



Appellee-Applicant R.E. Tucker, Inc. owns what is now an approximately 53-acre parcel of land near and west of the Dog River and east of Chandler Road in the Rural Residential (R-40) zoning district of the Town of Berlin. Chandler Road runs in an approximately north-south direction from Route 12 in Riverton, where Route 12 loops to the east to follow the bend of the Dog River. Easterly of the project property, the railroad tracks run close to the east side of the river. Chandler Road runs at an elevation of approximately 150 to 180 feet above the elevation of the river.

Less than a mile south of the intersection of Chandler Road with Route 12 and approximately 1/4 mile north of the entrance to Appellee-Applicant's property, a short roadway known as Lovers Lane runs from Chandler Road downhill to the east, over a one-lane bridge and over the railroad tracks to connect to Route 12. Lovers Lane is paved in the area of the bridge but unpaved as it approaches Chandler Road. The bridge is capable of handling a loaded 14-cubic-yard gravel truck. Around seven residences are located along Lovers Lane.

The Nelson property is located immediately to the south of Appellee-Applicant's property, on the same side of Chandler Road. Chandler Road continues to the south into the Town of Northfield, where it makes a T-intersection with Cox Brook Road, which to the east has an additional access to Route 12 over a small covered bridge and to the west is

a route to Moretown and the Mad River Valley.

The posted speed limit on Chandler Road is 35 miles per hour. Gravel trucks operating under a special town permit for Chandler Road are limited to a 25 or 30-mile-per-hour speed limit. Empty trucks traveling to the pit from the north via Chandler Road have been observed to exceed that speed limit, as do other vehicles unrelated to the pit's operations. While Appellee-Applicant's own drivers are generally courteous and observe the limits, other drivers obtaining materials from the project property may not know to do so and/or may not do so.

Section 1127 of Title 23 of the Vermont Statutes Annotated requires that when operators of motor vehicles on public highways approach a horse-drawn vehicle or a horse being ridden, they are required to "operate the vehicle in such a manner as to exercise every reasonable precaution to prevent the frightening of such horse . . . and to insure the safety and protection of the person riding or driving."

Appellants' horse riding, boarding and training establishment is located on Chandler Road between Route 12 and Lovers Lane. Appellants' property is 100 acres in area, of which approximately 15 to 20 acres lies east of Chandler Road but only the level area near the road is suitable for Appellants' horse-related improvements, which include both indoor and outdoor riding arenas. Appellants' riders also use Chandler Road for riding or to access another road and trails leading off to the west from Chandler Road.

The extraction of earth resources is an allowed conditional use in any zoning district within the town, under §4.3 of the Zoning By-laws.<sup>1[1]</sup> An approximately 45-acre portion of the site was used as a sand and gravel pit for many years prior to the adoption of zoning in Berlin, with a working area of approximately 40 to 43 acres exposed. Appellee-Applicant's application and witnesses describe the existing operation as operating under some existing municipal zoning approvals,<sup>2[2]</sup> as well as under a state land use (Act 250 permit) allowing the extraction of up to 20,000 cubic yards of material a year. The existing municipal permit does not require any reclamation of the site.

The present hours of operation are from 7:00 a.m. to 5:30 p.m. Monday through Friday, and 7:00 a.m. to 12:00 noon on Saturday, with an allowance of five emergency Sunday days of operation annually. Appellee-Applicant does not propose any change to these hours of operation. While the operation is not restricted seasonally, most of the material is distributed from the project property from mid-spring through the summer

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<sup>1[1]</sup> The argument that earth extraction is a non-conforming rather than an allowed use, because it is not listed in the district, would make surplusage of §4.3. Rather, that section recognizes that deposits of earth resources may be found in any zoning district, depending on the local geology, and that their extraction may therefore be allowed if the extraction operation meets both the conditional use standards and the additional standards of §4.3, and subject to any necessary conditions allowed to be imposed under that section.

<sup>2[2]</sup> No exhibit was presented containing the existing approval; neither was there any evidence of the absence of such existing zoning approval.

months to mid-fall.

The business uses two 3-axle, 14-cubic-yard trucks owned by Appellee-Applicant to deliver material to customers; these trucks return empty to the project site. Appellee-Applicant's business owns other trucks at other nearby locations that may be brought to the project site for use when transporting material to larger job sites. Customers may also pick up material at the site in their own vehicles, which may range in size from passenger vehicles and pick-up trucks to commercial size trucks. Tractor-trailer vehicles are not permitted except to transport machinery to or from the project site. If only 14-cubic-yard trucks are used, removal of the allowed 20,000 cubic yards of material in a year would take approximately 1400 truck trips.

Of the material removed from the site, only up to approximately 5% is transported south on Chandler Road to the Mad River Valley via Cox Lane. Approximately 45% to 50% is transported to the north on Chandler Road to Route 12 north; approximately 45% to 50% is transported to the south via Lovers Lane to Route 12 south. The empty trucks return on the same routes. Approximately 80% to 90% of the volume of the hauling is done by Appellee-Applicant's trucks. While the material may be transported to different customers over time, the percentages in each direction have remained stable and would be expected to be the same under the current proposal. Accordingly, approximately 700

truck trips per year<sup>3[3]</sup> associated with Appellee-Applicant's project would use the portion of Chandler Road running by Appellants' property.

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<sup>3[3]</sup> Assuming for the purposes of estimation that these take place during a seven-month period from mid-spring to mid-fall, 100 truck trips per month, or approximately five full trips out and five empty return trips per working day pass by Appellants' property. However, there are no limits to the number of trips per any given day or week, and if smaller vehicles are used, the number of truck trips increase accordingly. In the summer, approximately 20 to 25 truck trips per day use Chandler Road

Appellee-Applicant has acquired an additional 7½-acre parcel southwesterly of and adjacent to the 45-acre property covered by its existing permits. The additional parcel is bounded on the west by Chandler Road and on the south by the Nelson property. Because under §4.3 the new or expanded or resumed extraction of earth resources is a conditional use in any district, Appellee-Applicant may apply for conditional use approval of an earth extraction operation on any portion of the new parcel as well as on the 45-acre parcel. It therefore does not fall under the nonconforming use analysis of §3.11 or In re Casella Waste Management, Inc., 2003 VT 49, 175 Vt. 335 (2003).

In the present application as revised during trial, Appellee-Applicant has applied for conditional use approval of the following two changes to its existing operations: to allow it to conduct operations on 3½ acres<sup>4[4]</sup> of the newly-added property, and to allow the drilling and blasting of rock on the combined property.

Appellee-Applicant intends to continue its existing operations, that is, the already-permitted sand and gravel extraction and the already-permitted crushing, washing and sorting of the extracted material. Crushed rock (with the individual pieces having at least three facets or flat surfaces) has a higher value as aggregate than does rounded rock or gravel of the same size. Appellee-Applicant therefore already conducts a crushing

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<sup>4[4]</sup> The 3½ acre portion of the new property on which operations are proposed is screened from the Nelson property by a wooded knoll of land that is proposed to be left in place by the present application.

operation on the site to process the natural (so-called 'bank run') gravel into that form, using three gravel crushers, a wash plant, and appropriate sedimentation basins. Appellee-Applicant also operates four bucket loaders on site to remove materials from the working face and fill the crushers and load trucks. A bulldozer or backhoe may also be used from time to time to remove topsoil from a new area or to manage the stockpiling of materials on site.

If all the crushing equipment were operating at the same time, it would produce a noise level of approximately 92.5dBA at a distance of ten feet from the source, which attenuates due to distance to 68.5 dBA at a distance of 160 feet from the source and to 62.5 dBA at a distance of 320 feet from the source, which is a level equivalent to that of normal conversation. The operation will therefore be able to meet a standard of less than 70dBA at the property boundary and 50 dBA at the existing neighboring residences, simply based on the placement of the location of this equipment within Area A.

The existing sand and gravel extraction operation has left portions of the working area of the site with outcroppings of exposed ledge. As additional sand and gravel is removed from the existing working area, more ledge will be exposed, leaving a rough surface described as a 'moonscape', unsuitable for later use for other purposes. After all the loose sand and gravel has been removed from the working area, unless the ledge outcroppings are also removed, it will not be possible to reclaim the area for any

reasonable future potential use requiring a flat or gently rolling surface.

As shown on Exhibit 2, as modified by Exhibit 25, Appellee-Applicant proposes to divide the working area of the property into three areas, labeled Areas A, B and C. Area A is the 10.5-acre central area of the pit; Area B is a 7-acre area northerly of Area A, and Area C is the remaining area southerly of Area A, including the 3½-acre portion of the new property proposed to be added to the working area.

Appellee-Applicant proposes to drill and blast (quarry) the remaining exposed areas of ledge in Areas A and B, to reclaim Area B, and to excavate and drill and blast in Area C, in the following sequence. If all the material were to be blasted (that is, if none of the removed material were sand and gravel), a maximum of approximately 40 hours of drilling per year and a maximum of five half-second blast shots per year would be necessary to quarry the allowed 20,000 cubic yards per year. Appellee-Applicant proposes to limit the drilling and blasting to no more than 20,000 cubic yards per year, as well as abiding by the existing permit limitation of no more than that amount of material removed from the project site per year (that is, allowing for some stockpiling of excavated material on site).

Prior to drilling and blasting, Appellee-Applicant proposes to conduct a pre-blast survey as allowed by owners of neighboring properties (see Exhibit 16), and to conduct the blasting as shown on Exhibit 20, which will prevent excess ground vibration that might affect any neighboring water wells.

The noise from the drilling equipment is at its maximum when the drill bit remains above ground and just as it engages with the rock. It diminishes within a few seconds as the drill bit moves below ground or into the material. It attenuates to 71dBA at a distance of 150 feet opposite from the drill bit, and to 70 dBA at that distance on the same side of the drill bit. Because sound waves, as pressure waves, are propagated along a line of sight, as long as the drilling is below the rim of the pit and not within the light of sight from the property boundary, it would not increase the decibel level of the operation at the property boundary or at any residence beyond the required standard. Should any drilling be necessary at the top or rim of the pit, additional physical barriers would need to be put into place to meet the required standard. In addition, because the drilling and blasting is proposed to take place only during a maximum of five weeks within the period from November 1 through April 30, it will minimize any effect on the neighbors' experience of outdoor activities on their properties. Similarly the noise of blasting is muffled by the ground and will be of very short duration with a maximum of five half-second blast shots in a year within the five-week winter period.

Appellee-Applicant proposes to commence drilling and blasting operations in Area A, and to continue to conduct the crushing, washing and stockpiling operations in Area A, in the area in which the portable crusher is now located. Area A is open at present, and will take approximately two years of extraction to reach its proposed final contours. Sand

and gravel extraction may continue in Areas B and C, but is not proposed to extend onto the 3½ acres of the new portion of the property until Area B has been reclaimed.

Appellee-Applicant proposes then to reclaim the western bank of Area A, closest to Chandler Road, and to reclaim any areas along the easterly side of Area A not needed for the overall operation of the site, before commencing drilling and blasting operations in Area B. During operations in Areas B and C, the remainder of Area A is proposed to remain open and to contain the crushing, washing, sorting and stockpiling functions of the overall operation, as well as the office. This is essentially the area in which those operations are conducted at present.

In addition, the slope at the northerly limit of Area B is proposed to be reclaimed prior to commencing drilling and blasting operations in Area B. After reaching the proposed final contours of Area B, Appellee-Applicant then proposes to reclaim Area B, except for the access road running through Area B, within 12 months of beginning any drilling and blasting in Area C.

The quarrying operation in Area C is proposed to commence at the exposed faces in the existing pit, with benching of the quarry face to be maintained as part of the continuing operation. Any proposed screening and chain link safety fencing at the top of the pit is to be installed prior to the removal of any vegetation for the expansion of the working face of the pit. Reclamation of final grades in Area C is proposed to occur as

those grades are reached, concurrently with the continuation of quarrying.

An estimated 300,000 to 500,000 cubic yards of sand and gravel remain on the site for excavation, which would take 15 to 25 years at the present rate of extraction, even without approval of the proposed drilling and blasting. An estimated 900,000 cubic yards of rock, including the ledge outcroppings, exist within the proposed project area for removal before reaching the final reclamation contours.

As well as the reclamation plan and the hours of operation and extraction rate described above, Appellee-Applicant proposes to comply with the following conditions, taken primarily from the conditions imposed by the DRB, as revised in testimony at trial:

Noise limitation: Operation of the project is to be conducted so that the maximum noise level at any property line does not exceed 70 dBA, and so that the maximum noise level at 'places of usual occupancy' on neighboring properties does not exceed 50 dBA.

Duration and seasonal limitations: The DRB imposed a duration of four years from the first spring following receipt of approval of all necessary state and local permits and approvals, subject to renewal, which Appellee-Applicant now proposes to accept as a condition, as it did not itself appeal that condition to seek a permit duration the same as the Act 250 permit. Drilling and blasting shall not exceed a total of five weeks within the time period between November 1 through

April 30 of each year. A pre-blast survey must be performed on all consenting abutting properties and neighboring properties with structures or wells within 500 feet of the project property boundaries, and shall be filed with the DRB prior to initial blasting. The owners of all abutting and neighboring properties shall be notified in writing at least two weeks in advance of the commencement of blasting each year.

Safety: Before work begins in Area C, a guardrail along Chandler Road is to be installed in accordance with Vermont Agency of Transportation (VTTrans) standards, from a point fifty feet northerly of the southerly boundary of the Miller property to the southerly limit of the project's excavation. In addition, a six-foot-high chain link fence and warning signs is proposed to be installed between Chandler Road and the edge of the steep quarry faces.<sup>5[5]</sup>

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<sup>5[5]</sup> For the same reason, we will require that the fence be extended around the southerly edge of the excavation, between the southerly property boundary and any steep quarry faces.

Interested Parties Nelson are not adversely affected by the existing operations on the project site, either at their house, on their property surrounding their house, or at a so-called treehouse constructed on stumps in the woods to the east and slightly to the north of their house. Because the 3½ acre portion of the new property on which operations are proposed is screened from the Nelson property by a wooded knoll of land that is now proposed to be left in place by the present application, with the changed area of operation they will continue not to be adversely affected at their house or surrounding property. The proposed drilling and blasting will not adversely affect them, as it will not be in their line of sight of the operation below the cliff face. Although a line of sight may develop from the treehouse into a small portion of the westerly area of Area C, the treehouse is not a residence and is not used appreciably during the time of year when drilling and blasting will be allowed to occur. Nor should the value of the Nelson property be adversely affected, as compared with its value as already affected by Appellee-Applicant's present operation. The two to five blast events a year, occurring in a limited period of five weeks during the winter months, will not affect the perception of the Nelson property. The Nelson property is a beautiful residential property located adjacent to an existing earth extraction operation operating at a rate of 20,000 cubic yards a year, and it remains so.

Horses are a herd animal with a strong flight instinct when faced with an

unexpected and frightening stimulus, which may range from the bang from an empty truck or boat trailer going over a bump, to a flapping piece of cloth or roofing material. More competitive horses, such as some of those boarded at Penmar Farm, tend to be more highly strung. To learn to ride safely, both the rider and the horse must be trained to the extent possible so that the rider's direction to the horse will override the horse's instinct to bolt. Riding on a public roadway that has vehicular traffic is less safe than riding on private trails or in an arena, and is only recommended after suitable training.

There is no question that Appellants' horse farm and training establishment has been affected by existing traffic on Chandler Road, and in particular by empty trucks traveling to Appellee-Applicant's site, which may produce loud bangs when the road surface is irregular. The drivers of Tucker trucks are more familiar with the potential for problems and therefore tend to drive more slowly and more courteously than drivers of customers' trucks necessarily drive. Traffic from speeding passenger vehicles unrelated to Appellee-Applicant's operation is also a problem. Drivers in general are not familiar with the provisions of 23 V.S.A. §1127, requiring them to slow and yield when horses are using the road. The routing of all empty trucks via Lovers Lane would reduce Appellants' problem but could increase problems on Lovers Lane, especially when conditions are wet or icy, as Lovers Lane is a steeper unpaved roadway and the left turn onto Chandler Road has problems with visibility, especially related to a heavy, slow-moving vehicle such as a

gravel truck.

However, nothing about the application before the Court in the present appeal, which is limited to the addition of 3½ acres to the working area of the pit and the production of quarried material as well as 'bank run' sand and gravel, will affect or change the existing effect<sup>6[6]</sup> of the traffic related to Appellee-Applicant's existing operation.

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<sup>6[6]</sup> In the event that an application is filed that opens up the overall operation of the project site to regulatory scrutiny, the potential parties (that is, at least Appellants, the Town, and Appellee) may wish to discuss whether any additional arrangements could be agreed to ameliorate the situation. They may wish to enter into a mediation session in advance of such a regulatory proceeding simply to explore the alternatives, which may include extra grading of the road or paving of the southbound lane as it passes Appellants' property, signs warning not only of horses but that state law requires vehicles to slow for horses, return of empty vehicles on Lovers Lane during certain seasons of the year such as summer when dust on Chandler Road may be an additional problem (see letter from town road foreman contained in Exhibit 18). Please note that in any future appeal the Court may consider requiring mediation of such issues among the potentially interested parties.

Under §4.3 of the Zoning By-laws, the extraction of earth resources is allowed in any zoning district in the Town of Berlin, if it meets the standards for conditional use approval in §5.6 and also meets the additional standards for extraction of earth resources in §4.3(B)(5) and (6). We have grouped the standards together as follows for ease of reference. As Appellee-Applicant is operating and is entitled to continue operating under its existing approvals, the appropriate analysis for this appeal is whether the proposed changes in operation would adversely affect any of the applicable standards, as compared with the existing operation as now allowed.

Because the amount of material removed from the project site will not change, and the percentages of direction of travel of the trucks will not change<sup>7[7]</sup>, the proposal to add blasted rock to the Appellee-Applicant's sand and gravel extraction operation (and to extract from an additional 3½-acre portion of the property) will have no effect on the

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<sup>7[7]</sup> In order to insure that this remains the case, we will impose the following conditions: (1) that Appellee-Applicant send no more than 50% of its truck trips going and returning via Chandler Road to the north; (2) during the first full year of operation under this approval, that Appellee-Applicant record the approximate volume of material and direction of travel of each customer's pick-up of material from the project site, and report that record to the Town; and (3) that Appellee-Applicant instruct its drivers and inform its customers to fasten tailgates before traveling empty on Chandler Road, to avoid the use of so-called 'jake' brakes in the vicinity of Penmar Farm, and to inform them of the requirements of 23 V.S.A. §1272 regarding operation in the vicinity of horses.

adjacent street network (§5.6(A)(1)) or on traffic on roads and highways in the vicinity (§5.6(A)(10)), and will not cause a hazard to public health and safety (§4.3(B)(5)), with the guardrails and fencing described above.

With the revised working area retaining the wooded knoll adjacent to the Nelson property, and following the proposed pre-blast survey, blasting plan, noise limitations, hours of operation, and seasonal restrictions on the drilling and blasting, the proposal to add blasted rock to the Appellee-Applicant's sand and gravel extraction operation and to extract from an additional 3½-acre portion of the property will have no adverse effect on the essential character of the area and neighboring uses (including existing uses), §5.6(A)(12), nor will it adversely affect neighboring properties or property values. §4.3(B)(6).

With the blasting plan and pre-blast survey as proposed, and a peak particle velocity (PPV) limit of 1.0 inch per second, the application before the court will not adversely affect any groundwater supplies. §4.3(B)(6)

Under §§4.3(C) and 5.6(B), in granting conditional use approval for the extraction of earth resources, the DRB, and hence this Court in this de novo proceeding, may impose reasonable conditions and safeguards as necessary to implement the purposes of the zoning regulations, including those specifically listed. Based on the foregoing, it is hereby ORDERED and ADJUDGED that Appellee-Applicant's application for conditional use approval is GRANTED, with conditions as stated in the application as revised during trial and as discussed and imposed in this decision. Appellee-Applicants shall prepare a

judgment order containing all conditions and references to exhibits, approved as to form by  
the other parties.

Dated at Berlin, Vermont, this 17<sup>th</sup> day of October, 2005.

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Merideth Wright  
Environmental Judge

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