest edge of Mountain Lake	The existing swale near the proposed recreation facility			
The Tuxedo Lake watershed	The outlets from sediment traps at the locations of Pocket Pond 5a and Dry Swale 5b*			

\*Note; Only test outlet from sediment trap at the location of Pocket Pond 5a for pre-construction test.

## I. ENVIRONMENTAL COMPLIANCE

Prior to the first site disturbance, the developer must submit an Environmental Compliance Document to the Town Engineer for his review and approval. It is the responsibility of the developer to maintain signed copies of the Environmental Compliance Document for each of the Project's contractors at the Project's construction office. In addition, copies of the executed Environmental Compliance Document must be attached to each Clearing and Grading Permit and Building Permit.

The approved Environmental Compliance Document must require compliance with the Project's NYSDEC-approved Stormwater Pollution Prevention Plans as well as identify additional measures for the following:

- Spill Protection: Preventative measures, emergency spill event action plan, and non-emergency spill event action plan;
- Hazardous Waste Management: Identification, reporting, storage, and disposal;
- Solid Waste Management: Storage and disposal;
- Natural & Cultural Resources: Identification and reporting.

# **Exhibit A**

## **Rock Blasting and Stabilization Protocol**

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# ROCK BLASTING and STABILIZATION PROTOCOL

**Tuxedo Reserve  
Tuxedo Park, New York**

*Prepared For:*

**Tuxedo Reserve Owner LLC  
60 Columbus Circle  
New York, New York 10023**

*Prepared By:*

**Langan Engineering and Environmental Services, Inc PC  
River Drive Center I  
Elmwood Park, NJ 07407  
NJ Certificate of Authorization No: 24GA27996400**

**16 October 2009  
9108601**



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## APPENDICES

<b>APPENDIX A</b>	<b>Roadway Blasting Plan &amp; Pre-Blasting Documentation Plan - Drawing BP-1 General Blasting Procedures MSDS Sheets for Blasting Agents/Materials OSM Vibration Level Criteria</b>
<b>APPENDIX B</b>	<b>Typical Rock Fall Protection &amp; Stabilization Methods - Drawing ST-1</b>
<b>APPENDIX C</b>	<b>Wetlands Monitoring and Maintenance Plan</b>
<b>APPENDIX D</b>	<b>Well and Hydrogeologic Monitoring Protocol</b>

## EXECUTIVE SUMMARY

This Rock Blasting and Stabilization protocol document has been prepared to provide a "road map" for all rock blasting and subsequent stabilization activities, as well as, to identify protection measures for public and private supply wells and on-site wetlands during construction of the residential development at Tuxedo Reserve in Tuxedo Park, New York. It is the intent of the Owner to implement at the onset of mass excavation all mass and trench blasting within any development phase. However, written modifications to this protocol may be made, with the concurrence of the Town's Engineer, based on performance of the work. This protocol is not intended to provide details for the work described herein; construction drawings and technical specifications will be prepared to provide the required detail that will be consistent with the guidance provided in this protocol document.

The three main components of this protocol address the following activities:

1. Blasting to facilitate mass and trench excavation of rock.
2. Rock cut stabilization and rock fall protection.
3. Protection of sensitive receptors, such as wetlands and supply wells.

A brief description of each of these activities, including a summary of required notifications, hours of operation, and vibration and noise level thresholds, beginning with a summary of site geologic conditions is provided in the following sections.

## REGIONAL AND LOCAL GEOLOGY & HYDROGEOLOGY

Based on the USDA Soil Conservation Service Soil Survey for Orange County, New York, dated 1981, and the 1995 "Surficial Geology Map of New York - Lower Hudson Street", published by the New York State Geologic Survey, the majority of the surficial layer of the site consists of shallow well drained soils and rock outcrops; see Figure 1 for surficial geology map. The soils tend to be a thin mantle of glacial till deposits. In general, the surface layer is dark brown gravelly sandy loam, gravelly silt loam, or gravelly loam, with protrusions of large boulders. Localized deeper soil deposits exist typically between ridges, along shallow drainage ways of the uplands, and consists of stony glacial till debris from schist and gneiss bedrock. These deeper deposits are generally a yellowish-brown gravelly sand loam with new soils deposited over the old soils by wind/water and occasionally cemented together ("fragipan").

Rock outcrops tend to form large protruding blocks and ledges that occur throughout the site. These rock outcrops are predominantly sloping and moderately steep. Low lying basins and depressions in the area generally consist of well decomposed woody and herbaceous plant remains forming a black muck, which overlies a very poorly drained layer of bluish gray muck formed from organic deposits. The water table in the region tends to be perched only over

areas of poorly jointed rocks. Based on the results of our subsurface investigations, which have included borings and testpits, groundwater within the rock mass is typically expected to be at depths greater than 75 ft.

Over 100 testpits and borings have been performed on site; In addition, structural mapping of rock outcrops across the site was also performed. The site investigation findings indicate up to about 10 feet of sandy soils typically overly hard, irregularly or non-distinctly foliated gneiss possessing typically moderate to very widely spaced generally rough jointing. Occasionally low lying areas contain dark soft silts and clay or muck. Refer to the latest geotechnical engineering studies for a complete description of subsurface conditions.

The 1995 "Geologic Map of New York – Lower Hudson Sheet" published by the New York State Geologic Survey indicates the predominant bedrock type beneath the site consists of quartz plagioclase gneiss; see Figure 2.

## **ROCK BLASTING PROTOCOL**

Because of the significant amount of hard rock that exists above proposed finished grades, blasting is expected to be the most expeditious method to facilitate rock excavation. Blasting should be properly sequenced and coordinated such that mass-cut production blasting is done to simultaneously address any necessary site utility trenches. Rock excavation should be controlled where necessary to prevent excessive vibrations that may adversely affect nearby residences, utilities, supply wells and on-site wetlands, and to prevent rock overbreak of the final excavation faces. The contractor's means and methods should be adjusted to comply with these requirements. Hoe-rams, splitters, or other mechanical equipment may also be required. The Contractor's means and methods for rock excavation and sequence of operations should be developed by a Blaster licensed in the State of New York, experienced in similar controlled rock excavation activities, and should be submitted for review by the Owner's Geotechnical Engineer prior to the start of work. The drilling/blasting methods and procedures selected will depend upon the relative location of the excavation work to the adjacent roadways, stormwater basins, supply wells, wetlands, utilities, and residential structures, and should be prepared in accordance with this approved blasting protocol. See Drawing BP-1 in Appendix A for a description of work associated with blasting and excavation. General blasting procedures and MSDS sheets for typical explosive agents/materials are provided in Appendix A. Blasting components containing perchlorates are not permitted. A summary of key notifications, hours of operation, and vibration and sound threshold levels are provided herein.

The mass rock removal work should be performed in such a manner to prevent over-excavation or the creation of an unstable condition. After blasting the contractor must clear all loose material to proposed building or site sub-grade elevation to the satisfaction of the Owner's



Geotechnical Engineer to assure that the rock has been fractured to the appropriate depth. Rock within building footprints should be over-blasted below the proposed finished subgrade levels; the depth of over blasting should be coordinated when building plans are completed. Rock in the over-blast zone need not be removed (except for building footing excavations), but should allow for normal trenching excavation for installation of utilities.

Exposed rock faces should be monitored and jointing mapped by the Owner's Geotechnical Engineer as the work progresses downward. If unstable wedges or blocks of rock occur during excavation, these blocks should be removed, or restraint should be provided as the work progresses as described in the following section.

Blasting and rock processing operations are to be contained on site. The owner proposes to utilize all blasted and processed materials for fill. Noise levels will be monitored at the nearest sensitive receptor location during the rock processing operation.

Vibration control and rock overbreak control methods should be used during construction excavation, especially in the vicinity of the wetlands and supply wells. Because it is widely accepted that openings in rock impede the transmission of shear waves; line drilling or channel drilling at final cut faces and in the vicinity of the wetlands are expected to limit the transmission of energy beyond the final rock face, and beneath the wetlands, respectively. The purpose of these controlled blasting methods is to ensure an air cushion and to establish a crack plane between adjacent periphery holes and thereby minimize the propagation of primary vibrations and strain cracking in the rock mass beyond the excavation perimeter that could open fractures. For example, the stress concentrating effect of a line drilled hole dies away rapidly, and at a distance of approximately 1.5 times the hole diameter, virtually no stress increase is felt by the rock (Hoek and Brown, 1980)<sup>1</sup>. Excavation vibration control can be achieved by limiting the equipment impact energy, or in the case of blasting, the charge per delay, to that value that would produce non-damaging levels of ground vibration. The peak resultant particle velocity should be the measure of the level of vibration.

In addition to the contractor's monitoring, vibration monitoring will be performed by the Owner's Engineer using at least two seismographs located at the nearest receptors. Vibration and noise level thresholds are provided later in this section; these excavation vibration threshold criteria should be considered to be preliminary, subject to review, approval, or modification by any party with jurisdictional control, including the Owner's Geotechnical Engineer, based on the behavior of the adjacent receptors. Once the final criteria are established, they should not be exceeded. The blaster is required by Town Code to control

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<sup>1</sup> Hoek, E., and E.T. Brown, 1980. *Underground Excavations in Rock*, London: Introduction of Mining and Metallurgy

vibrations at selected features/structures to within tolerable levels. Control methods are described on Drawing BP-1 in Appendix A.

Vibration and noise (air-pressure) monitoring will be performed prior to and throughout the blasting operations, mass-excavation procedures, and shot rock processing. Before beginning any blasting at the site, existing (ambient) vibration and noise levels will be monitored and recorded for use as a pre-blast baseline in each blasting area. At the beginning of the blasting operations, the results of the vibration and noise level monitoring will be provided on a daily basis to the Town's Engineer. As the construction progresses, based on approval by the Town's Engineer, weekly vibration and noise level monitoring reports may be issued. A copy of the blaster's report will be issued to the Town's Engineer on a daily basis. The Contractor will monitor the train rails of the Metro North Railroad when blasting within 600 feet. A monitoring report will be issued to the Metro North Railroad's office at the end of each work day. The seismographs would measure both vibrations and noise levels throughout the blasting, mass-excavation, and processing operations. The contractor is responsible for installing and maintaining all monitoring equipment and for taking readings and issuing reports to the Owner's Geotechnical Engineer for review and to the pertinent governing agency as required. Should the measured vibration or noise levels exceed the approved threshold levels, the contractor should cease his work and evaluate his means and methods. Work would resume once the modified procedures are reviewed and agreed upon by the Town's Engineer and the Owner's Geotechnical Engineer. The vibration and noise monitoring reports will consist of the pre-blast (ambient) readings, the Town Engineer's approved levels, and the recorded readings over the established monitoring period.

### **Hours of Operation**

Blasting shall be permitted in the Town of Tuxedo Monday through Friday between the hours of 9:00 a.m. and 5:00 p.m. No blasting shall be permitted at any time on Saturdays, Sundays, and public holidays observed by the Town of Tuxedo.

### **Notifications**

These should be issued with copies to the Town's Engineer.

1. First Level - Issued two months prior to excavation:
  - Notify property owners within 600 ft of the work area to inform them of the work and the need to document the existing conditions of the property.

2. Second Level - Issued two months prior to blasting:
  - MetroNorth Railroad
  - New York State Department of Environmental Conservation
  - United States Army Corp of Engineers
  
3. Third Level - Issued 48 hours prior to blasting:
  - Town Supervisor
  - Town Director of Roads
  - Town Construction Official
  - Town Engineer

**Vibration and Noise Threshold Levels**

Threshold	PPV (ips) (Frequency > 40 Hz)	PPV (ips) (Frequency < 40 Hz)
Initial	2	0.75
First Warning	1	0.5
Sensitive Receptors	0.5	

**Air Pressure Threshold Levels at Corresponding High Pass Filter Frequency**

Air Pressure Threshold (dB)	Frequency (Hz)
131	0.1
128	2
125	6

**Note 1:** Sliding Scale per OSM Alternative Blasting Level Criteria (Modified from Figure B1, RI8507 vs. Bureau of Mines; See Appendix A of this Protocol).

**Note 2:** Peak Particle Velocities expressed in inches per second (ips) are subject to modification based on the performance of receptors.

## **Test Blast Program**

The Contractor should submit a test blasting program (schedule and design) to the Owner's Geotechnical Engineer and the Town's Engineer for review and any required approvals at least 14 days prior to any test. The required design information should include the preliminary burden and spacing information. The drill hole diameter selection should be based on, but is not limited to, the rock depth to grade, pounds per delay in consideration to the nearest structure, field measured ground vibration levels of previous blasts, and maintaining agreed upon particle size of blasted rock. Staggered blast hole patterns may provide more efficient breakage through rock movement and more uniform distribution of explosive energy throughout the rock bed. The blast-hole patterns will be decided upon by a licensed blaster. Delay timing patterns will be designed to provide optimum breakage and desired rock movement. Whenever possible, one hole per delay sequence will be utilized to ease the effects of the blast on nearby structures. Blasts will be designed whenever possible to allow rock movement into a dew face away from any protected structures. Blasting mats or covers shall be used to help contain flyrock. The plan should include qualifications and proof of insurance.

An initial test should be performed in an overall area measuring approximately 60 feet by 60 feet and should be located within the central area of the sub-division section. The test blasting program should be used to verify that the contractor can blast the rock into a maximum block and aggregate fill size specified in the geotechnical report. In addition, the Contractor will utilize the information from the test blast program to develop a plan indicating allowable explosive charge weights per delay which will result in the attenuation of ground motions less than the limiting velocities and air blast overpressures defined herein. Test blast holes will be similar diameter and spacing as those to be used for production blasts. Depths of holes and type and quantities of explosives per hole will match the expected depths and quantities respectively for the use in production blasting. Additional test blasts should be performed as needed. Production blasting should be completed using the approved testing program blast parameters (i.e., hole spacing, loading, monitoring, etc).

## **ROCK STABILIZATION AND ROCK FALL PROTECTION PROTOCOL**

Permanent rock cuts are expected to be stable at a slope of 2V:1H. The maximum rock cut height is approximately 50 feet. The stability of these rock cut masses is typically governed by movement along existing joints/fractures. Although the anticipated rock cuts are expected to be stable, potentially unstable blocks of rock and localized potentially unstable areas may be encountered where unfavorable rock joints intersect. Any areas exhibiting potential rock fall may require stabilization. Where space allows, the rock will be re-contoured to a gentler slope to achieve stability. Where this is not practical, rock bolting, shotcrete, buttressing, netting, fence, or a combination of these methods may be required depending on the condition of final

exposed cut rock face. Typical rock fall protection stabilization methods are provided on Figure ST-1 in Appendix B. Therefore, the Owner's Geotechnical Engineer will inspect this excavation work and will provide recommendations for temporary stabilization as needed between blasts and after the blasting operations are completed.

Rock fall catchment ditches will be provided at the base of the road cuts where indicated on the construction drawings. Should water be encountered in roadway rock cuts, the catchment areas or swales will provide drainage. Ditch dimensions will be provided on the contract drawings.

As provided on the construction drawings, a physical barrier such as a fence should be placed at both the top of the ditch or swale adjacent to roadway cuts to restrict access to the ditch or swale and at the top of roadway and detention basin cuts to restrict access to the cut slope. Rock cuts, ditches and swales should be maintained.

Periodic monitoring of rock cut faces and rock catchment areas for all rock cut will be performed by the Owner's Geotechnical Engineer to document the performance of the rock cut and identify conditions that may require attention. Any restraint / rock fall protection measures implemented during construction are performing as intended. Also, changes in site conditions that could affect the constructed cuts and restraint / rock fall protection measures must be monitored. Monitoring on an annual basis after freeze / thaw has ended is anticipated.

## **PROTECTION OF SENSITIVE RECEPTORS PROTOCOL**

Blasting operations will be performed in the proximity of residential and public properties and transportation Rights-of-Way to the north, west, and south of the proposed North Ridge development. The Contractor should perform his rock excavation/blasting work so as not to damage or otherwise adversely impact adjacent properties, utilities, or other sensitive receptors such as wetlands or supply wells. Monitoring should be performed to ensure compliance with the project protocol established herein.

### **Pre-Blast Documentation and Monitoring**

Soil erosion control methods will be in place prior to the commencement of any blasting activities. The owner will provide a written notice via mass mailing to all property owners within 600 feet of proposed blast areas. The Town Engineer and/or Town Building Inspector will review and approve the notice, which will inform of the proposed blasting operation. The notice will also recommend and identify the necessity for allowing the developer to perform pre-construction documentation of their structures. The developer will retain the services of a professional services organization to perform pre-blast documentation of all existing properties surrounding the blast area. The documentation work will include but is not restricted to

accessible portions of exterior and interior home facades facing the blast area, utilities, supply wells, retaining walls, existing rock faces, etc. Vibration and noise monitoring will be performed to establish ambient baseline vibration and noise levels. These levels can be compared to the blasting vibration and sound levels if the occupants of adjacent properties express concern about vibrations and noise that occurs during construction. Ambient vibration and noise level data will be collected using seismographs at several locations around the site. With approval by individual property owners crack monitoring reference lines will be established over selected cracks observed on the above mentioned neighboring structures. These reference lines provide a means for measuring and documenting the selected cracks for changes (if any) during construction. Also, with approval by the same owners vertical elevation control points should be established at selected locations on the sidewalks in front of buildings, and at selected façade locations that adjoin the site. The Owner's professional land surveyor would establish and monitor these elevation control points for movement (if any) during construction. The results of the pre-blasting conditions documentation will be summarized in a report giving a brief description of the documented areas. The report would also include a plan showing the locations where elevation control points and crack monitoring reference lines were established, and ambient vibration and sound level measurements were made. The report would include a tabulated listing of areas inspected along with referenced corresponding videotape and photographs of the respective areas. Copies of the Digital Video Disks (DVDs), would be included in the report. Digital photographs taken would be provided on a CD ROM which would be included with the report. This report would be prepared and submitted to the Town of Tuxedo and the Town Engineer a minimum of two weeks prior to the commencement of blasting operations.

A Pre-Blasting meeting will be held by the Owner with all stake holders prior to the commencement of the blasting operation. The Owner will hold a public meeting to inform the public of the proposed blasting operations prior to the above mentioned Pre-Blasting meeting. Sufficient time will be provided for the public to ask/submit any questions they might have to the Owner.

### **Wetlands Monitoring and Maintenance**

A Wetland Monitoring and Maintenance Plan (WMMP) was developed for the site by EcoSciences, Inc., and is provided in Appendix C. The WMMP outlines investigations needed to document the current state of wetlands conditions and indicators, and inventories species present. The WMMP also establishes the frequency of periodic monitoring to evaluate wetlands performance, the protocols associated with the monitoring, criterion for triggering mitigation, and a schedule of implementation and associated reporting.

Soft sediment has been observed overlying soil or rock within the wetlands. If the wetlands were filled with water at the time a blast-induced shear wave passed through the sediment, it

is anticipated that the soft unconsolidated material would self heal, preventing the loss of water. However, to determine if blasting causes any deleterious effects on the wetlands, a monitoring program as stipulated in Appendix C will be in place. In the event the wetland is disturbed and/or damaged, as determined during the periodic monitoring, restoration of the subject area will be evaluated and implemented as determined to be necessary.

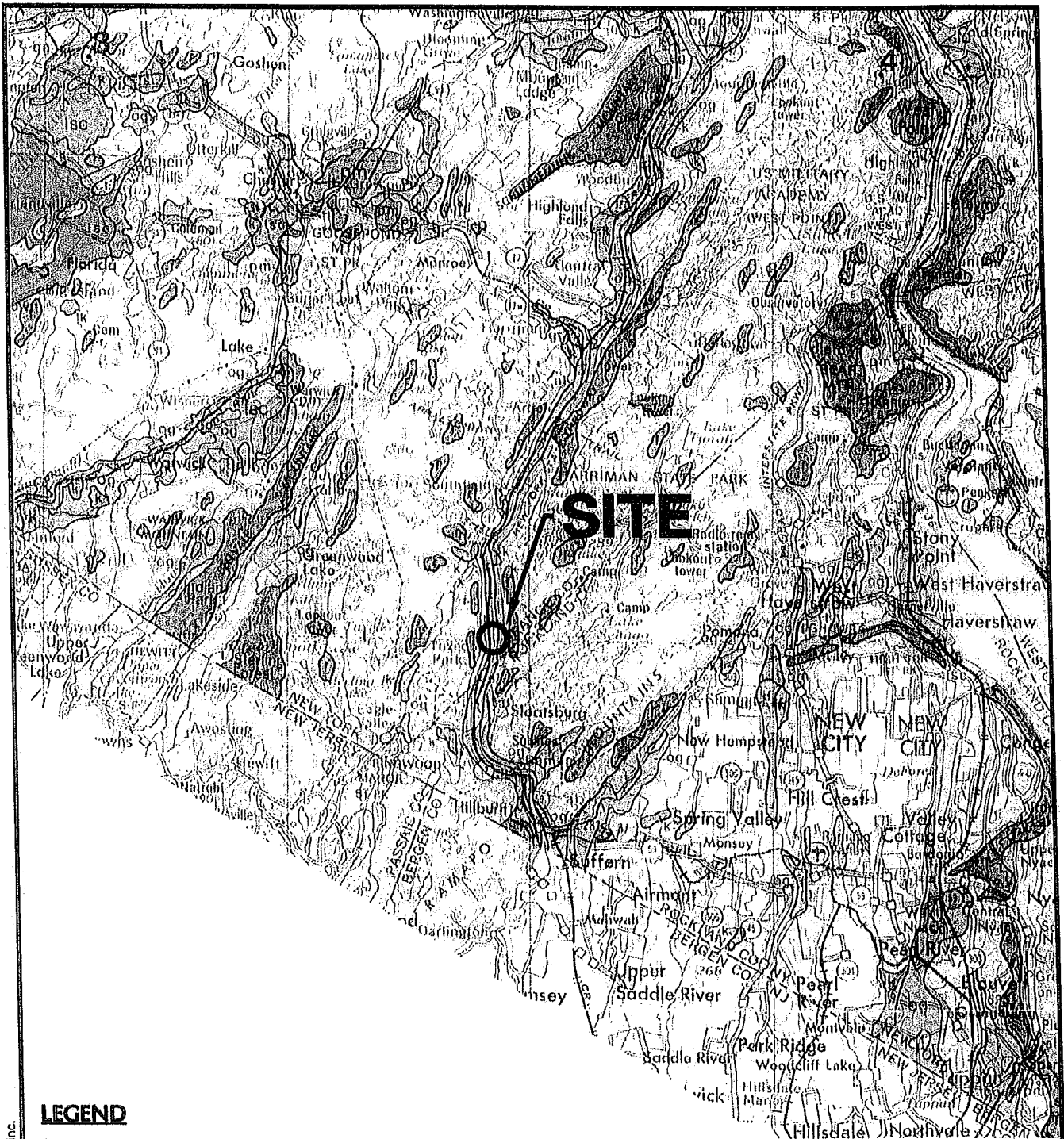
### **Well and Hydrogeologic Monitoring**

A well and hydrogeologic monitoring protocol was prepared for this development by Leggette, Brashers, and Graham, Inc. and is provided in Appendix D. This protocol was prepared for assessing impacts to nearby supply wells from site blasting operations. Included in the protocol are a discussion of hydrogeology, monitoring methods, sampling procedures, reporting frequency, and a contingency plan for any impacts to wells within 1500 feet of the blast site. In addition, a plan is provided showing supply well locations in the vicinity of the site.

G:\data\9108601\Office Data\Blasting & Stabilization Protocol\Rock Blasting and Stabilization Protocol (14 Oct. 2009).docx

# FIGURES





**LEGEND**

**t** Tilt  
 Variable texture (e.g. clay, silt-clay, boulder clay), usually poorly sorted diamict, deposition beneath glacial ice, relatively impermeable (loamy matrix), variable clast content — ranging from abundant well-rounded diverse lithologies in valley tills to relatively angular, more limited lithologies in upland tills, tends to be sandy in areas underlain by gneiss or sandstone, potential land instability on steep slopes, thickness variable (1-50 meters).

**og** Outwash sand and gravel  
 Coarse to fine gravel with sand, proglacial fluvial deposition, well rounded and stratified, generally finer texture away from ice border, thickness variable (2-20 meters).

REFERENCE: USGS, SURFICIAL GEOLOGIC MAP OF NEW YORK, LOWER HUDSON SHEET, 1989



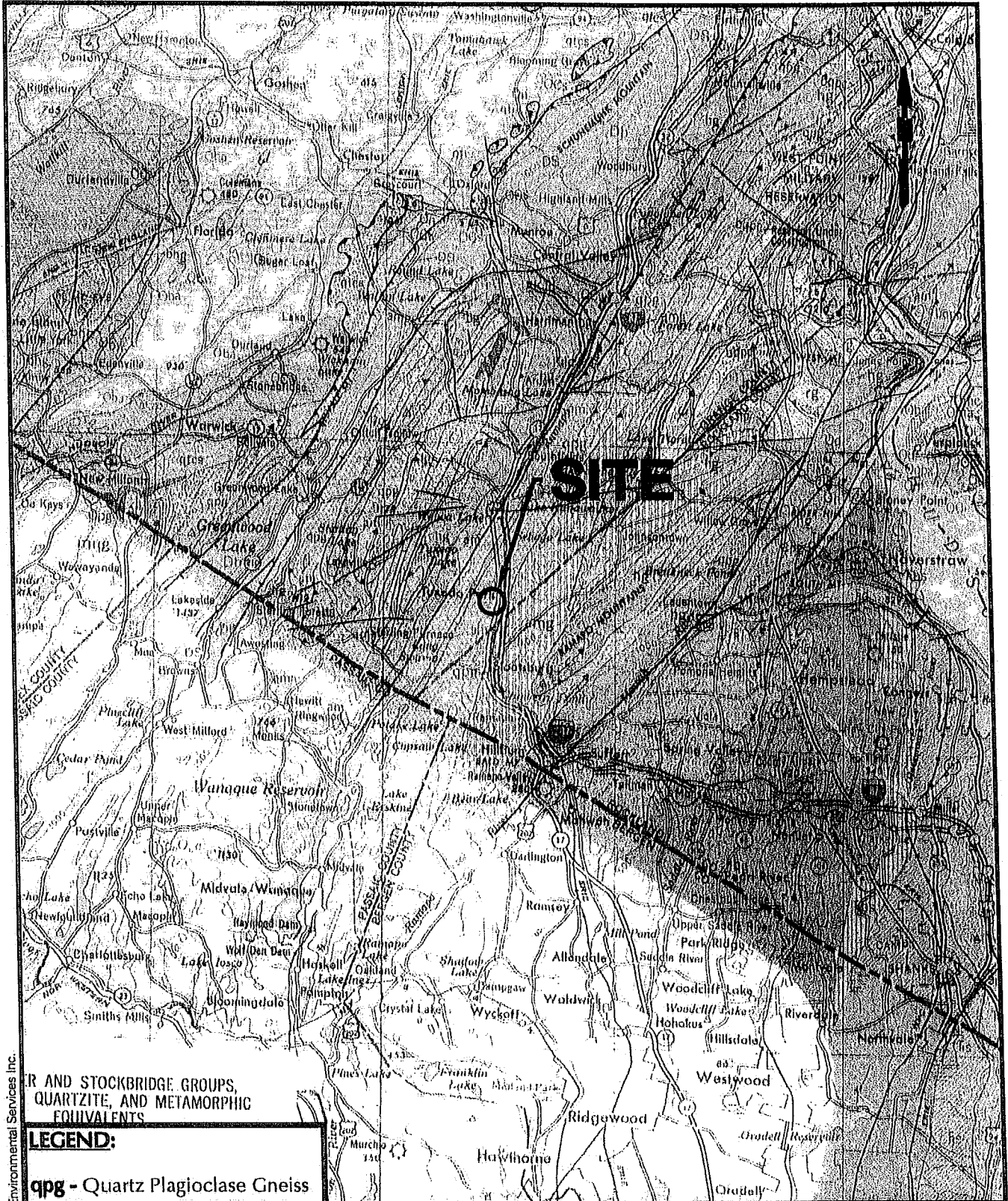
River Drive Center 1 Elmwood Park, NJ 07407  
 P: 201.794.6900 F: 201.794.0366  
 www.langan.com

NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA  
 NJ Certificate of Authorization No: 24GA27998400

Project TUXEDO RESERVE  
**SURFICIAL GEOLOGIC MAP**

TUXEDO		NEW YORK	
Project No.	Date	Scale	Fig. No.
9108601	10/16/09	1:250,000	1

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IR AND STOCKBRIDGE GROUPS,  
QUARTZITE, AND METAMORPHIC  
EQUIVALENTS

**LEGEND:**  
qpg - Quartz Plagioclase Gneiss

REFERENCE: USGS, GEOLOGIC MAP OF NEW YORK – LOWER HUDSON SHEET, 1995



River Drive Center 1      Elmwood Park, NJ 07407  
 P: 201.794.6900      F: 201.794.0386  
 www.langan.com

NEW JERSEY    PENNSYLVANIA    NEW YORK    CONNECTICUT    FLORIDA  
 NJ Certificate of Authorization No: 24GA27996400

Project		TUXEDO RESERVE	
<b>BEDROCK GEOLOGIC MAP</b>			
TUXEDO		NEW YORK	
Project No.	Date	Scale	Fig. No.
9108601	10/16/09	1:250,000	2

## **APPENDIX A**

**Roadway Blasting Plan & Pre-Blasting  
Documentation Plan; Drawing BP-1  
General Blasting Procedure  
“MSDS” Sheets for Explosives  
OSM Alternative Blasting Level Criteria**

Not to scale  
up dated to 1988



DATE: 02/23/88  
PROJECT: TUXEDO RESERVE PHASE 1 - SECTION 1  
DRAWN BY: J.L. JONES

DRAWN BY: J.L. JONES  
CHECKED BY: J.L. JONES  
DATE: 02/23/88

1. This drawing shall be prepared and submitted to the Town of Tuxedo for its review and approval.  
2. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.  
3. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.  
4. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.  
5. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.

6. Hours of Operation  
7. Blast Areas  
8. Roadway Blasting Plan

9. Hours of Operation  
10. Blast Areas

11. Hours of Operation  
12. Blast Areas

13. Hours of Operation  
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47. Hours of Operation  
48. Blast Areas

49. Hours of Operation  
50. Blast Areas

### BLASTING OPERATIONS

1. This drawing shall be prepared and submitted to the Town of Tuxedo for its review and approval.

2. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.

3. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.

4. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.

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23. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.

24. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.

25. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.

26. The design shall be prepared and submitted to the Town of Tuxedo for its review and approval.



## EXPLOSIVES SPECIALISTS

BLASTING CONTRACTORS  
CONCRETE DEMOLITION  
EXPLOSIVE FORMING & LIZING OF METALS

**JOHN JOSEPH, Inc.**

695 WESTBROOK ROAD Phone 973-839-0669  
RINGWOOD, NJ, 07456 Fax 973-839-7037

August 13, 2008

Related Companies  
199 Orange Turnpike  
Stonysburg, NY 10974

Attn: Paul Roggeman

Ref: Blasting Operations for Tuxedo Reserve

Dear Paul,

To address the concerns of the anfo in free flowing form.

1. Ammonium nitrate is a material that is used to fertilize all lawns.
2. When using anfo in blast holes, we are detonating over 99% in the confined blast hole. After the detonation takes place, all the blasted rock is now surface rock which will be of no further danger than fertilizing the lawn if any residue is left.
3. When there is water in the blast hole, there will be sealed & packaged explosives or it will be dewatered prior to loading WR/anfo (water resistant).
4. Blasting Procedures enclosed.
  - A. Blast patterns will vary from 4x4 to possibly 5x6 depending on the diameter of the drill hole and the depth.
  - B. All drilling will be done with hydraulic drills with dust collectors to keep the dust at a minimum.
  - C. There will be hydraulic truck excavators at each blast location to relieve the shot after blast occurs to minimize ground vibration and improve rock breakage and prepare for the next round of holes. Also to place blasting mats when necessary.
5. There will be no overnight storage on sight. All explosives to be used will be brought in on a State approved truck mounted magazine and removed at the end of each day.
6. The blaster will have one (1) seismograph at the nearest structure. Langan may want to place another seismograph at another location.

Page 2

I will be glad to attend the meeting to address any questions that they might have.

Very truly yours,

JOHN JOSEPH, INC.

A handwritten signature in black ink, appearing to read "John E. Joseph", written over a horizontal line.

John E. Joseph  
President



# EXPLOSIVES SPECIALISTS

BLASTING CONTRACTORS  
CONCRETE DEMOLITION  
EXPLOSIVE FORMING & SIZING OF METALS

**JOHN JOSEPH, Inc.**

---

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695 WESTBROOK ROAD      PHONE 973-839-0669  
RINGWOOD, N.J. 07456      FAX 973-839-7837

## *BLASTING PROCEDURES*

THE DRILLING & BLASTING OF ROCK IN THE STATE OF NEW JERSEY IS MORE RESTRICTIVE THAN ANY OTHER STATE. BLASTING CRITERIA IS APPROXIMATELY 50% OF OTHERS.

THEREFORE, MANY FACTORS HAVE TO BE TAKEN INTO CONSIDERATION PRIOR TO STARTING.

TO ASSIST PEOPLE WHO WOULD LIKE TO KNOW MORE ABOUT A TYPICAL BLASTING OPERATION, WE WOULD LIKE TO EXPLAIN SOME TERMINOLOGY, DESCRIPTIVE DIAGRAMS, SOME PRODUCTS, HOW THEY FUNCTION AND ARE USED.

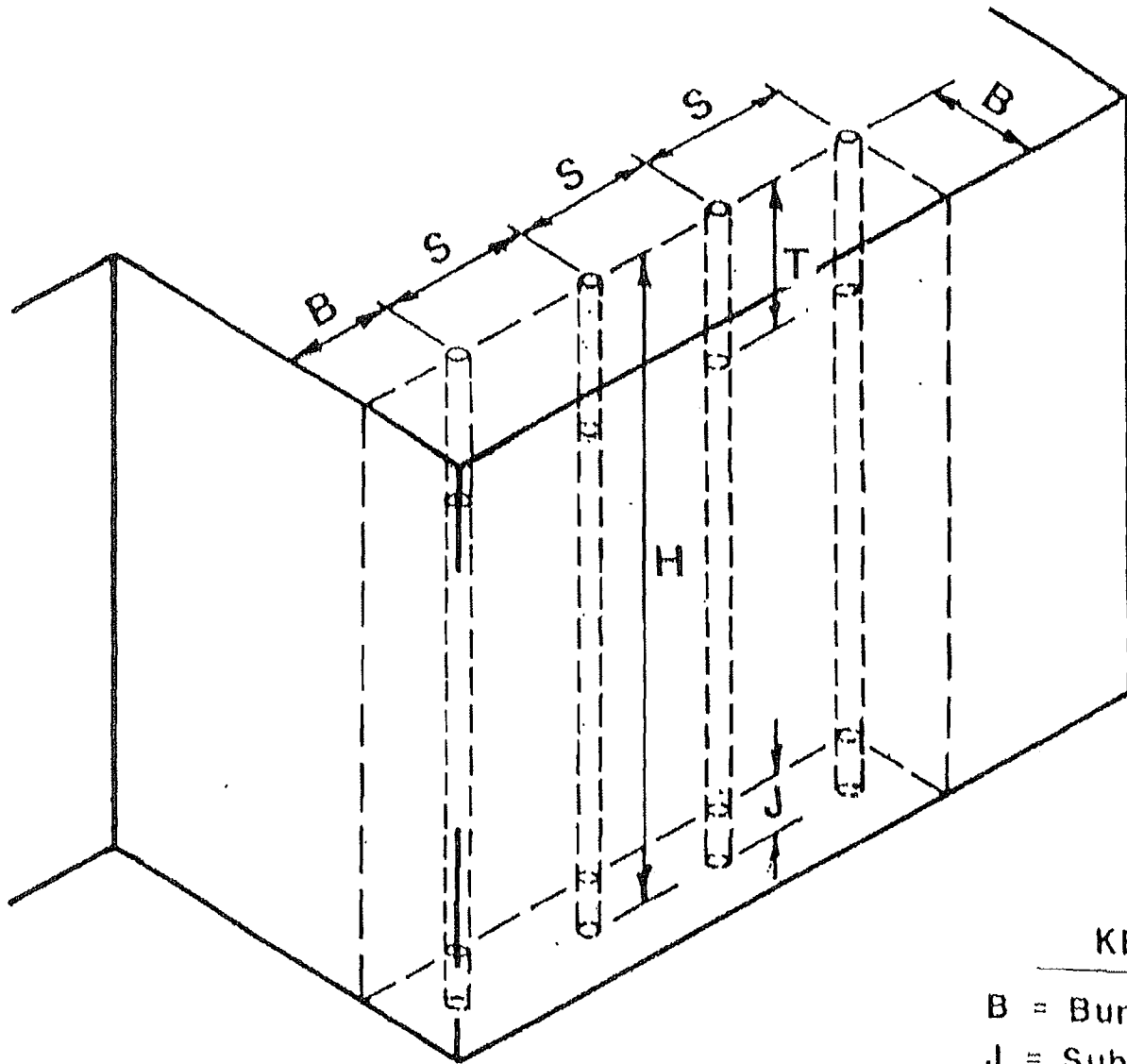
REMEMBER THAT EXPLOSIVE, AT THIS TIME, IS A SUBSTANCE WHEN INITIATED WILL DETONATE AT A RATE BETWEEN 8,000 FEET PER SECOND TO 22,000 FEET PER SECOND. SOME SUBSTANCES WILL DETONATE FASTER BUT FOR THE PURPOSE OF BLASTING ROCK, IT IS NOT EFFECTIVE (RATES OF 3,000 FEET PER SECOND AND LOWER ARE CONSIDERED DEFLAGRATION TO BURNING).

THE PURPOSE OF USING EXPLOSIVES IS TO DRILL HOLES IN THE ROCK IN SUCH A MANNER AS TO CONFINE THE ENERGY THAT IS BEING EXPELLED WHEN DETONATED (WHICH THEN CHANGES TO GASES OF TEMPERATURES 3,000 DEGREES TO 7,000 DEGREES F AND PRESSURES UP TO 1.5 MILLION PSI). AT THIS TIME, THE ROCK SHOULD START TO YIELD, FRAGMENT, & BREAK APART PROVIDING THAT IT HAS NOT BEEN TOO CONFINED.

TO DETERMINE CONFINEMENT OF THIS ENERGY OR FORCE, THERE IS STANDARD TERMINOLOGY USED IN THE INDUSTRY.

(ALWAYS REMEMBER ANY FORCE OR ENERGY EXPELLED WHEN EQUAL IN ALL DIRECTIONS WILL TRAVEL IN THE DIRECTION IN THE PATH OF LEAST RESISTANCE).

DIAGRAM OF TERMINOLOGY:



KEY

- B = Burden
- J = Subdrilling
- T = Stemming
- S = Spacing
- H = Hole Depth



BORE HOLES ARE DRILLED IN A ROCK AT LOCATIONS SO THAT THE BURDEN (DISTANCE FROM THE NEAREST FREE FACE) AND THE HOLE IS OF SUFFICIENT SIZE TO HOLD THE AMOUNT OF ENERGY PRODUCED FROM THE EXPLOSIVE CHARGE.

THE HOLE DIAMETER WILL DETERMINE THE SIZE AND AMOUNT OF CHARGE THAT CAN BE PLACED IN THE HOLE AND WILL ALSO HAVE TO BE TAKEN INTO CONSIDERATION PRIOR TO DETERMINING THE DRILL PATTERN.

TO CONFINE THE ENERGY IN THE ROCK, A STEMMING MATERIAL IS USED AT THE TOP SECTION OF THE HOLE WHICH IS USUALLY 3/8" CRUSHED STONE FOR 2-1/2" HOLES.

IT IS OBVIOUS THAT THERE HAS TO BE MORE STEMMING IN DEPTH THAN BURDEN ON THE HOLE, OTHERWISE, THE ENERGY WILL COME OUT THE TOP WHICH WOULD BE DIFFICULT TO CONTROL.

SPACING IS THE DISTANCE BETWEEN ADJACENT BLAST HOLES, MEASURED PERPENDICULAR TO THE BURDEN. THIS IS DETERMINED BY THE SIZE OF CHARGE, ROCK FORMATION (STRATA) AND AMOUNT OF ROCK BEING FRAGMENTED AND DISPLACED BY EACH CHARGED HOLE.

HOLE DEPTH IS DETERMINED BY MANY FACTORS. FIRST RULE OF THUMB COVERS ONLY THE RECOMMENDED MINIMUM

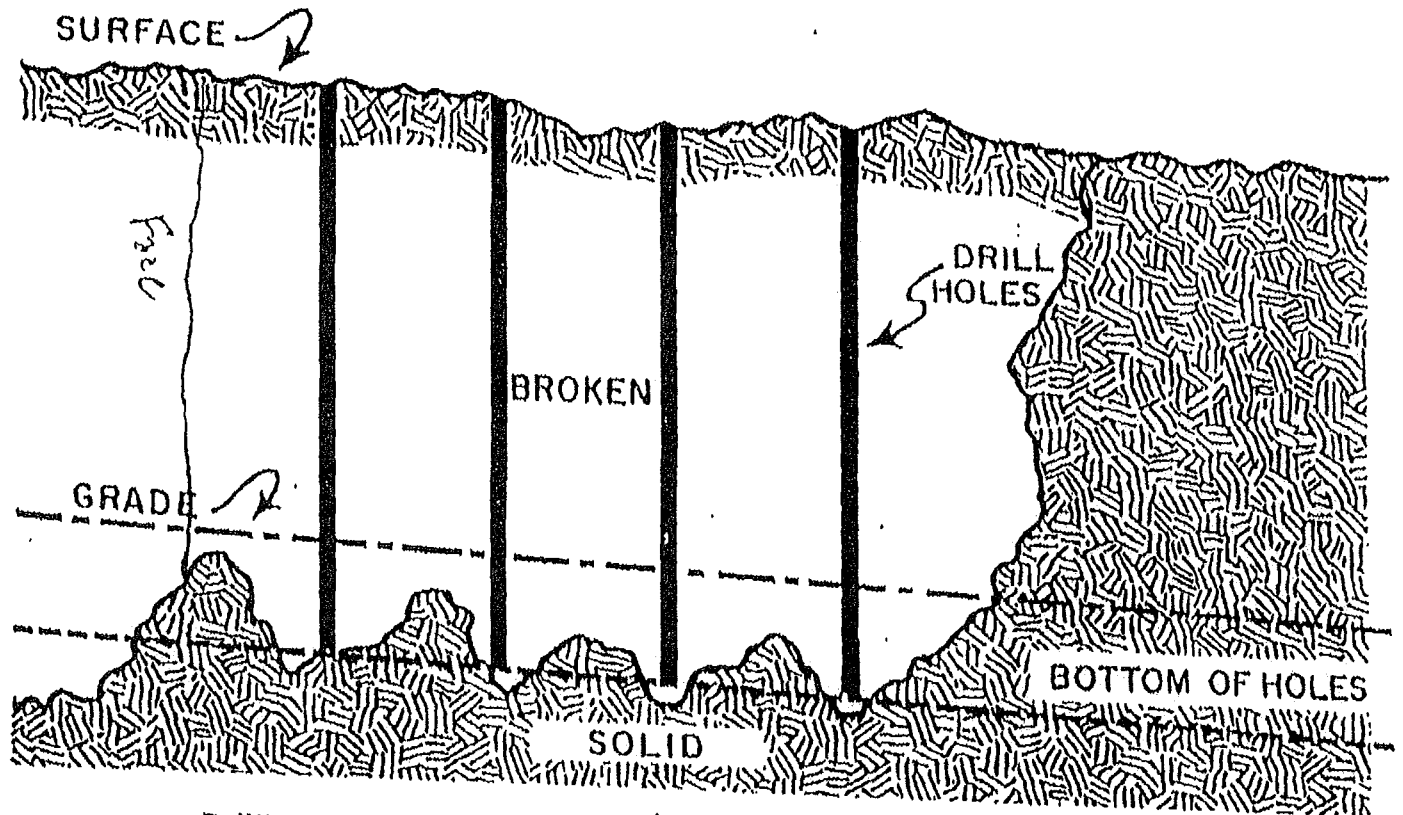
$$H-D = 2X (B)$$

WHERE H-D = HOLE DEPTH IN FEET  
B = BURDEN IN FEET

WHICH MEANS IF YOU HAVE 4' OF BURDEN ON THE HOLE THE MINIMUM DEPTH OF HOLE WOULD HAVE TO BE 8' DEEP AND SUBDRILLING BECAUSE OF PEAKS OF ROCK BETWEEN DRILL HOLES.

SECOND RULE OF THUMB FOR SUBDRILLING IS TO DRILL 20% TO 50% OF THE BURDEN ON THE HOLE IF THERE IS A NATURAL SEAM 2' BELOW THE BOTTOM OF THE HOLE, THERE IS A POSSIBILITY THAT THE ROCK COULD POSSIBLY FRACTURE TO THAT DEPTH BUT CANNOT BE DETERMINED UNTIL EXCAVATION TAKES PLACE.

A 'TYPICAL SHOT' WOULD FRAGMENT AS SHOWN IN THIS ILLUSTRATION:



Drilling below the grade to insure breaking the entire bottom to the grade.

ALL STATE & LOCAL REGULATIONS ARE ADHERED TO AND A SEISMIC RECORDING OF EACH BLAST SHOT IS TAKEN AT THE NEAREST STRUCTURE.

THE STATE AND LOCAL GOVERNING BODIES ARE NOTIFIED EACH DAY PRIOR TO BLASTING.

AFTER EACH SHOT THE MUCK (BLASTED ROCK) IS EXCAVATED TO DETERMINE IF THE GRADE HAS BEEN ATTAINED WITH THE PROCEDURE USED, SOME OF THE MUCK IS PLACED BACK AGAINST THE FREE FACE TO HELP CONTROL ANY FRAGMENTS OF ROCK FROM ESCAPING FROM THE NEXT BLAST AND TO LOWER THE DB'S (AIRBLAST) WHICH IS ALSO MONITORED BY THE SEISMOGRAPH.

WHEN WE ASSESS AN AREA THAT NEEDS BLASTING ALL THESE FACTORS AND OTHERS ARE TAKEN INTO CONSIDERATION.

THE TYPE OF ROCK THAT HAS TO BE BLASTED, WHICH DICTATES WHAT TYPE AND AMOUNT OF ENERGY WILL BE NEEDED TO ACHIEVE THE RESULTS THAT ARE DESIRED, AS WELL AS THE PUBLIC RELATIONS WITH NEIGHBORS, OTHER STRUCTURES OR UTILITIES ADJACENT OR NEARBY.

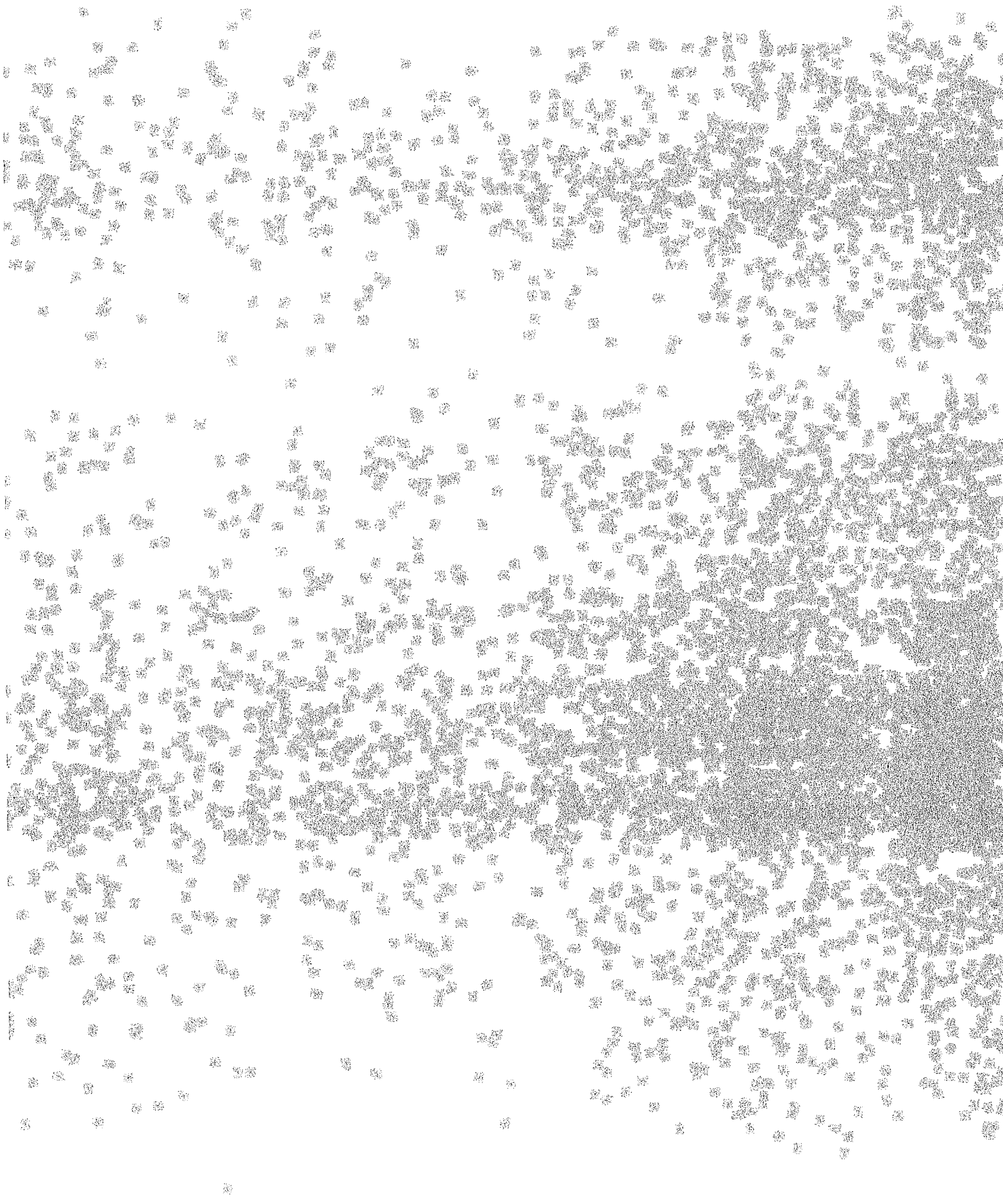
WE USUALLY START BY SHOOTING THREE TO SIX HOLES ON THE FIRST SHOT AND DELAYING EACH HOLE BY 25 MILLISECONDS USING DIRT IF AVAILABLE WITH CABLE BLASTING MATS BEING STRATEGICALLY PLACED TO ATTEMPT TO CONTROL THE FRAGMENTED PIECES TO AN AREA THAT IS SATISFACTORY.

THIS METHOD IS REPEATED TO ACCOMPLISH WHAT NEEDS TO BE BLASTED.

WHAT MOST PEOPLE ASK IS, HOW DO YOU KNOW HOW MUCH EXPLOSIVES DO YOU HAVE TO PLACE IN THE HOLE?

THERE IS A RULE OF THUMB IN THIS CALCULATION WHICH IS WHEN FIGURING THE CUBIC YARDS OF ROCK THAT THE HOLE WILL FRAGMENT AND DISPLACE. IT WILL TAKE FROM 1.2 LBS. TO 3.5 LBS. PER CUBIC YARD TO ACCOMPLISH THIS TASK DEPENDENT ON THE GEOLOGICAL FORMATION AND TYPE OF ROCK THAT HAS TO BE BLASTED.

WE USUALLY START WITH 1.4 LBS. IF THE ROCK IS HARD AND DENSE WITH SUFFICIENT BLAST MATS TO CONFINE THE FIRST TRIAL BLAST, THEN CHANGE OR ADJUST WHAT IS NEEDED AS YOU PROGRESS.



# Material Safety Data Sheet

**Dyno Nobel Inc.**  
 2650 Dacker Lake Boulevard, Suite 300  
 Salt Lake City, Utah 84119  
 Phone: 801-354-4800 Fax: 801-321-9703  
 E-Mail: dhna.hao@am.dynonobel.com  
**FOR 24 HOUR EMERGENCY, CALL**

**CHEMTREC (USA) 800-424-9300**  
**CANUTEC (CANADA) 813-988-5666**

**MSDS # 1122**  
**Date 05/13/06**

**Supersedes**  
**MSDS # 1122 01/24/05**

**SECTION I - PRODUCT IDENTIFICATION**

Trade Name(s):	NONEL® MS NONEL® LP NONEL® SL NONEL® TD NONEL® MS CONNECTOR NONEL® TWINPLEX™ NONEL® STARTER	NONEL® EZ DET® NONEL® EZ TL™ NONEL® EZ DRIFTER® OPTIMIZER® OPTISLIDE® OPTIMIZER® OPTISURFACE® OPTIMIZER® OPTI-TL®
----------------	---	--

**Product Class:** NONEL® Non-electric Delay Detonators

**Product Appearance & Odor:** Aluminum cylindrical shell with varying length and diameter of attached colored plastic tubing. The detonator may be enclosed in a plastic housing, and an assembly may contain two detonators. Odorless.

**DOT Hazard Shipping Description:**

Detonators, non-electric 1.1B UN0029 II
-or- Detonator assemblies, non-electric 1.1B UN0390 II
-or- Detonator assemblies, non-electric 1.4B UN0361 II

**NFPA Hazard Classification:** Not Applicable (See Section IV - Special Fire Fighting Procedures)

**SECTION II - HAZARDOUS INGREDIENTS**

Ingredients	CAS#	Occupational Exposure Limits	
		OSHA PEL-TWA	ACGIH TLV-TWA
Pentaerythritol Tetranitrate (PETN)	78-11-6	None <sup>1</sup>	None <sup>2</sup>
Lead Azide	13424-46-8	0.05 mg (Pb)/m <sup>3</sup>	0.05 mg (Pb)/m <sup>3</sup>
Lead	7439-92-1	0.05 mg (Pb)/m <sup>3</sup>	0.05 mg (Pb)/m <sup>3</sup>
Silicon	7440-21-3	15 mg / m <sup>3</sup> (total dust) 5 mg / m <sup>3</sup> (respirable fraction)	10 mg / m <sup>3</sup>
Selenium	7782-49-2	0.2 mg/m <sup>3</sup>	0.2 mg/m <sup>3</sup>
Red Lead (Lead tetroxide)	1314-41-6	0.05 mg (Pb)/m <sup>3</sup>	0.05 mg (Pb)/m <sup>3</sup>
Titanium dioxide	13463-67-7	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Barium Chromate	10284-40-3	1 mg (CrO <sub>3</sub> )/10m <sup>3</sup> (ceiling)	0.01 mg (Cr)/m <sup>3</sup>
Lead Chromate	7758-87-6	0.5 mg (Ba)/m <sup>3</sup> 0.05 mg (Pb)/m <sup>3</sup> 1 mg (CrO <sub>3</sub> )/10m <sup>3</sup> (ceiling)	0.5 mg (Ba)/m <sup>3</sup> 0.15 mg (Pb)/m <sup>3</sup> 0.012 mg (Cr)/m <sup>3</sup>
Barium Sulfate	7727-43-7	0.5 mg (Ba)/m <sup>3</sup>	10 mg/m <sup>3</sup>
Potassium Perchlorate <sup>3</sup>	7776-74-7	None <sup>1</sup>	None <sup>2</sup>
Silica (crystalline)	61790-53-2	See Note Below	0.05 mg/m <sup>3</sup> (resp fract)
Molybdenum	7438-98-7	None <sup>1</sup>	None <sup>2</sup>



# Material Safety Data Sheet

Tungsten	7440-33-7	None <sup>1</sup>	5 mg/m <sup>3</sup> (TWA) 10 mg/m <sup>3</sup> (STEL)
Aluminum	7429-90-5	15 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable fraction)	5 mg/m <sup>3</sup>
Antimony	7440-36-0	0.5 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup>
Cyclotetramethylene Tetranitramine (HMX)	2891-41-0	None <sup>1</sup>	None <sup>2</sup>

<sup>1</sup> Use limit for particulates not otherwise regulated (PNOR): Total dust, 15 mg/m<sup>3</sup>; respirable fraction, 5 mg/m<sup>3</sup>.

<sup>2</sup> Use limit for particulates not otherwise classified (PNOC): Inhalable particulate, 10 mg/m<sup>3</sup>; respirable part., 3 mg/m<sup>3</sup>.

Note: The OSHA PEL for crystalline silica is calculated as follows:

Quartz, respirable: 10 mg/m<sup>3</sup> / % SiO<sub>2</sub> + 2      Quartz, total dust: 30 mg/m<sup>3</sup> / % SiO<sub>2</sub> + 2

<sup>3</sup> Not all delay periods contain perchlorate. Those that do contain between from about 4 to a maximum of about 60 mg perchlorate per detonator.

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

## SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable  
Vapor Density: Not Applicable  
Percent Volatile by Volume: Not Applicable  
Evaporation Rate (Butyl Acetate = 1): Not Applicable

Vapor Pressure: Not Applicable  
Density: Not Applicable  
Solubility in Water: Not Applicable

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable

Flammable Limits: Not Applicable

Extinguishing Media: (See Special Fire Fighting Procedures section.)

Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe, distant location. Allow fire to burn unless it can be fought remotely or with fixed extinguishing systems (sprinklers).

Unusual Fire and Explosion Hazards: Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

This is a packaged product that will not result in exposure to the explosive material under normal conditions of use. Exposure concerns are primarily with post-detonation reaction products, particularly heavy metal compounds.

**Eyes:** No exposure to chemical hazards anticipated with normal handling procedures. Particulates in the eye may cause irritation, redness, swelling, itching, pain and tearing.

**Skin:** No exposure to chemical hazards anticipated with normal handling procedures. Exposure to post-detonation reaction products may cause irritation.

**Ingestion:** No exposure to chemical hazards anticipated with normal handling procedures. Post-detonation reaction product residue is toxic by ingestion. Symptoms may include gastroenteritis with abdominal pain, nausea, vomiting and diarrhea. See systemic effects below.

# Material Safety Data Sheet

**Inhalation:** Not a likely route of exposure. See systemic effects below.

**Systemic or Other Effects:** None anticipated with normal handling procedures. Repeated inhalation or ingestion of post-detonation reaction products may lead to systemic effects such as respiratory tract irritation, ringing of the ears, dizziness, elevated blood pressure, blurred vision and tremors. Heavy metal (lead) poisoning can occur.

**Carcinogenicity:** ACGIH classifies Lead as a "Suspected Human Carcinogen" and Insoluble Chromium VI as "Confirmed Human Carcinogen". NTP, OSHA, and IARC consider components contained in this detonator carcinogenic.

**Perchlorate:** Perchlorate can potentially inhibit iodide uptake by the thyroid and result in a decrease in thyroid hormone. The National Academy of Sciences (NAS) has reviewed the toxicity of perchlorate and has concluded that even the most sensitive populations could ingest up to 0.7 microgram perchlorate per kilogram of body weight per day without adversely affecting health. The USEPA must establish a maximum contaminant level (MCL) for perchlorate in drinking water by 2007, and this study by NAS may result in a recommendation of about 20 ppb for the MCL.

## Emergency and First Aid Procedures

**Eyes:** Irrigate with running water for at least fifteen minutes. If irritation persists, seek medical attention.

**Skin:** Wash with soap and water.

**Ingestion:** Seek medical attention.

**Inhalation:** Not applicable.

**Special Considerations:** None

## SECTION VI - REACTIVITY DATA

**Stability:** Stable under normal conditions, may explode when subjected to fire, supersonic shock or high-energy projectile impact.

**Conditions to Avoid:** Keep away from heat, flame, ignition sources, impact, friction, electrostatic discharge and strong shock. Do not attempt to disassemble.

**Materials to Avoid (Incompatibility):** Corrosives (acids and bases or alkalis).

**Hazardous Decomposition Products:** Carbon Monoxide (CO), Nitrous Oxide (NO<sub>x</sub>), Sulfides, Chromates, Lead (Pb), Antimony (Sb) and various oxides and complex oxides of metals.

**Hazardous Polymerization:** Will not occur.

## SECTION VII - SPILL OR LEAK PROCEDURES

**Steps to be taken in Case Material is Released or Spilled:** Protect from all ignition sources. In case of fire evacuate all personnel to a safe distant area and allow to burn or fight fire remotely. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. If loose explosive powder is spilled, such as from a broken detonator, only properly qualified and authorized personnel should be involved with handling and clean-up activities. Spilled explosive powder is extremely sensitive to initiation and may detonate. Follow applicable Federal, State, and local spill reporting requirements.

**Waste Disposal Method:** Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

# Material Safety Data Sheet

## SECTION VIII - SPECIAL PROTECTION INFORMATION

**Ventilation:** None required for normal handling. Provide enhanced ventilation after use if in underground mines or other enclosed areas.

**Respiratory Protection:** None required for normal handling.

**Protective Clothing:** Cotton gloves are recommended.

**Eye Protection:** Safety glasses are recommended.

**Other Precautions Required:** None.

## SECTION IX - SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storage:** Store in cool, dry, well-ventilated location. Store in compliance with Federal, State, and local regulations. Only properly qualified and authorized personnel should handle and use explosives. Keep away from heat, flame, ignition sources, impact, friction, electrostatic discharge and strong shock.

**Precautions to be taken during use:** Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death. Avoid breathing the fumes or gases from detonation of explosives. Detonation in confined or unventilated areas may result in exposure to hazardous fumes or oxygen deficiency.

**Other Precautions:** It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library Publications.



# Material Safety Data Sheet

## SECTION X - SPECIAL INFORMATION

These products contain the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1980 and 40 CFR Part 372.

Chemical Name	CAS Number	Max. lbs/1000 units
Lead	7439-92-1	39.4
(Use Toxic Chemical Category Code)		
Lead Compounds	N420	2.0
Barium Compounds	N040	1.8
Chromium Compounds	N090	1.8

**Range\* of Section 313 Chemicals in each product**

Product	lb Pb per 1000 detonators	lb Pb compounds per 1000 detonators	lb Ba compounds per 1000 detonators	lb Cr compounds per 1000 detonators
NONEL <sup>®</sup> MS	0 - 27	0.3 - 1.5	0 - 0.9	0 - 0.9
NONEL <sup>®</sup> LP	0 - 30	0.3 - 2.0	0 - 1.8	0 - 1.8
NONEL <sup>®</sup> SL	7 - 27	0.3 - 1.5	0	0
NONEL <sup>®</sup> TD	0 - 18	0.3 - 0.7	0	0
NONEL <sup>®</sup> MS Connector	5 - 15	0.3 - 0.4	0	0
NONEL <sup>®</sup> TWINFLEX <sup>™</sup>	5 - 15	0.3 - 0.7	0	0
NONEL <sup>®</sup> STARTER	0	0.3	0	0
NONEL <sup>®</sup> EZ DET <sup>®</sup>	22 - 35	2.0	0	0
NONEL <sup>®</sup> EZ TL <sup>™</sup>	5 - 15	0.5 - 0.7	0	0
NONEL <sup>®</sup> EZ DRIFTER	39.4	1.3	1.2	1.3
NONEL <sup>®</sup> OPTISLIDE <sup>®</sup>	0	0	0	0
NONEL <sup>®</sup> OPTISURFACE <sup>®</sup>	0	0	0	0
NONEL <sup>®</sup> OPTI-TL <sup>™</sup>	0	0	0	0

\* The exact quantity and weight percent of Section 313 Chemicals in each delay period and tubing length for each product is available upon request.

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# Material Safety Data Sheet

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MSDS # 1124  
Date 01/24/05

Supersedes  
MSDS # 1124 10/20/04

## SECTION I - PRODUCT IDENTIFICATION

Trade Name(s): NONEL® LEAD LINE

Product Class: Shock Tube

Product Appearance & Odor: Hollow plastic tubing (normally yellow) with dusty inner coating of HMX and aluminum. No detectable odor.

DOT Hazard Shipping Description: Articles, explosive, n.o.s. (HMX) 1.4S UN0349 II.  
For 10,000 ft spools with Wire Lock Terminations only, Not regulated as an explosive, 0000

NFPA Hazard Classification: Not Applicable (See Section IV - Special Fire Fighting Procedures)

## SECTION II - HAZARDOUS INGREDIENTS

Ingredients:	CAS#	% (Range)	Occupational Exposure Limits	
			OSHA PEL-TWA	ACGIH TLV-TWA
Cyclotetramethylene Tetrahydrofuran (HMX)	2891-41-0	0.35	None <sup>1</sup>	None <sup>2</sup>
Aluminum (dust)	7429-90-6	0.04	15 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (respirable)	10 mg/m <sup>3</sup>

<sup>1</sup> Use limit for particulates not otherwise regulated (PNOR): Total dust, 15 mg/m<sup>3</sup>; respirable fraction, 5 mg/m<sup>3</sup>.

<sup>2</sup> Use limit for particulates not otherwise classified (PNOC): Inhalable particulate, 10 mg/m<sup>3</sup>; respirable part., 3 mg/m<sup>3</sup>.  
Note: The above hazardous dust mixture is present at approximately 15 mg per meter of tubing.

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

## SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable  
Vapor Density: Not Applicable  
Melting Point: HMX decomposes violently at melting pt., about 270°C  
Evaporation Rate (Butyl Acetate = 1): Not Applicable

Vapor Pressure: Not Applicable  
Density: Not Applicable  
Solubility in Water: Not Soluble  
Percent Volatile by Volume: Not Applicable

# Material Safety Data Sheet

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable

Flammable Limits: Not Applicable

Extinguishing Media: Water, inert powder, CO<sub>2</sub>

Special Fire Fighting Procedures: For shock tube only, consider initial isolation of at least 15 meters (50 feet) in all directions. Fight fire with normal precautions and methods used for plastic fires from a reasonable distance. IF DETONATORS OR OTHER EXPLOSIVES ARE PRESENT, DO NOT FIGHT FIRE.

Unusual Fire and Explosion Hazards: May burn vigorously with localized detonations and projection of fragments, with effects usually confined to the immediate vicinity of packages. Toxic smoke from combustion of the plastic material may be emitted. If product functions, high heat and pressure are released from the end of the tube if not covered or enclosed, typically by a metal device.

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

This is a packaged product that will not result in exposure to hazardous ingredients (inner coating materials) under normal conditions of use.

Eyes: Not a likely route of exposure. Dust particles may be irritating.

Skin: Not a likely route of exposure. Dust particles may cause skin irritation.

Ingestion: Not a likely route of exposure. Ingestion of large amounts of the reactive powder (HMX) is poisonous and may cause cardiovascular collapse.

Inhalation: Not a likely route of exposure. Breathing dust can cause respiratory irritation. During manufacture and at processing temperatures, irritating fumes may evolve.

Systemic or Other Effects: None known.

Carcinogenicity: No constituents are listed by NTP, IARC or OSHA.

### Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least fifteen minutes. If irritation persists, seek medical attention.

Skin: Wash with soap and water.

Ingestion: Not Applicable

Inhalation: Not Applicable

Special Considerations: None.

## SECTION VI - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Keep away from heat, flame, impact, friction, ignition sources and strong shocks. Also avoid stretching to failure.

Materials to Avoid (Incompatibility): Incompatible with strong oxidizers and acids.

Hazardous Decomposition or Combustion Products: Hazardous carbon monoxide (CO), nitrogen oxide (NO<sub>x</sub>) gases and products of plastic decomposition produced.

Hazardous Polymerization: Will not occur.

## SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 50 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, repackage undamaged devices in original packaging, accounting for every device. If the ends or tube wall have been opened such that powder may have

# Material Safety Data Sheet

been released from the tube, isolate the spill area. Contamination of the HMX/Aluminum powder with sand, grit or dirt will render the material more sensitive to detonation. Carefully wet down and clean "loose" powder spills using a damp sponge or rag, avoid applying friction or pressure to the explosive, and place in a (Velostat) electrically conductive bag. Follow applicable Federal, State, and local spill reporting requirements.  
**Waste Disposal Method:** Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

**Ventilation:** None normally required. Provide enhanced ventilation if used in underground mines, indoors or other enclosed areas.  
**Respiratory Protection:** None normally required. Extended testing of the product indoors or in enclosed areas may necessitate respiratory protection.  
**Protective Clothing:** None normally required. Wear chemical-resistant gloves during post-detonation cleanup or spill cleanup operations.  
**Eye Protection:** Safety glasses or goggles are recommended for handling, testing or cleanup.  
**Other Precautions Required:** None

## SECTION IX - SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storage:** Store in cool, dry, well-ventilated location. Store in compliance with Federal, State, and local regulations. Keep away from heat, flame, ignition sources and strong shock. Only properly qualified and authorized personnel should handle and use Shock Tube.  
**Precautions to be taken during use:** Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death. Avoid breathing the fumes or gases from detonation of explosives. Detonation in confined or unventilated areas may result in exposure to hazardous fumes or oxygen deficiency.  
**Other Precautions:** It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library Publications.

## SECTION X - SPECIAL INFORMATION

This product contains the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% By Weight</u>
None		

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# Material Safety Data Sheet

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**MSDS # 1076**  
**Date 10/25/07**

Supersedes  
 MSDS # 1070 01/24/06

**SECTION I - PRODUCT IDENTIFICATION**

**Trade Name(s):** ELECTRIC SUPER™ COAL  
 ELECTRIC SUPER™ LP  
 ELECTRIC SUPER™ SP  
 ELECTRIC SUPER™ SEISMIC  
 ELECTRIC SUPER™ INSTANT  
 DIPED™

**Product Class:** Detonators, Electric

**Product Appearance & Odor:** Metal cylinder with varying length of attached plastic coated wires.

**DOT Hazard Shipping Description:** Detonators, Electric 1.1B UN0030 II  
 Or  
 Detonators, Electric 1.4B UN0255 II  
 Or  
 Detonators, Electric 1.4S UN0459 II

**NFPA Hazard Classification:** Not Applicable (See Section IV - Special Fire Fighting Procedures)

**SECTION II - HAZARDOUS INGREDIENTS**

Ingredients	CAS#	EXPOSURE LIMITS	
		OSHA PEL-TWA	ACGIH TLV-TWA
Tungsten	7440-33-7	None <sup>1</sup>	5 mg/m <sup>3</sup> (TWA) 10 mg/m <sup>3</sup> (STEL)
Barium Chromate	10294-40-3	1 mg (CrO <sub>3</sub> )/10m <sup>3</sup> (ceiling) 0.5 mg (Ba)/m <sup>3</sup> 0.5 mg (Pb)/m <sup>3</sup>	0.01 mg (Cr)/m <sup>3</sup> 0.5 mg (Ba)/m <sup>3</sup> 0.5 mg (Pb)/m <sup>3</sup>
Lead Compounds		None <sup>1</sup>	None <sup>2</sup>
Pentaerythritol Tetranitrate (PETN)	78-11-8	No Value Established	No Value Established
Boron	7440-42-8	None <sup>1</sup>	None <sup>2</sup>
Potassium Perchlorate <sup>3</sup>	7778-74-7	No Value Established	No Value Established
Diazodinitrophenol (DDNP)	4882-03-6	No Value Established	No Value Established
Nitrocellulose	9004-70-0	No Value Established	No Value Established

<sup>1</sup> Use limit for particulates not otherwise regulated (PNOR): Total dust, 15 mg/m<sup>3</sup>; respirable fraction, 5 mg/m<sup>3</sup>.  
<sup>2</sup> Use limit for particulates not otherwise classified (PNOC): Inhalable particulate, 10 mg/m<sup>3</sup>; respirable part., 3 mg/m<sup>3</sup>.  
<sup>3</sup> Not all delay periods contain perchlorate. Those that do contain between from about 4 to a maximum of about 25 mg perchlorate per detonator.



# Material Safety Data Sheet

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

## SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable  
Vapor Density: Not Applicable  
Percent Volatile by Volume: Not Applicable

Vapor Pressure: Not Applicable  
Density: Not Applicable  
Solubility in Water: Not Applicable

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable  
Extinguishing Media: None

Flammable Limits: Not Applicable

Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions.

Unusual Fire and Explosion Hazards: Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

This is a packaged product that will not result in exposure to the explosive material under normal conditions of use. Exposure concerns are primarily with post-detonation reaction products, particularly heavy metal compounds.

**Eyes:** No exposure to chemical hazards anticipated with normal handling procedures. Particulates in the eye may cause irritation, redness and tearing.

**Skin:** No exposure to chemical hazards anticipated with normal handling procedures.

**Ingestion:** No exposure to chemical hazards anticipated with normal handling procedures.

**Inhalation:** Not a likely route of exposure.

**Systemic or Other Effects:** None anticipated with normal handling procedures. Repeated inhalation or ingestion of post-detonation reaction products may lead to systemic effects such as respiratory tract irritation, ringing of the ears, dizziness, elevated blood pressure, blurred vision and tremors. Heavy metal (lead) poisoning can occur.

**Carcinogenicity:** ACGIH classifies Lead as a "Suspected Human Carcinogen" and Insoluble Chromium VI as "Confirmed Human Carcinogen". NTP, OSHA, and IARC consider components contained in this detonator carcinogenic.

**Perchlorate:** Perchlorate can potentially inhibit iodide uptake by the thyroid and result in a decrease in thyroid hormone. The National Academy of Sciences (NAS) has reviewed the toxicity of perchlorate and has concluded that even the most sensitive populations could ingest up to 0.7 microgram perchlorate per kilogram of body weight per day without adversely affecting health. The USEPA must establish a maximum contaminant level (MCL) for perchlorate in drinking water by 2007, and this study by NAS may result in a recommendation of about 20 ppb for the MCL.

### Emergency and First Aid Procedures

**Eyes:** Irrigate with running water for at least fifteen minutes. If irritation persists, seek medical attention.

**Skin:** Wash with soap and water.

**Ingestion:** Seek medical attention.

**Inhalation:** Not applicable.

**Special Considerations:** None

# Material Safety Data Sheet

## SECTION VI - REACTIVITY DATA

**Stability:** Stable under normal conditions, may explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.

**Conditions to Avoid:** Keep away from heat, flame, ignition sources, strong shock and electrical impulse. Do not attempt to disassemble.

**Materials to Avoid (Incompatibility):** Corrosives (acids and bases)

**Hazardous Decomposition Products:** Carbon Monoxide (CO), Nitrous Oxides (NO<sub>x</sub>), Lead (Pb) and various oxides and complex oxides of metals.

**Hazardous Polymerization:** Will not occur.

## SECTION VII - SPILL OR LEAK PROCEDURES

**Steps to be taken in Case Material is Released or Spilled:** Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State, and local spill reporting requirements.

**Waste Disposal Method:** Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

**Ventilation:** Not required for normal handling.

**Respiratory Protection:** None normally required.

**Protective Clothing:** Cotton clothing is suggested.

**Eye Protection:** Safety glasses are recommended.

**Other Precautions Required:** None.

## SECTION IX - SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storage:** Store in cool, dry, well-ventilated location. Store in compliance with Federal, State, and local regulations. Keep away from heat, flame, ignition sources, strong shock, and electrical impulses. **Precautions to be taken during use:** Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

**Other Precautions:** It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library Publications.

# Material Safety Data Sheet

## SECTION X - SPECIAL INFORMATION

This product contains the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Chemical Name	CAS Number (Use Toxic Chemical Category Code)	% By Weight
Barium Compounds	N040	1.2
Lead Compounds	N420	0 - 0.59
Chromium Compounds	N090	1.2

Product	Amount of Lead in Detonator Product Line *			
	Pb compounds in detonator (grams)	Pb compounds in detonator (Wt. %)	Pb in detonator (grams)	Pb in detonator (Wt. %)
Electric Super BP	0.0412	0.688%	0.0357	0.6093%
Electric Super LP	0.0412	0.688%	0.0357	0.6093%
Electric Super Coal	0.0412	0.688%	0.0357	0.6093%
Electric Super Selsmic	0.0000	0.0000%	0.0000	0.0000%
Electric Super Instant	0.0000	0.0000%	0.0000	0.0000%

\*Applies to only the detonator (source of lead). Do not use case weight or weight of any other component.

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MSDS # 1030  
 Date 09/05/07

Supersedes  
 MSDS # 1030 03/27/07

## SECTION I - PRODUCT IDENTIFICATION

Trade Name(s):

- |  |   |
|--|---|
| DYN0 <sup>®</sup> AP<br>DYN0 <sup>®</sup> AP PLUS<br>DYN0 <sup>®</sup> AP PLUS LD<br>DYN0 <sup>®</sup> E5<br>DYN0 <sup>®</sup> MC<br>DYN0 <sup>®</sup> MC PLUS<br>DYN0 <sup>®</sup> SL<br>DYN0 <sup>®</sup> SL PLUS<br>DYN0 <sup>®</sup> TX<br>DYN0 <sup>®</sup> XTRA<br>DYNOSPLIT <sup>®</sup> AP | POWERMITE <sup>®</sup><br>POWERMITE <sup>®</sup> AP<br>POWERMITE <sup>®</sup> Canadian<br>POWERMITE <sup>®</sup> LD<br>POWERMITE <sup>®</sup> LD PLUS<br>POWERMITE <sup>®</sup> PLUS<br>POWERMITE <sup>®</sup> RAISE BOMB™<br>POWERMITE <sup>®</sup> SL<br>POWERMITE <sup>®</sup> SL PLUS |
|--|---|

Product Class: Emulsion Explosives, Packaged

Product Appearance & Odor: White or pink opaque semi-solid, which will appear gray if product contains aluminum. Little or no odor. Typically paper or plastic chub packaging.

DOT Hazard Shipping Description: Explosive, Blasting, Type E 1.1D UN0241 II

NFPA Hazard Classification: Not Available (See Section IV - Special Fire Fighting Procedures)

## SECTION II - HAZARDOUS INGREDIENTS

<u>Ingredients:</u>	<u>CAS#</u>	<u>% (Range)</u>	<u>Occupational Exposure Limits</u>	
			<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Ammonium Nitrate	6484-52-2	80-80	None	None
Sodium Nitrate	7831-98-4	10-18	None	None
Aluminum	7428-80-6	0-16	10 mg/m <sup>3</sup> (dust)	16 mg/m <sup>3</sup> (total)
Mineral Oil	84742-35-4	0-3	5 mg/m <sup>3</sup> (mist)	None

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).



# Material Safety Data Sheet

## SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable	Vapor Pressure: Not Applicable
Vapor Density: (Air = 1) Not Applicable	Density: 0.98-1.25 g/cc
Percent Volatile by Volume: <20 (water)	Solubility in Water: Product partially dissolves very slowly in water.
Evaporation Rate (Butyl Acetate = 1): <1	

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: >100°C  
 Extinguishing Media: (See Special Fire Fighting Procedures section.)  
 Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions.  
 Unusual Fire and Explosion Hazards: Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

Flammable Limits: Not Applicable

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

Eyes: May cause irritation, redness and tearing.  
 Skin: Prolonged contact may cause irritation.  
 Ingestion: Large amounts may be harmful if swallowed.  
 Inhalation: Not a likely route of exposure.  
 Systemic or Other Effects: None known.

### Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least fifteen minutes. If irritation persists seek medical attention.  
 Skin: Remove contaminated clothing. Wash with soap and water.  
 Ingestion: Seek medical attention.  
 Inhalation: If irritation occurs, remove to fresh air.  
 Special Considerations: None.

## SECTION VI - REACTIVITY DATA

Stability: Stable under normal conditions, may explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantity.  
 Conditions to Avoid: Keep away from heat, flame, ignition sources and strong shock.  
 Materials to Avoid (Incompatibility): Corrosives (strong acids and strong bases or alkalis).  
 Hazardous Decomposition Products: Nitrogen Oxides (NO<sub>x</sub>), Carbon Monoxide (CO)  
 Hazardous Polymerization: Will not occur.

# Material Safety Data Sheet

## SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State, and local spill reporting requirements.

Waste Disposal Method: Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: Not required for normal handling.

Respiratory Protection: None normally required.

Protective Clothing: Gloves and work clothing that reduce skin contact are suggested.

Eye Protection: Safety glasses are recommended.

Other Precautions Required: None.

## SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store in cool, dry, well-ventilated location. Store in compliance with Federal, State and local regulations. Keep away from heat, flame, ignition sources and strong shock.

Precautions to be taken during use: Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

Other Precautions: It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library Publications.

## SECTION X - SPECIAL INFORMATION

The reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372 may become applicable if the physical state of this product is changed to an aqueous solution. If an aqueous solution of this product is manufactured, processed, or otherwise used, the nitrate compounds category and ammonia listing of the previously referenced regulation should be reviewed.

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# Material Safety Data Sheet

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 E-Mail: [dnnb.hqs@am.dynonobel.com](mailto:dnnb.hqs@am.dynonobel.com)  
**FOR 24 HOUR EMERGENCY, CALL**

CHEMTREC (USA) 800-424-9300  
 CANUTEC (CANADA) 613-995-6666

MSDS # 1063  
 Date 07/02/07

Supersedes  
 MSDS # 1063 03/27/07

## SECTION I - PRODUCT IDENTIFICATION

**Trade Name(s):**

- |                   |                |
|-------------------|----------------|
| BLASTEX®          | DYNO® 1.6 SB   |
| BLASTEX® PLUS     | DYNO® 1.3 SBC  |
| BLASTEX® PLUS HD  | DYNO® 1.6 SB30 |
| BLASTEX® TX       | DYNO® 800      |
| BLASTEX® TX PLUS  | DYNO® 1300     |
| BLASTGEL® 1000    | DYNO® 1600     |
| BLASTGEL® 1070    | DYNO® 1520     |
| SUPER BLASTEX®    | DYNO® 1540     |
| SUPER BLASTEX® TX | DYNOTEX        |
| SUPER BLASTEX® TX | DX-2011        |
|                   | DX-2012        |

**Product Class:** Emulsion Explosives, Packaged

**Product Appearance & Odor:** White or pink opaque semi-solid, which will appear gray if product contains aluminum. Little or no odor. Packaged in cylindrical cartridges of paper or plastic film.

**DOT Hazard Shipping Description:** Explosive, blasting, type E 1.5D UN0332 II

**NFPA Hazard Classification:** Not Applicable (See Section IV - Special Fire Fighting Procedures)

## SECTION II - HAZARDOUS INGREDIENTS

Ingredients:	CAS#	% (Range)	Occupational Exposure Limits	
			ACGIH TLV-TWA	OSHA PEL-TWA
Ammonium Nitrate	6484-52-2	80-85	None	None
Sodium Nitrate	7651-89-4	0-12	None	None
Aluminum	7429-90-5	0-10	10 mg/m <sup>3</sup> (dust)	15 mg/m <sup>3</sup> (total)
Mineral Oil	64742-35-4	0-6	5 mg/m <sup>3</sup> (mist)	None
Kerosene	8008-20-6	0-6	None	None

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

# Material Safety Data Sheet

## SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable  
Vapor Density: (Air = 1) Not Applicable  
Percent Volatile by Volume: <20 (water)

Vapor Pressure: Not Applicable  
Density: 1.16-1.36 g/cc  
Solubility in Water: Product partially dissolves very slowly in water.

Evaporation Rate (Butyl Acetate = 1): <1

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: >100°C  
Extinguishing Media: (See Special Fire Fighting Procedures section.)  
Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2,600 feet in all directions.  
Unusual Fire and Explosion Hazards: Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

Flammable Limits: Not Applicable

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

Eyes: May cause irritation, redness and tearing.  
Skin: Prolonged contact may cause irritation.  
Ingestion: Large amounts may be harmful if swallowed.  
Inhalation: Not a likely route of exposure.  
Systemic or Other Effects: None known.

### Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least 15 minutes. If irritation persists seek medical attention.  
Skin: Remove contaminated clothing. Wash with soap and water.  
Ingestion: Seek medical attention.  
Inhalation: If irritation occurs, remove to fresh air.  
Special Considerations: None.

## SECTION VI - REACTIVITY DATA

Stability: Stable under normal conditions, may explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.  
Conditions to Avoid: Keep away from heat, flame, ignition sources and strong shock.  
Materials to Avoid (Incompatibility): Corrosives (strong acids and strong bases or alkalis).  
Hazardous Decomposition Products: Nitrogen Oxides (NO<sub>x</sub>), Carbon Monoxide (CO)  
Hazardous Polymerization: Will not occur

# Material Safety Data Sheet

## SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackages product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State, and local spill reporting requirements.

Waste Disposal Method: Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: Not required for normal handling.

Respiratory Protection: None normally required.

Protective Clothing: Gloves and work clothing that reduce skin contact are suggested.

Eye Protection: Safety glasses are recommended.

Other Precautions Required: None.

## SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store in cool, dry, well-ventilated location. Store in compliance with Federal, State and local regulations. Keep away from heat, flame, ignition sources and strong shock.

Precautions to be taken during use: Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

Other Precautions: It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library Publications.

## SECTION X - SPECIAL INFORMATION

The reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1988 and 40 CFR 372 may become applicable if the physical state of this product is changed to an aqueous solution. If an aqueous solution of this product is manufactured, processed, or otherwise used, the nitrate compounds category and ammonia listing of the previously referenced regulation should be reviewed.

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# Material Safety Data Sheet

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 CANUTEC (CANADA) 613-998-5666

MSDS # 1009  
 Date 04/26/07

Supersedes  
 MSDS # 1009 01/31/05

## SECTION I - PRODUCT IDENTIFICATION

Trade Name(s): ANFO  
 DYNAMIX™, DYNAMIX™ (U.G.)  
 DYNAMIX™ WR  
 DYNAMIX™ HD  
 FRAGMAX™

Product Class: ANFO, Bulk or Packaged

Product Appearance & Odor: White, free-flowing solid prills with fuel oil odor. May be tinged pink or other color to distinguish from solid prills without fuel.

Hazard Shipping Description (U.S. DOT and Canada TDGR)  
 For ANFO, DYNAMIX™, DYNAMIX™ (U.G.), FRAGMAX™ :

Ammonium nitrate-fuel oil mixture 1.5D NA0331 II  
 Explosive, blasting, type B 1.1D UN0331 II

Note: Either description is acceptable, but if already packaged, refer to packaging for which description to use.

For DYNAMIX™ WR: Explosive blasting, type B 1.6D UN0331 II  
 For DYNAMIX™ HD (Canada only): Explosive blasting, type B 1.1D UN0082 II

NFPA Hazard Classification: Not Available (See Section IV - Special Fire Fighting Procedures)

## SECTION II - HAZARDOUS INGREDIENTS

Ingredients:	CAS#	% (Range)	Occupational Exposure Limits	
			ACGIH TLV-TWA	OSHA PEL-TWA
Ammonium Nitrate	6484-82-2	92-95	None <sup>1</sup>	None <sup>2</sup>
Fuel Oil	80476-34-6	4-7	100 ppm	None
Guar Gum*	9000-30-0	0-3	None <sup>1</sup>	None <sup>2</sup>

<sup>1</sup> Use limit for particulates not otherwise regulated (PNOR): Total dust, 16 mg/m<sup>3</sup>; respirable fraction, 5 mg/m<sup>3</sup>.  
<sup>2</sup> Use limit for particulates not otherwise classified (PNOC): Inhalable particulate, 10 mg/m<sup>3</sup>; respirable part., 3 mg/m<sup>3</sup>.

\* DYNAMIX™ WR is the only product containing guar gum.

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

# Material Safety Data Sheet

## SECTION III - PHYSICAL DATA

Boiling Point: Not Applicable  
Vapor Density: > 1  
Percent Volatile by Volume: < 8 (Fuel oil)

Vapor Pressure: < 5 mm Hg @ 75° F  
Density: 0.8 to 1.1 g/cc bulk density  
Solubility in Water: Ammonium Nitrate component completely soluble

Evaporation Rate (Butyl Acetate = 1): < 1

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: > 120° F (49°C)      Flammable Limits: Not Available  
Extinguishing Media: (See Special Fire Fighting Procedures section.)  
Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions.  
Unusual Fire and Explosion Hazards: Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

Eyes: May cause irritation, redness and tearing.  
Skin: Prolonged contact may cause irritation.  
Ingestion: Large amounts may be harmful if swallowed.  
Inhalation: May cause dizziness, nausea or intestinal upset.  
Systemic or Other Effects: None known.

### Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least 15 minutes. If irritation persists, seek medical attention.  
Skin: Wash with soap and water.  
Ingestion: Seek medical attention.  
Inhalation: Remove to fresh air.  
Special Considerations: None.

## SECTION VI - REACTIVITY DATA

Stability: Stable under normal conditions. May explode when subjected to fire, supersonic shock or high-energy projectile impact, especially when confined or in large quantities.  
Conditions to Avoid: Keep away from heat, flame, ignition sources and strong shock.  
Materials to Avoid (Incompatibility): Comoxives (strong acids and strong bases or alkalis).  
Hazardous Decomposition Products: Carbon Monoxide (CO) and Nitrogen Oxides (NO<sub>x</sub>)  
Hazardous Polymerization: Will not occur.

## SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: In case of fire evacuate area not less than 2,500 feet in all directions. Protect from all ignition sources. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a



# Material Safety Data Sheet

complete account of product has been made and is verified. If possible, plug drains or dike channels to prevent either material or water runoff from entering storm drains or surface waters. Follow applicable Federal, State and local spill reporting requirements.

**Waste Disposal Method:** Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

**Ventilation:** Not required for normal handling. Forced ventilation may be necessary where natural ventilation is limited.

**Respiratory Protection:** None normally required. In a dusty environment, or in hot, enclosed areas, respiratory protection may be needed.

**Protective Clothing:** Gloves and work clothing that reduce skin contact are suggested.

**Eye Protection:** Safety glasses are recommended.

**Other Precautions Required:** None.

## SECTION IX - SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storage:** Store in cool, dry, well-ventilated locations. Store in compliance with Federal, State, and local regulations. Keep away from heat, flame, ignition sources and strong shock.

**Precautions to be taken during use:** Avoid breathing the fumes from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.

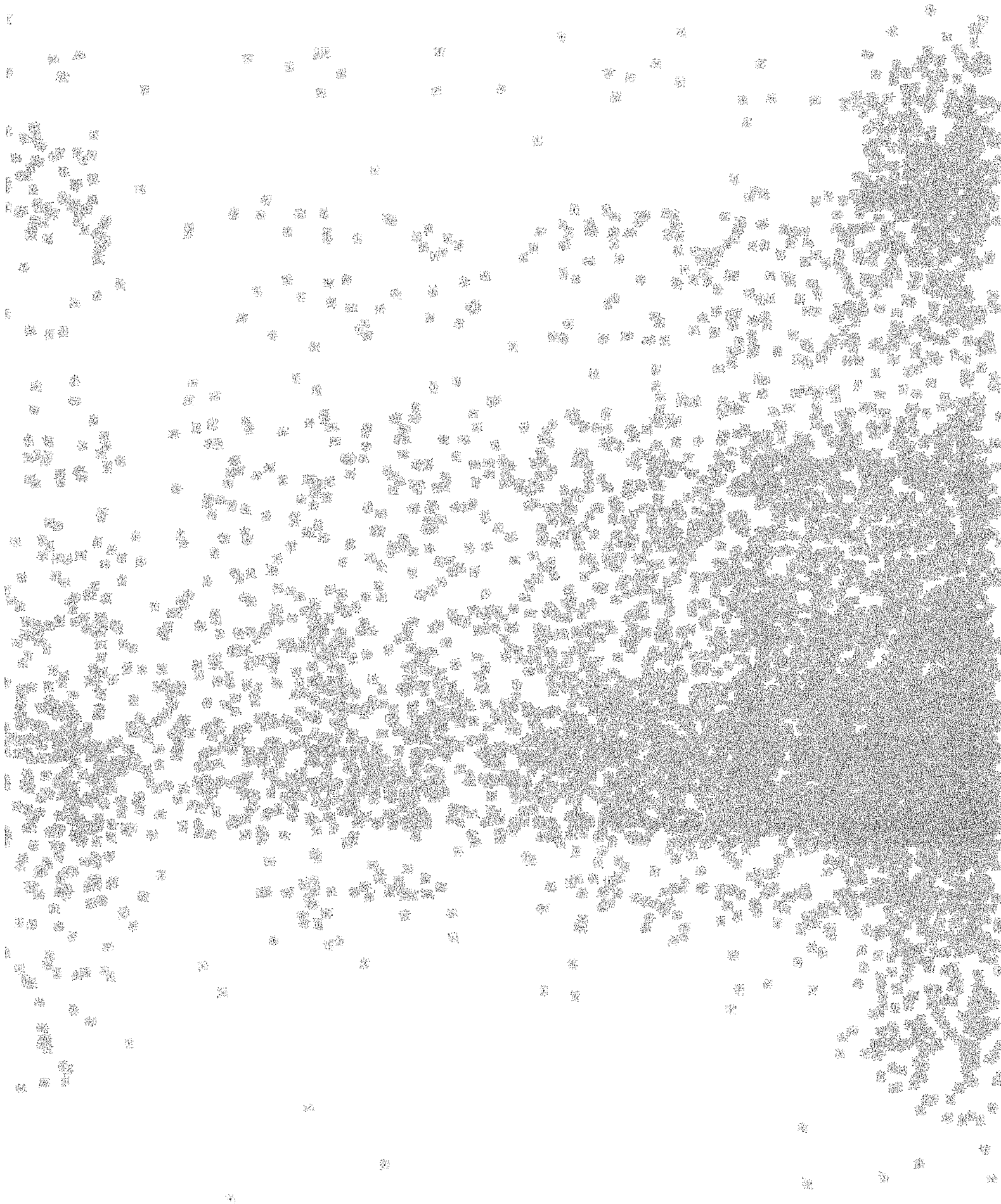
**Other Precautions:** It is recommended that users of explosive materials be familiar with the Institute of Makers of Explosives Safety Library publications.

## SECTION X - SPECIAL INFORMATION

The reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1980 and 40 CFR 372 may become applicable if the physical state of this product is changed to an aqueous solution. If an aqueous solution of this product is manufactured, processed, or otherwise used, the nitrate compounds category and ammonia listing of the previously referenced regulation should be reviewed.

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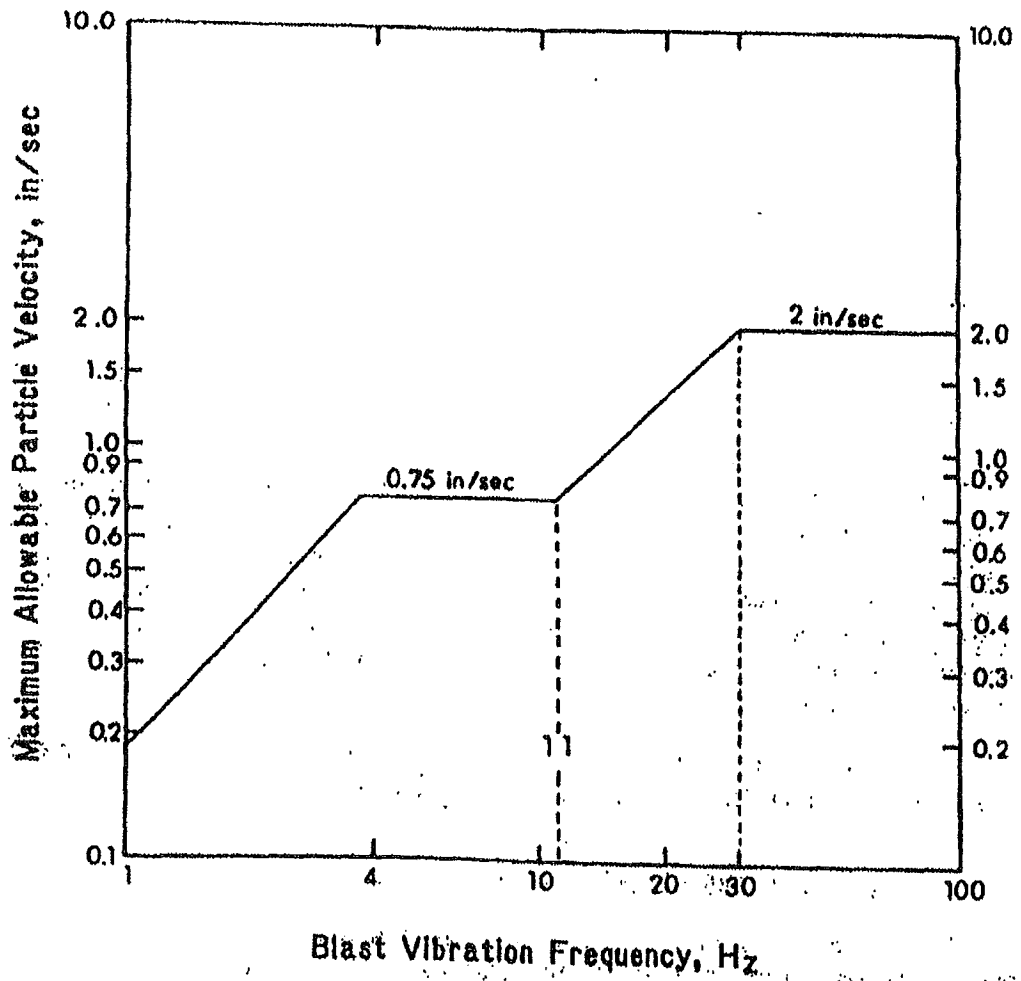
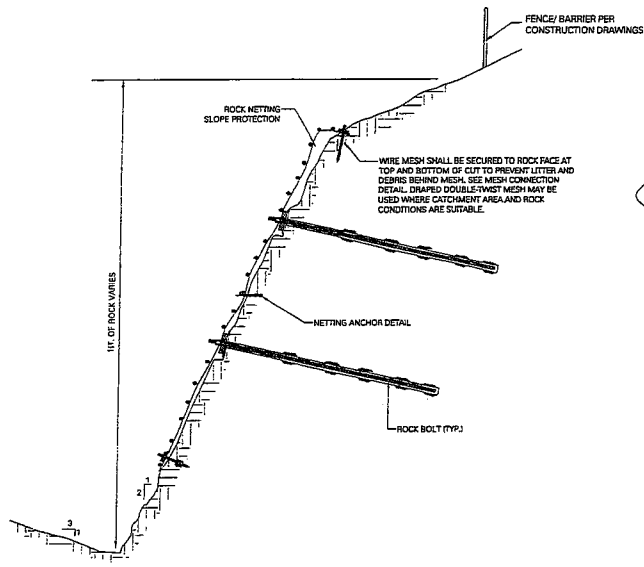


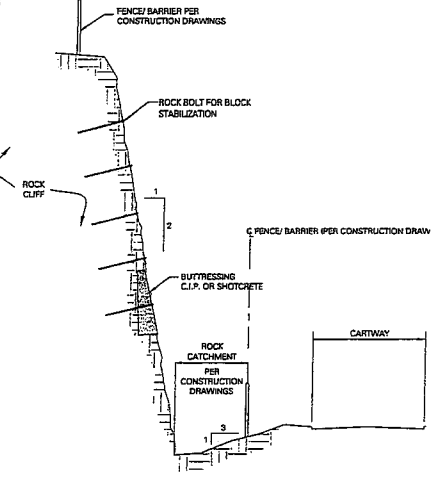
Figure 10.20 OSM Alternative Blasting Level Criteria (Modified from Figure B 1, RI 8507 U.S. Bureau of Mines)

## **APPENDIX B**

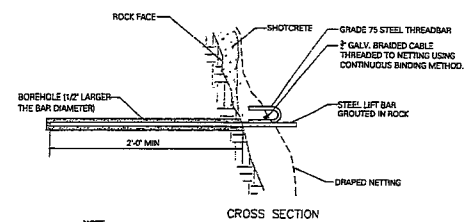
### **Typical Rock Fall Protection & Stabilization Methods; Drawing ST-1**



1 ROCK NETTING  
NOT TO SCALE

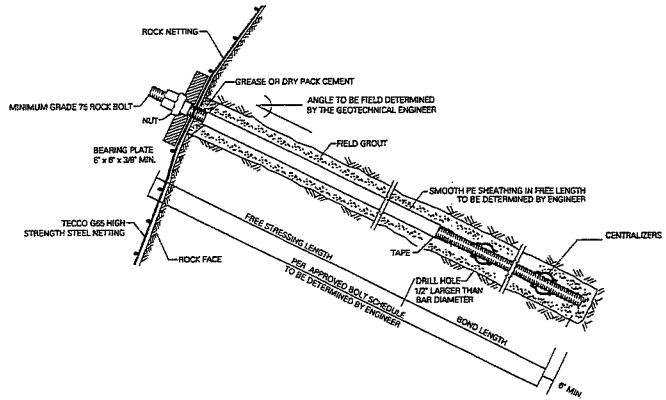


2 CROSS SECTIONS  
NOT TO SCALE

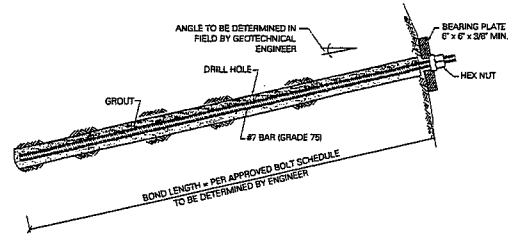


NOTE:  
FOR MID-SLOPE SUPPORT, USE GRADE 75 (MIN) EPOXY-COATED OR GALVANIZED STEEL WITH BEARING PLATE AND NUT, SPACED 15 FT. CENTER-TO-CENTER. EMBEDMENT INTO ROCK TO BE FIELD DETERMINED.

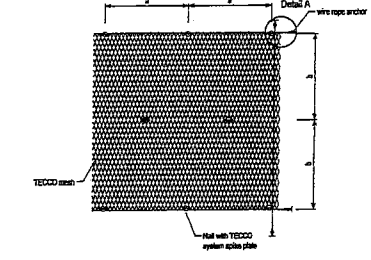
3 NETTING ANCHOR DETAIL  
NOT TO SCALE



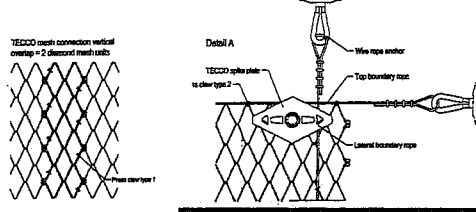
4 ROCK BOLT "B"  
NOT TO SCALE



5 ROCK BOLT "A"  
NOT TO SCALE



6 TECCO MESH DETAIL  
NOT TO SCALE



GENERAL NOTES

- METHODS OF STABILIZATION MAY INCLUDE SCALING AND RECONTOURING OF THE CUT. OTHER STABILIZATION AND ROCKFALL PROTECTION MEASURES MAY INCLUDE SHOTCRETE, ROCK BOLTS, DRAPED OR SECURED DOUBLE-TWIST GALVANIZED STEEL MESH, CONCRETE BUTRESSING, DOWELLING, CATCHMENT ETTCHES AND TRIMMING. THE INTENT OF STABILIZATION IS TO MINIMIZE THE USE OF EXTERNAL SUPPORT SO AS TO MAINTAIN THE NATURAL BEAUTY OF THE SITE. THUS, TO THE EXTENT POSSIBLE, RECONTOURING, SCALING AND TRIMMING SHALL BE CONSIDERED INITIALLY. DECORATIVE SHOTCRETE, SCULPTED TO PROVIDE A NATURAL APPEARANCE MAY BE USED SOLELY OR IN CONNECTION WITH ANY OF THE OTHER METHODS.
- THIS PLAN PROVIDES TYPICAL DETAILS FOR THE METHODS THAT MAY BE ANTICIPATED TO BE USED TO STABILIZE ROCK CUTS ON THE SITE IF NECESSARY. THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS WILL BE PREPARED BY THE GEOTECHNICAL ENGINEER TO PROVIDE SITE INFORMATION. THE GEOTECHNICAL ENGINEER WILL SELECT AN APPROPRIATE METHOD OR COMBINATION OF METHODS MOST APPROPRIATE FOR AS-CONDITIOED SITE CONDITIONS.
- EACH LOCATION REQUIRING STABILIZATION SHALL BE VERIFIED AND APPROVED BY THE ENGINEER. MATERIAL QUANTITIES, LOCATIONS AND THE ORIENTATION MAY BE MODIFIED BY THE ENGINEER BASED ON JOINT PATTERNS AND ROCK CONDITIONS ENCOUNTERED.

Date	Description	No.
Revisions		
9/9/02	AS PER TOWN ENGINEER'S COMMENTS	1

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www.elangan.com  
NJ Certificate of Authorization No. 2462298900

Project  
**TUXEDO RESERVE**  
(PHASE I - SECTION 1)  
TOWN OF TUXEDO  
ORANGE COUNTY NEW JERSEY  
Drawing Title

**TYPICAL ROCK FALL PROTECTION & STABILIZATION METHODS**

Project No.	3106601	Drawing No.	<b>ST-1</b>	
Date	10-16-09	Scale		NTS
Drn. By	AC	Last Revised		9-8-08
ISSUED FOR INFORMATION ONLY NOT FOR CONSTRUCTION				

# **APPENDIX C**

## **Wetlands Monitoring and Maintenance Plan**

**WETLAND MONITORING AND MAINTENANCE PLAN  
FOR  
TUXEDO RESERVE PLANNED INTEGRATED DEVELOPMENT  
PHASE 1 SECTION 1 (NORTH RIDGE)  
WETLAND AREA "WT"  
TOWN OF TUXEDO  
ORANGE COUNTY, NEW YORK**

Prepared for:

Tuxedo Reserve Owner LLC  
60 Columbus Circle  
New York, New York 10023

Attn: Andrew Dance

Prepared by:

EcolSciences, Inc.  
75 Fleetwood Drive, Suite 250  
Rockaway, New Jersey 07866

May 22, 2008  
Revised October 12, 2009

## Overview

A concern has been raised regarding wetland area "WT" located in the Northridge section of the in the Tuxedo Reserve Planned Integrated Development. Development of the site will require that blasting occur within 25 feet of the wetland. In order to ensure that no impacts occur in the wetland a maintenance and monitoring plan has been prepared for the wetland. The maintenance plan is to protect the existing qualities of the wetland. The monitoring plan consists of two components, monitoring the water levels in the wetlands and monitoring the vegetation within the wetlands to determine if reduced water levels have allowed the encroachment into the wetlands of upland vegetation. In the unlikely event that disturbance to the hydrology of the wetland is identified during the maintenance and monitoring period, steps are outlined to mitigate for these disturbances.

The developer of this site, Tuxedo Reserve Owner, LLC, is dedicated to protecting, managing, and studying the on-site wetland and providing for their long-term maintenance. Management will be conducted by Tuxedo Reserve Owner, LLC during project construction. Following, construction, monitoring will be continued by the property owner, which may be Tuxedo Reserve Owner, LLC or its successor, including a homeowner association. The monitoring and maintenance plan is proposed as follows:

### Monitoring and Maintenance Plan

#### 1. *Baseline Monitoring*

The major concern for the long-term viability of wetland "WT" is to maintain the current water quantity reaching the wetland system to maintain the existing floral and faunal community and to prevent the invasion of the wetlands by extensive upland vegetation indicating a possible change in the wetland hydrology. Therefore, prior to construction baseline data will be collected to determine current conditions in wetland "WT" and provide a standard reference for the following years. Since the baseline data will provide the supporting documentation of what existing site conditions were like prior to construction, baseline monitoring proposes a more intensive monitoring schedule. It is anticipated that baseline monitoring will be representative of all four seasons prior to initiation of blasting. These tasks include:

- Prior to construction, to restrict any disturbance to the wetlands, a double-barrier silt fence or super fence will be established upgradient of the boundaries of the proposed limit of disturbance around the wetland. During construction these fences will be maintained on a regular basis to ensure proper installation and function. A permanent split rail fence with appropriate signage indicating the function and values of wetlands will be established prior to the completion of construction. Where the fence is located within individual properties, the owners may upgrade or replace but under no circumstances remove the fence.



- Establish 5 permanent 1 x 1 meter quadrats that will be used to monitor the status of the vegetative communities in the wetlands. Quadrat locations will be chosen randomly in the various vegetative communities documented in the wetland. The quadrat locations will be marked by rebar, surveyed (or GPS) and plotted on a topographic map.
- Sample the permanent quadrats to obtain baseline vegetative community diversity. Sampling of the quadrats will take place twice a year in the spring and fall. Photographs of the quadrats and surrounding wetlands and undeveloped upland buffers areas will be obtained during both sampling periods.
- Establish three shallow piezometers in the wetlands. The piezometers will be monitored to verify that blasting activities proposed during construction of Quail Road and the nearby detention basin do not impact groundwater/surface water levels within the wetlands. The piezometers will be located downgradient of the proposed development areas and basin and upgradient of Quail Road. The piezometers will be installed approximately 3-feet deep into the surface soils. The piezometers will be studied to review ground water fluctuations in the top two feet of the soil, the active root growth zone for most vegetative species. The locations of the proposed piezometers will be shown on the final construction plans prepared for the Northridge project. The piezometers will be monitored manually on a monthly basis for one year following installation.
- Establish three rain gauges on-site to record recharge on-site. The rain gauges will be monitored weekly.
- Collect monthly weather data, specifically precipitation totals from the Tuxedo area to provide a baseline of potential seasonal precipitation levels. If available, monthly data from the previous five-years will also be obtained to account for seasonal and yearly fluctuations in precipitation amounts. Compare weather data to 30 year Normal climatic data.
- Prepare annual report and submit to Town of Tuxedo Engineering Department for Review. The annual report will include the results for all sampling data, precipitation data, color photographs of the wetlands and uplands, and comments regarding site conditions, as necessary.

## **2. *Five-Year Monitoring and Maintenance Plan***

The major concern for long-term viability of the wetland is to maintain the current water quantity to the wetlands and to review the floral community to ensure no changes to the current wetland vegetative community. The primary indication that a change in the underlying hydrologic regime has occurred is the invasion of the wetland with upland

species. Careful monitoring following construction is required to maintain the system in its current condition. It is anticipated that monitoring will continue on a monthly basis during construction, specifically during blasting. Immediately following the completion of blasting, monitoring of the wetland will continue for five years following construction. Monitoring and maintenance for this five year period is as follows:

#### Year One through Five

- Sample the vegetation in spring and fall in the permanent quadrats to monitor and document any vegetational change.
- Take photographs during spring and fall site visits.
- Monitor piezometers. Monitoring will continue twice a year in the spring and fall. Results will be tabulated with information collected from the baseline sampling.
- Monitor rain gauges. Monitoring will be conducted weekly.
- Determine whether any measures are needed to supplement the hydrology of the wetland. These measures may include manual removal of invasive upland species, redirection of surface water from the proposed stormwater basin to recharge the wetlands, and/or constructing upland diversion berms to redirect surface flows into the wetland. However, no remedial action is proposed until it is determined if the water level changes observed are a direct result of on-site construction activities as opposed to normal seasonal or yearly fluctuations in precipitation. Therefore evaluation of the current years information will be compared with the baseline data to determine if any mitigation steps are necessary.
- Prepare annual report and submit to Town of Tuxedo Engineering Department. The report will include recommendations of steps to be taken, if necessary, to improve the hydrologic regime of the wetlands. Upon receiving comments from the Town, the recommended enhancement measures will be implemented by the applicant.
- The monitoring plan report will also include recommendations by the applicant's consultant to improve the health of the wetland if necessary, including but not limited to the hand removal of non-native vegetation, girdling of trees to create snag habitat, supplemental native planting to encourage wildlife use, and inclusion of wildlife habitat nesting boxes/structures. Upon receiving comments from the Town, these recommendations will be implemented by the applicant.

### **3. *Mitigation Plan***

The applicant does not anticipate that on-site construction techniques, specifically blasting, will cause any impact to the hydrology of the wetland. The blasting

methods proposed by the project engineer are anticipated to prevent any disturbance to the wetland. In the unlikely event that blasting causes a fracture that allows drainage from the wetland, the applicant will not destroy the wetland system by removing the stable wetland flora and underlying nutrient rich muck/silt substrate in order to place a clay or other impervious liner beneath the wetland system. This type of mitigation will cause more destruction to the functional wetland system than the potential impacts that may occur from the alteration of the wetland hydrology. In order to seal the wetland, all the stable vegetation including trees, shrubs, and emergent plants will need to be removed. Removal of the vegetation will displace any wildlife species that may utilize the wetland for foraging, nesting, or feeding. Once the soils are replaced, the wetland will need to be replanted. A revegetated system will likely take years to restore to the same high-level functioning system as currently exists.

As outlined in the monitoring steps above, other reasonable measures will be evaluated to supplement the hydrology of the wetland. These measures may include manual removal of invasive upland species, redirection of surface water from the proposed stormwater basin to recharge the wetlands, and/or constructing upland diversion berms to redirect surface flows into the wetland..

# **APPENDIX D**

## **Well and Hydrogeologic Monitoring Protocol**

WELL AND HYDROGEOLOGIC MONITORING PROTOCOL  
FOR PROPOSED BLASTING PROGRAM AT  
THE NORTH RIDGE PHASE OF THE TUXEDO RESERVE  
TOWN TUXEDO, NEW YORK  
SEPTEMBER 2009  
(ORIGINALLY ISSUED AUGUST 2008)

**1.0 PURPOSE**

On behalf of The Related Companies (TRC), Leggette, Brashears & Graham, Inc. (LBG) has prepared this protocol (the Protocol) for assessing the potential impacts on local (on-site and off-site) water-supply wells from proposed bedrock blasting associated with construction of the North Ridge Phase of the development of the Tuxedo Reserve property (the proposed Development) in the Town of Tuxedo, New York (the Site). This Protocol has been prepared to address the requirements of the Town of Tuxedo (the Town) in connection with its approval of The Related Companies' application for construction of the proposed Development. The subject wells are located throughout the Site and on properties bordering the southwestern and eastern Site boundaries [Figure 1; Table 1(see below)].

This Protocol has been developed using geologic and hydrogeologic information and data gathered by LBG as part of its previously completed assessments associated with water-supply development and recharge management efforts for the proposed Development, as well as subsurface information provided by Langan in connection with its engineering and design efforts associated with the proposed site development. The respective information has been developed through the completion of extensive field investigations, and the collection of site-specific measurements and observations. As such, the establishment of site-specific geologic and hydrogeologic conditions has occurred prior to initiation of any blasting activities at the Site. However, this Protocol does anticipate the future visitation and inspection of the subject wells prior to blasting, in order to establish as current as possible the appropriate "baseline" conditions for use in the future (post-blasting) comparisons.

**2.0 Background/Hydrogeology**

Since bedrock commonly occurs at shallow depths [generally less than 7 feet below grade (ft bg)] throughout the Site, construction of the proposed Development may necessitate controlled blasting in certain areas. In particular, those portions of the Site selected for the construction of roads, subgrade utility line installations, stormwater management facilities, and building foundations may require adequate removal of shallow bedrock. The areas and amount of blasting will depend upon the extent and competency of the encountered shallow bedrock, and most likely will be determined on a locale-specific basis by how readily excavation to the target depth can be accomplished with typical construction equipment. Where considered necessary, the blasting of bedrock at the Site will typically involve below grade detonations, as determined by the blasting contractor.

On-site and local off-site wells tap the "crystalline" bedrock (igneous and metamorphic rocks) aquifer underlying the Property and surrounding area. The crystalline bedrock aquifer is used as a water supply source for several residences in the area and can locally be hydraulically connected with shallow overburden formations (overlying soil and glacial till) and surface-water bodies (e.g., wetlands). This bedrock is characteristically massive, with localized mineralogical banding (e.g., gneissic foliations), and locally penetrated by naturally occurring fractures (i.e., "cracks") and fracture zones and systems. These fractures can occur individually, or as network of roughly parallel and intersecting planar and curve-linear features. Weathering of the upper surface of the bedrock can be laterally and vertically extensive especially where fracture zones are exposed at shallow depths. Under such circumstances, the bedrock is potentially rendered easier to blast and/or excavate with machinery.

Groundwater movement and storage in the bedrock is primarily controlled by the extent and orientation of the fractures that penetrate the comprising rock units. Consequently, the yield of water-supply wells tapping the bedrock are dependent upon the number, aperture (opening) size, and extent of the fractures penetrated by the intake zone of the well (e.g., open borehole). The depth of on-site and local off-site water supply wells typically exceeds 100 ft bg and may locally exceed 500 ft bg, while the corresponding static groundwater level can range from about 20 ft bg to over 100 ft bg. Generally, the groundwater and well yields associated with the crystalline bedrock in the Site area are adequate for meeting individual residential demands. Locally, this aquifer is also capable of yields that can support public community supplies such as that being developed for use by the Development (e.g., Wells LBG-1, LBG-6, TW-F, TW-2B, and LBG-2).

Based on available records for the on-site and off-site wells, along with the results of rock-coring programs completed by Langan and LBG, respectively, the local depth to the perennial (e.g., non-perched) groundwater surface in the immediate vicinity of the North Ridge Phase of the proposed Development is generally in excess of 20 ft bg in topographically lower areas, and in excess of 50 ft bg in topographically higher areas. These depths are typically below the contact between the bedrock and overlying soil ("overburden").

The natural quality of groundwater occurring within the bedrock is generally reflective of the mineral constituents that form the comprising rock units, and is generally considered naturally potable. In particular, the groundwater associated with wells developed in the bedrock aquifer may naturally exhibit slightly elevated iron and manganese concentrations, and a slight reddish-brown tint in color and/or turbidity. The concentrations of these parameters may naturally change over time in response to indigenous microbiological conditions, especially where influenced by well pumpage.

The potential for adverse impacts on the local bedrock aquifer and wells from blasting is primarily dependent on the detonation location relative to the local groundwater surface and respective well location. Typically, blasting that occurs in the portion of a rock mass located above the perennial groundwater surface has minimal to no potential of adversely influencing local supply wells. The available information indicates that: the typical depth to groundwater in

the neighboring residential wells is over 50 ft bg; the separation distance between these wells and the proposed blasting locations in the North Ridge Phase area is generally greater than 200 feet; and the anticipated potential use of explosives is to be limited to at most bedrock within the upper 48 feet of ground surface at locations several hundred feet away from the nearest off-site residence. As such, the potential for the proposed blasting to adversely influence the bedrock aquifer and nearby supply wells is considered minimal.

At most, the effects of the proposed blasting may result in a localized short-term fluctuation of several feet in the existing groundwater surface at the point of detonation, with the degree of impact rapidly decreasing outwards (on the order of feet). As a result, the nearby residential water-supply wells are not anticipated to be adversely impacted. However, as per the Town, any proposed blasting activities associated with the Development require the incorporation of a blasting impact assessment with respect to nearby existing residences. Such an assessment is to include monitoring activities associated with addressing the potential for impacts on water supply wells located in the area targeted for blasting activities.

In the event that the collected background information and blast-monitoring information indicate the interruption of potable water supply from a residential well has occurred due to ongoing blasting, a tanker of potable water will be provided for the impacted residence until the associated impact is addressed. Prior to implementing blasting, a local bulk water services provider (e.g., Troncillito Brothers Water Services of Marlboro, NY) will be retained "on call" to provide for the rapid provision of potable water in the event of an impact. The water-services supplier will conduct a survey of the existing well setup at the respective residences prior to initiation of blasting in order to pre-determine the appropriate hook-up measures that may be required and associated access logistics. The associated water supply will be connected directly to the respective residential plumbing system, upstream of the existing pressure tank.

In addressing the Town's blast monitoring program requirements regarding supply wells, we have developed this protocol to be potentially implemented for all of those accessible private wells within 1,500 feet of a respective blast site (Figure 1). Based on the blasting locations currently identified by Langan for the North Ridge phase, a list of all of those properties where private wells are known or believed to exist and that are intended to be monitored as per this protocol is provided as Table 1. The proposed protocol is intended to monitor the identified homeowner wells during and following the blasting activities.

### **3.0 MONITORING EQUIPMENT**

3.1 Water-Level Measurement Depth to water measurements will be obtained using a manually-operated electric water-level indicator and tape measure, and, if existent access conditions allow, a dedicated electronic data logger and pressure transducer.

3.2 Water-Quality Measurement Water quality will be determined and monitored using applicable field instrumentation and methodologies employed near the wellhead. Selected parameters will also be analyzed by a New York State certified laboratory.

#### 4.0 RESIDENTIAL-WELL MONITORING PROCEDURE

The following efforts will be undertaken as part of the proposed blasting monitoring area:

##### 4.1 Water-Level and Yield Baseline Establishment

- 1) Obtain access permission from the respective homeowners and reconnoiter each well with respect to water-level and water-sampling access logistics at least one week prior to implementation of the program. At this time, the water-services supplier will conduct a survey of the existing well setup in order to determine the appropriate hook-up measures that may be required in the event that an alternative water supply is required due to blasting impacts.
- 2) Prior to, during and shortly after the blasting, water level measurements will be collected (data loggers will be utilized where access is possible) in the respective residential wells which have previously been determined to be accessible. In the instance where access for water-level measurement is possible, measurements will be made, at a minimum, on a weekly basis during the implementation of the blasting program. In addition, water levels will be monitored at existing TRC Wells LBG-1, LBG-6, TW-F, TW-2B, LBG-2, and E as blasting activities proceed. The reference for groundwater level measurements (generally the top of the well casing) will be clearly marked at each well. All measurements will be taken with reference to these points. Each measurement, along with the corresponding date, time and name of observer will be recorded.
- 3) Short-term pumping tests of each of the selected residential wells will be completed as part of a "baseline" determination and shortly following completion of all blasting activities within 1,500 feet of the respective wells. Each test will involve the pumping of the respective well continuously for up to 1 hour, contingent upon the resulting trend in water-level decline, and the setting and performance of the existing pump. Where possible, the pumped water will be routed to waste from a point closest to the residential pressure tank such as a hose bib, sink faucet, or pressure tank drain. The utilized pumping rate will be measured with a bucket and stop watch. Water levels will be measured with an electronic indicator and/or dedicated data logger where possible. The recovering water level will be monitored for up to 1 hour following cessation of the 1-hour pumping period.

##### 4.2 Water-Quality Baseline Establishment

- 1) Water samples will be collected from the selected residential wells as part of a "baseline" determination, and shortly following completion of all blasting activities within 1,500 feet of the respective wells.
- 2) Water samples will be collected at the port closest to the wellhead and, if possible, from the nearest sink faucet, and analyzed for the following field parameters:



temperature, total iron, hydrogen sulfide, sulfate, chloride, turbidity, pH, conductivity, DO, and BARTS (measure of microbiological activity such as coliform and iron bacteria). In addition, water samples will also be collected and submitted to a New York certified laboratory and analyzed for total coliform, total iron, turbidity, color, sulfate, chloride, sodium, nitrate, nitrite, ammonia, and total petroleum hydrocarbons (TPH).

## **5.0 EXTERNAL MEASUREMENT MONITORING**

5.1 Precipitation Precipitation will be measured with an on-site rain gauge. Accumulated precipitation will be recorded during the monitoring periods of the program. If applicable, precipitation measurements will be recorded on a daily basis at a minimum.

### 5.2 Surface-Water Bodies, Wetlands and Groundwater

- 1) Stream gauges and piezometers will be installed along the reaches of on-site streams and wetlands nearest the proposed blasting locations prior to the start of the monitoring program (Figure 1). The stream gauge will consist of either a solid stake with increments or a staff gauge inserted into the water body. The piezometers will consist of "drive points" driven to at least 0.5 feet below the encountered surface-water body bed. In addition, those stream gauges and piezometers that already exist in the nearby streams and wetlands (e.g., Mountain Lake) monitored during the 72-hour combined pumping tests completed in 2007 will also be used for water-level monitoring purposes.

Water-level monitoring at these locations will commence during the pre-blasting residential-well background monitoring program, and be completed using manually-operated electric water-level indicator and tape measure devices, along with dedicated electronic data loggers and pressure transducers where accessible. The relative elevations of the stream gauges and piezometers will be surveyed with respect to location and elevation, and compared to groundwater elevations measured in the nearby wells. This information will be used to characterize the respective water levels relative to perched and non-perched groundwater conditions. The elevations of those wetlands considered to potentially be part of a perched groundwater system will be compared to the elevations of the closest bedrock targeted for blasting. The distance between the respective wetlands and blast-targeted bedrock will be compared to the corresponding projected blasting zone-of-influence in order to assess the potential for adverse influences. Those wetlands where blasting is anticipated to affect bedrock at depths below the elevation of the geologic feature associated with the perched condition (e.g., clay layer; un-fractured massive bedrock unit; etc.) will be further hydrogeologically characterized relative to recharge and discharge components (e.g., precipitation), with the proposed blasting program and/or subsequent rock excavation activities in the respective area being modified accordingly.

- 2) Surface-water and groundwater samples will be collected at the respective stream gauge/piezometer locations and from the nearby on-site TRC Wells, located proximal to and downgradient of the proposed blasting locations (i.e., Wells LBG-1 and E for the North Ridge Phase). The piezometers and wells will be purged of three volumes of standing water (actual purge volume contingent upon recharge characteristics) prior to collecting the respective samples. The collected samples will be analyzed, contingent upon adequate sample aliquot, for the following field parameters: temperature, total iron, hydrogen sulfide, sulfate, chloride, turbidity, pH, conductivity, DO, and BARTS. In addition, water samples will also be collected from each location and submitted to a New York certified laboratory and analyzed for total coliform, total iron, turbidity, color, sulfate, chloride, sodium, nitrates, and total petroleum hydrocarbons (TPH). Samples will be collected prior to, at least once during, and following blasting, in order to provide the data necessary to assess the potential of impacts on the respective surface-water and groundwater resources.

5.3 Barometric Pressure Barometric pressure will be recorded via an on-site barometer during the course of the monitoring program.

5.4 Nearby Pumpage Only nearby domestic wells have been identified as the closest groundwater users. As such, we will notify the previously identified well owners of the pending test program and request permission to include them in the monitoring program.

## **6.0 PERMITS**

No permits for the monitoring of wells during the proposed program have been identified. However, the Town will be notified at least one week in advance of implementation of the monitoring program. Access permission from the respective off-site well owners will be pursued, and the results of such efforts provided to the Town prior to the initiation of monitoring.

## **7.0 REPORTING**

The results of the blast monitoring program will be summarized and provided to TRC for its transmittal to the Town and the respective homeowners. The respective homeowners will be directed to contact the following LBG representatives at (201) 818-0700, on behalf of TRC, in the event of their having trouble with their wells as a suspected result of the proposed blasting: Al Smith, PG; Matthew Ayers, PG; Frank Getchell, PG.

MA(FG revised):pw

Attachments

**TABLE 1  
TUXEDO RESERVE  
TOWN OF TUXEDO, NEW YORK**

**Summary Of Potential Residential Well Owners  
Within 1,500 Feet Of Blasting-Targeted Areas In The North Ridge Phase**

BLOCK	LOT	OWNER	ADDRESS	MAP IDENTIFIER
1	8	Tuxedo Union Free School District No. 3		A
1	23	Timberwolf Industries, Inc.		B
1	9	George Medynski	Route 17 South, Tuxedo, NY	C
1	10	Michael & Jean Yorke	Route 17 South, Tuxedo, NY	D
1	11	Ralph S. & Jean Rogo	Route 17 South, Tuxedo, NY	E
1	12.2	Tuxedo Manor Apartments Inc.	Route 17 South, Tuxedo, NY	F
1	13.11	Raffaele & Teresa Mazzariello	Route 17 South, Tuxedo, NY	G
1	13.2	Ralph Rugo, Jr.	Route 17 South, Tuxedo, NY	H
1	14	R4 Zone		I
3	5	Richard Miller	54 Mountain Road, Tuxedo, NY	K
3	8, 9, 39	James & Antoinette Matthews	11 Mountain Road, Tuxedo, NY	L,M, and N
3	38	Richard E. & Jeanne Heater	48 Mountain Road, Tuxedo, NY	J
3	11	Daniel Richard Winfield	7 Mountain Road Tuxedo, NY	O
3	13.1	John F. & Elise Smith	Hillside Avenue Tuxedo, NY	P
3	15.1, 15.2	William H. Sahler	54 Hospital Road Tuxedo, NY	Q and R
3	6	Teh-Sung Wang	29 Hillside Avenue Tuxedo, NY	S
3	17	Theodore Kincaid, Jr.	5 Hillside Avenue Tuxedo, NY	T
3	18	Peter & Barbara Barba	21 Hillside Avenue Tuxedo, NY	U

Note: See Figure 1 for locations.

**TABLE 1 - CONTINUED  
TUXEDO RESERVE  
TOWN OF TUXEDO, NEW YORK**

**Summary Of Potential Residential Well Owners  
Within 1,500 Feet Of Blasting-Targeted Areas In The North Ridge Phase**

<b>BLOCK</b>	<b>LOT</b>	<b>OWNER</b>	<b>ADDRESS</b>	<b>MAP IDENTIFIER</b>
3	19	Joseph & Martina O'Reilly	15 Hillside Avenue Tuxedo, NY	V
3	30	A. & A. Mammato	20 S Side Place Tuxedo, NY	W
3	31	Jose & Eileen Rivera	S Side Place Tuxedo, NY	X
3	32	Ronald R. Conklin	11 S Side Place Tuxedo, NY	Y
3	33	John P. & Elizabeth Mottola	S Side Place Tuxedo, NY	Z
3	34	John J. Billy	75 S Side Place Tuxedo, NY	AA
3	35.1	John & Mary D. Billy	S Side Place Tuxedo, NY	BB
1	1	Kimberlee Stevens	1 Oak Place Tuxedo, NY	CC
2	2	Dorothy Clarke	23 Hospital Road Tuxedo, NY	DD
2	1,4	William H. & Jean L. Sahler	24 Mountain Road Tuxedo, NY	EE, FF
2	5	Double Gemini Enterprises, Inc.	16 Mountain Road Tuxedo, NY	GG
2	6	Jones Family	10 Mountain Road Tuxedo, NY	HH
2	7	Ralph & Madeline Napolitano	6 Mountain Road Tuxedo, NY	II
2	8	Kevin & Ann Earl	2 Mountain Road Tuxedo, NY	JJ
2	9	John & Debra Ruel	46 Schoolhouse Road Tuxedo, NY	KK
2	10	Donald & Katherine Derbyshire	42 Schoolhouse Road Tuxedo, NY	LL
2	11	Joseph & Marion Mottola	36 Schoolhouse Road Tuxedo, NY	MM
2	8	Richard L. Jones	38 Circle Drive Tuxedo, NY	NN
2	9	Jean S. Dickensen	36 Circle Drive Tuxedo, NY	OO

Note: See Figure 1 for locations.

PHASE 1

WC-4

MOUNTAIN LAKE

PZ-ML

PZ-ML2

WELL LBG-1

LBG-1A

LBG-1B

BLK 1, LOT 42  
SCHOOL SITE

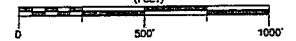
SG-ML

LEGEND

1,500 FOOT RADIUS FROM PROPOSED BLASTING LOCATIONS

PROPERTY LOCATED WITHIN BLASTING LOCATION RADIUS SEE TABLE 1 FOR OWNER

MAP SCALE (FEET)



TUXEDO RESERVE  
TOWN OF TUXEDO  
TUXEDO, NEW YORK

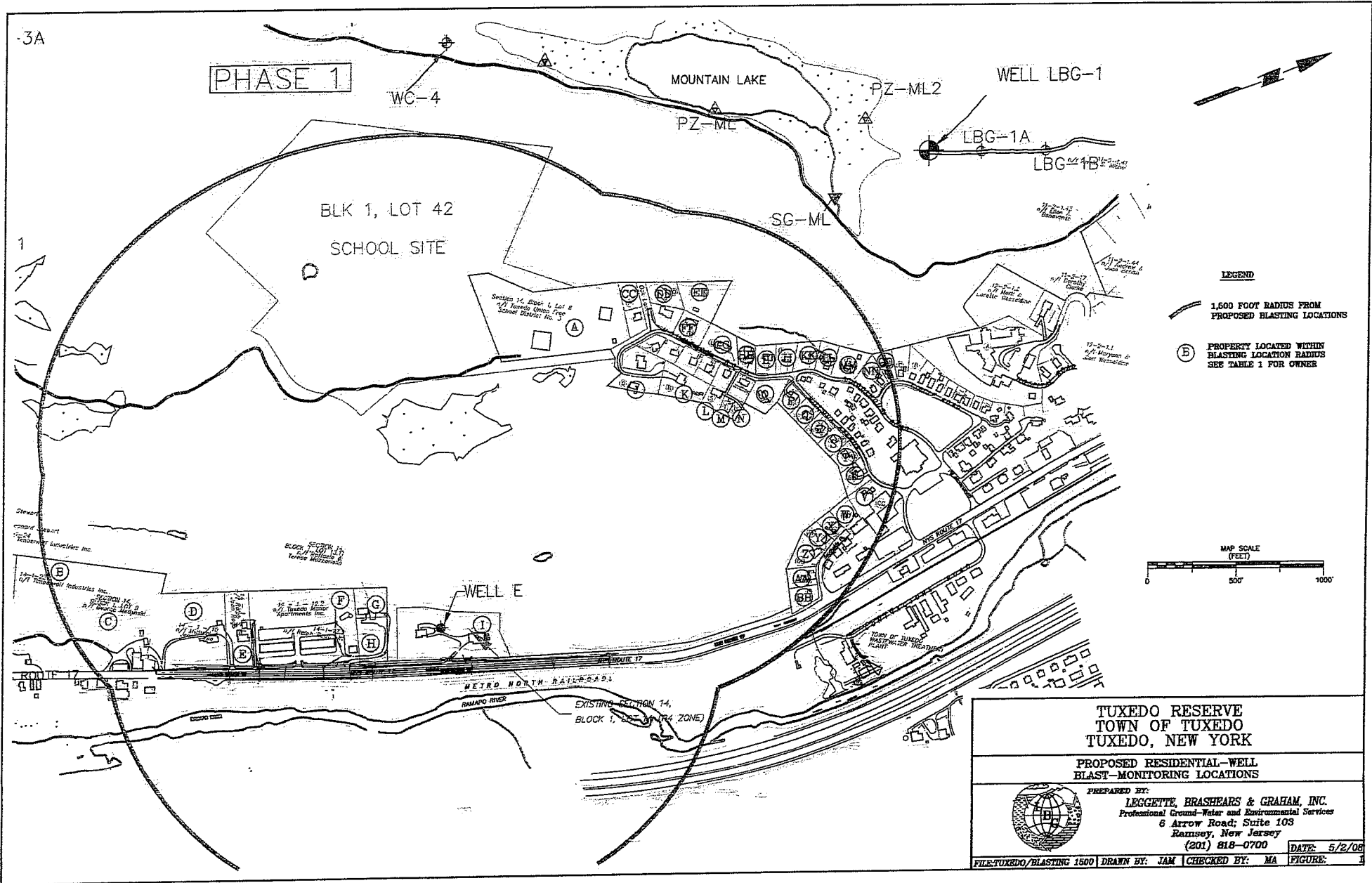
PROPOSED RESIDENTIAL-WELL  
BLAST-MONITORING LOCATIONS

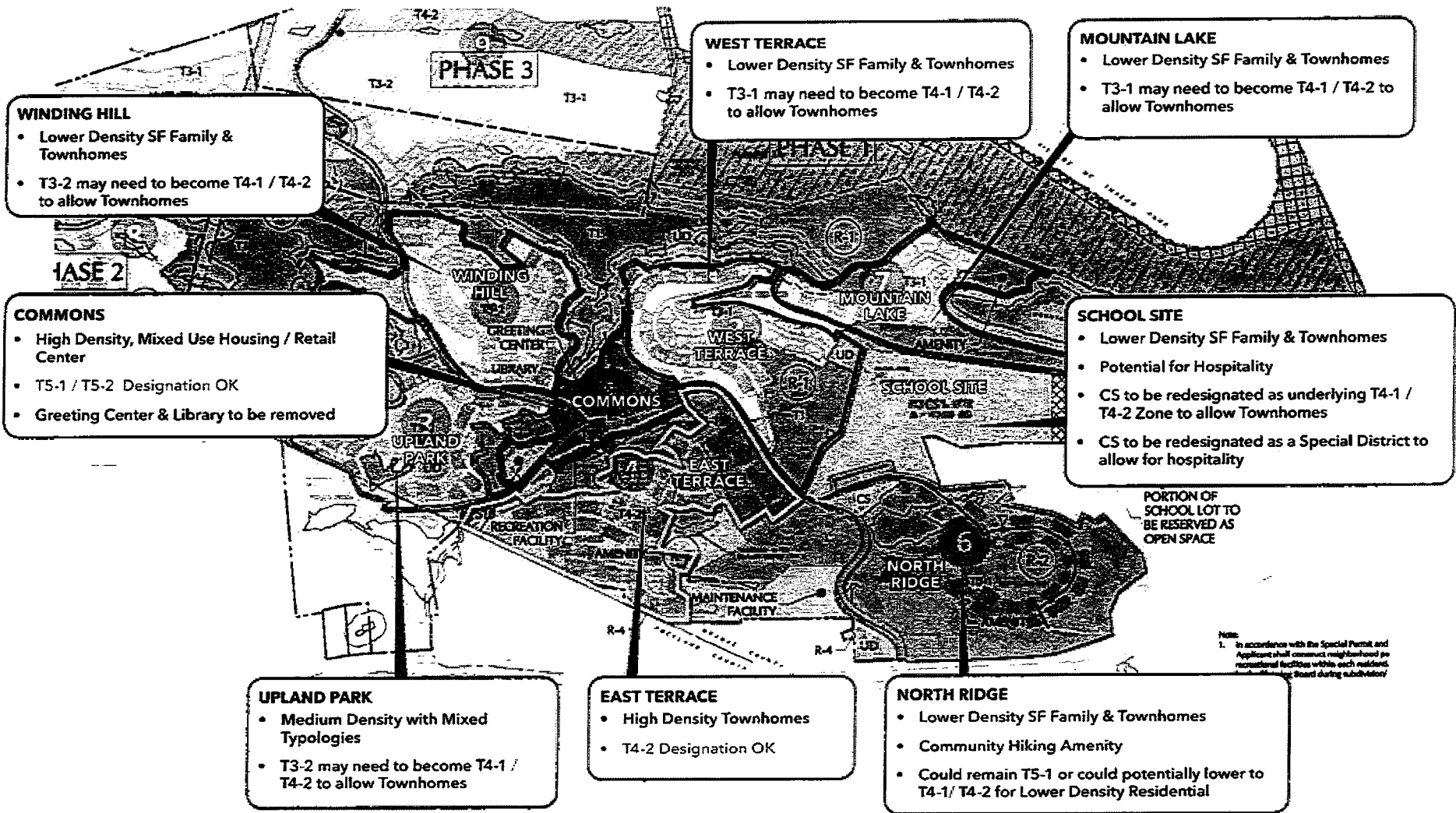
PREPARED BY:

LEGGETTE, BRASHEARS & GRAHAM, INC.  
Professional Ground-Water and Environmental Services  
6 Arrow Road, Suite 103  
Ramsey, New Jersey  
(201) 818-0700

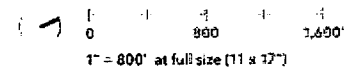
DATE: 5/2/08

FILE:TUXEDO/BLASTING 1500 DRAWN BY: JAM CHECKED BY: MA FIGURE: 1





# Regulating Plan Recommendations



## Short Environmental Assessment Form

### Part 1 - Project Information

#### Instructions for Completing

**Part 1 – Project Information.** The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

<b>Part 1 – Project and Sponsor Information</b>			
Tuxedo Farms (also known as Tuxedo Reserve)			
Name of Action or Project: Tuxedo Farms amendment of Special Permit by Town Board of Tuxedo			
Project Location (describe, and attach a location map):			
Brief Description of Proposed Action: Proposed amendment of 2016 Special Permit, Tuxedo Farms			
Name of Applicant or Sponsor: Tuxedo Reserve Owner, LLC		Telephone: 212-801-1160	
		E-Mail: ggushee@related.com	
Address: c/o The Related Companies, 30 Hudson Yards			
City/PO: New York		State: NY	Zip Code: 10001
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.			NO <input checked="" type="checkbox"/>
			YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval:			NO <input checked="" type="checkbox"/>
			YES <input type="checkbox"/>
3. a. Total acreage of the site of the proposed action?		various acres	
b. Total acreage to be physically disturbed?		various acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		various acres	
4. Check all land uses that occur on, are adjoining or near the proposed action:			
<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban)			
<input checked="" type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other(Specify): <u>Recreation/Amenity</u>			
<input type="checkbox"/> Parkland			

5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Consistent with the adopted comprehensive plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?	NO	YES	
If Yes, identify: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. a. Will the proposed action result in a substantial increase in traffic above present levels? (traffic impacts were previously evaluated as part of the Special Permit)	NO	YES	
b. Are public transportation services available at or near the site of the proposed action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements?	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies: _____ _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water: _____ _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment: _____ _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? (impacts were previously evaluated as part of the Special Permit)	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____			
Any wetland disturbance will be done in accordance with previously approved plans for the project _____			



14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

Shoreline  Forest  Agricultural/grasslands  Early mid-successional  
 Wetland  Urban  Suburban

15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? (refer to previous studies prepared for the project)

	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>

16. Is the project site located in the 100-year flood plan?

	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

17. Will the proposed action create storm water discharge, either from point or non-point sources?  
If Yes,

a. Will storm water discharges flow to adjacent properties?

	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?

	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes, briefly describe:  
All development runoff will flow through stormwater management practices to existing wetlands. These will flow through culverts beneath Route 17 to the Ramapo River

18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?  
If Yes, explain the purpose and size of the impoundment:

Above and below ground stormwater practices to control the rate of runoff from the site

	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>

19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?  
If Yes, describe:


A small historic landfill has been identified in the North Ridge neighborhood. It has been closed and capped in accordance with the NYSDEC guidelines.

	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>

20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?  
If Yes, describe:

	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE**

Applicant/sponsor/name: Tuxedo Reserve Owner LLC Date: 9/23/21  
Signature: By Greg Gysler  Title: VP

**PRINT FORM**