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DEPARTMENT OF PLANNING
STAFF REPORT

BOARD OF SUPERVISORS PUBLIC HEARING

DATE OF HEARING: April 12, 2010
CMPT 2009-0006, SPEX 2009-0020, SPEX 2009-0033, SPMI 2009-0009
LOUDOUN WATER – WATER STORAGE
DECISION DEADLINE: April 20, 2010¹
ELECTION DISTRICT: Broad Run PROJECT PLANNER: Marchant Schneider

EXECUTIVE SUMMARY

Loudoun County Sanitation Authority (d/b/a/ Loudoun Water) has submitted Special Exception and Commission Permit applications to permit conversion of Luck Stone Quarry “A” to a public water storage tank in the MR-HI (Mineral Resources – Heavy Industrial) zoning district. Because part of the quarry lies within the 100-year floodplain, the Applicant has also requested a Special Exception to permit operation of a public utility within the Floodplain Overlay District (FOD). The applicant has also submitted a Minor Special Exception application to substitute existing vegetation for the minimum Type 4 Buffer Yard required for public utilities. Quarry “A” will be converted to a water storage tank following completion of mining operations (2017-2020). A water intake at River Creek will draw water from the Potomac River during times of normal to high water flow and then pump the raw water to the quarry. Water will be drawn from the quarry as necessary to meet the demands of the Central Water Supply System and treated at a proposed water treatment facility east of Goose Creek (SPEX 2009-0021) prior to being pumped into the water distribution system.

The area of the proposed special exceptions is an approximately 35 acre portion of an 80.61 acre parcel. The area is governed by Revised General Plan policies for the Suburban Policy Area (Ashburn Community) which designate this area for Extractive Industry uses. The use also requires a Commission Permit in accordance with Section 6-1101.

¹ The CMPT application requires action by the Board within 60 days of Commission approval, which is April 23, 2010.

RECOMMENDATIONS

Planning Commission

The Planning Commission approved the Commission Permit and recommended approval of the Special Exception applications on February 22, 2010 (8-1, Robinson opposed). Under the Revised 1993 Zoning Ordinance, a Minor Special Exception to substitute existing vegetation for the minimum Type 4 Buffer Yard required for utility facilities does not require a public hearing or recommendation by the Planning Commission (Section 5-621(B)).

Staff Recommendation

Staff concurs with the Planning Commission approval and recommendation. The proposed public water storage facility is consistent with the existing land use policies of the Revised General Plan (Suburban Policy Area). The facility is an innovative and sensitive reuse of an extractive industry use which will add significant capacity to Loudoun County's water supply. Staff further recommends approval of the proposed Minor Special Exception. The use of existing mature tree stands and vegetation improves upon the existing buffering and screening requirements of the Zoning Ordinance for public utilities.

SUGGESTED MOTIONS

1. I move that the Board of Supervisors forward CMPT 2009-0006, SPEX 2009-0020, SPEX 2009-0033, and SPMI 2009-0009, Loudoun Water – Water Storage, to the April 20, 2010 Business Meeting for action.

OR,

- 2a. I move to suspend the rules;

and

- 2b. I move that the Board of Supervisors ratify the Planning Commission approval of CMPT 2009-0006, Loudoun Water – Water Storage;

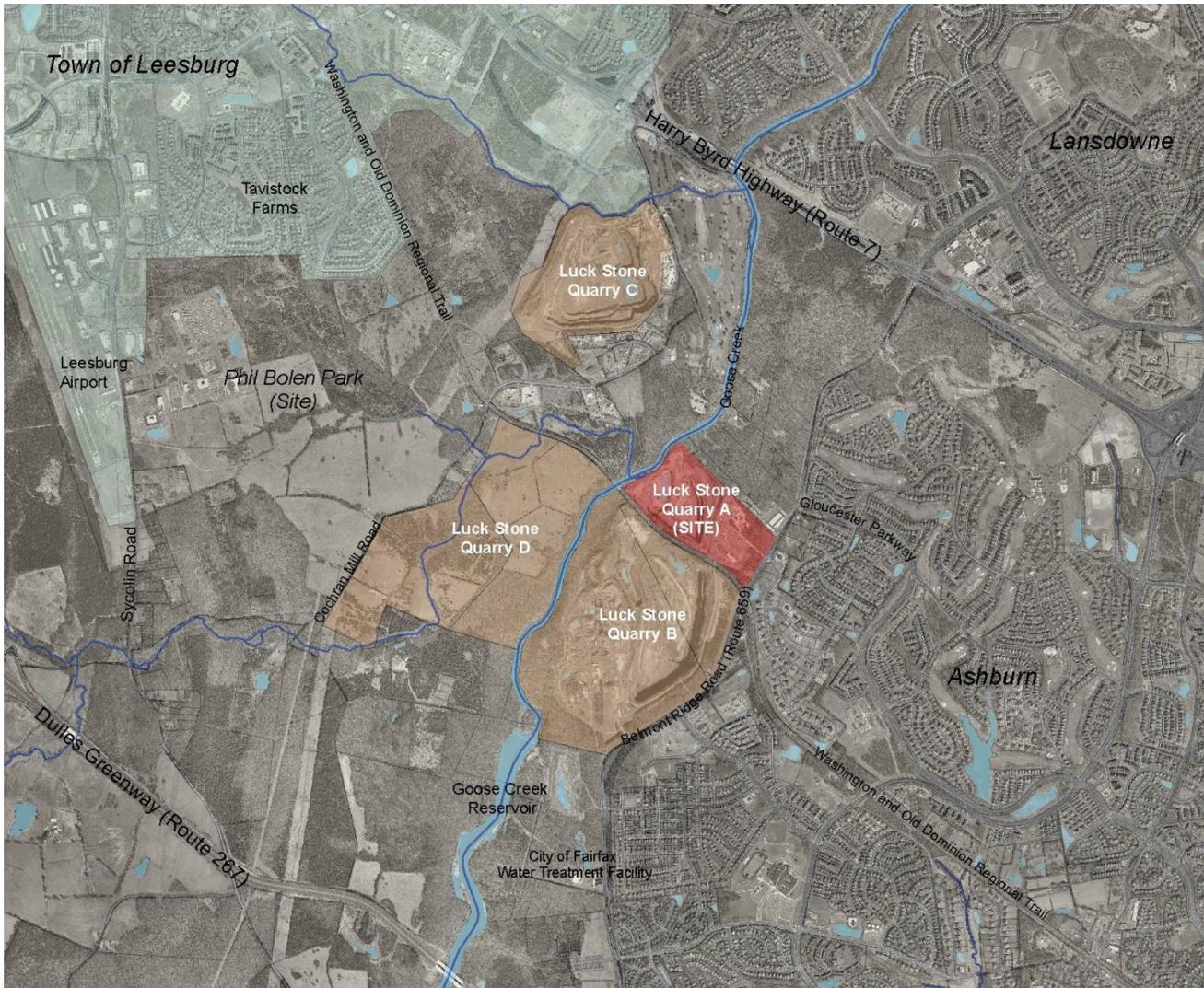
and

- 2c. I move that the Board of Supervisors approve SPEX 2009-0020, SPEX 2009-0033, and SPMI 2009-0009, Loudoun Water – Water Storage, subject to the Conditions of Approval dated March 30, 2010, and based on the Findings listed in the April 12, 2010, Board of Supervisors Public Hearing Staff Report.

OR,

3. I move an alternate motion.

VICINITY MAP



Directions:

From Leesburg, take Route 7 east to Belmont Ridge Road (Route 659). Travel south on Belmont Ridge Road. The subject property is located on the west side of Belmont Ridge Road, about 0.5 miles south of the intersection of Belmont Ridge Road (Route 659) and Gloucester Parkway at 42987 Jack Pit Lane, Ashburn.

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I. APPLICATION INFORMATION

APPLICANT(S)	Loudoun County Sanitation Authority (d/b/a/ Loudoun Water) Dale C. Hammes, General Manager 44865 Loudoun Water Way Ashburn, VA 20146 571-291-7700 dhammes@loudounwater.org
REPRESENTATIVE(S)	McGuire Woods LLP Jonathan P. Rak, Attorney 1750 Tysons Boulevard, STE 1800 McLean, VA 22102-4215 703-712-5411 jrak@mcguirewoods.com
APPLICANT REQUEST	A Special Exception (SPEX) and Commission Permit (CMPT) for water storage tank use per Sections 3-1004(CC) and 6-1101(A) following conclusion of quarry operations. A Special Exception to allow public utility in the floodplain pursuant to 4-1506(D). A Minor Special Exception to modify Section 5-621(B) to substitute existing vegetation for the minimum Type Four (4) Buffer Yard required for public utilities pursuant to Section 5-600. The application was accepted on August 29, 2009.
LOCATION	West side of Belmont Ridge Road (Route 659) about 0.5 miles south of the intersection of Belmont Ridge Road (Route 659) and Gloucester Parkway at 42987 Jack Pit Lane, Ashburn.
TAX MAP/PARCEL #	Portion of Tax Map /61/////////29/ PIN 114-25-6156-000
ZONING	- Revised 1993 Zoning Ordinance - MR-HI (Mineral Resource – Heavy Industrial) - Quarry Notification (QN) Overlay District - Floodplain Overlay District (FOD)
ACREAGE OF SITE	34.71 acre portion of an 80.61 acre parcel.

SURROUNDING ZONING/ LAND USES

	ZONING	PRESENT LAND USES
NORTH	MR-HI	Industrial / Residential
SOUTH	MR-HI	Heavy Industrial / W&OD Trail
EAST	R-1	Residential
WEST	MR-HI & PDH-4	Heavy Industrial / Commercial

II. REFERRAL AGENCY COMMENT SUMMARY

TOPIC / ISSUE AREA	ISSUES EXAMINED AND STATUS
Land Use	<ul style="list-style-type: none"> ○ (SPEX Application) Consistency with land use policies of the <u>Revised General Plan (RGP)</u> and the <u>Revised Countywide Transportation Plan</u>. Status: No Issue. Water storage tank consistent with Extractive Industry use designation. ○ (Commission Permit). General location, character, and extent of public utility to be in substantial conformance with land use policies of the <u>Revised General Plan (RGP)</u> and <u>Revised Countywide Transportation Plan</u>. Status: No issue. Water storage tank consistent with planned land use designation (Extractive Industry). ○ Demonstrate commitment to withdrawal water from Potomac River during normal to high flows to avoid exacerbating drought conditions. Status: No Issue. The Potomac Low Flow Allocation Agreement establishes controls for water withdrawal. Proposal also subject to coordination/permitting requirements of the Interstate Commission on the Potomac River Basin (ICPRB), United States Army Corp of Engineers (USACE), and Virginia Department of Environmental Quality. ○ Depict limits of floodplain on the plat so that the floodplain accurately reflects the topography and hydrology of the area. Status: Resolved. Condition of Approval recommended and agreed to by Applicant to provide floodplain study at site plan (Condition 4). ○ Coordinate with Luck Stone Corporation, Parks, Recreation, and Community Services (PRCS), and the Northern Virginia Regional Park Authority (NVRPA) regarding overlooks to the reservoir from surrounding trails to include interpretive signage regarding past history and reclaimed use. Status: No Issue. Change in elevation, existing/proposed vegetation, and security/safety considerations preclude overlooks to provide visual access to the property. ○ Provide indigenous vegetation within special exception limits not inundated with water in order to supplement local habitat, protect water supply, and assist with restoration of quarry site. Status: Condition of approval recommended and agreed to by Applicant (Condition 6). Existing vegetation to be supplemented at site plan, Virginia Dept. of Mines, Minerals, and Energy will require reclamation of quarry upon conclusion of mining operations to include reforestation / soil conditioning, etc. ○ Avoid disturbance of steep and moderately steep slopes. Status: Resolved. Application does not propose impact steep slopes.

**CMPT 2009-0006, SPEX 2009-0020, SPEX 2009-0033, SPMI 2009-0009
 LOUDOUN WATER – WATER STORAGE
 BOARD OF SUPERVISORS PUBLIC HEARING
 April 12, 2010**

TOPIC / ISSUE AREA	ISSUES EXAMINED AND STATUS
Environmental	<ul style="list-style-type: none"> ○ Reforest areas adjacent to Goose Creek in a manner that does not interfere with existing power line easements and road access. Status: Resolved. Condition of Approval recommended and agreed to by Applicant (Condition 6).
Zoning	<ul style="list-style-type: none"> ○ Special Exception necessary for construction of a public utility within FOD (Section 4-1506). Status: Resolved. Special Exception request submitted (SPEX 2009-0033). ○ Minor Special Exception necessary for elimination of required Type 4 Buffer yard for public utilities (Sections 5-600, 5-621). Status: Resolved. Minor Special Exception request submitted (SPMI 2009-0009). ○ Ensure existing vegetation will continue to meet or exceed Type 4 buffer yard standards when the use is established in the 2017-2020 timeframe. Status: Resolved. Condition of approval recommended and agreed to by Applicant to establish equivalent existing tree canopy (7 acres) prior to first site plan for the special exception use (Condition 6).
Transportation	<ul style="list-style-type: none"> ○ Confirm 60-foot right-of-way dedication for Belmont Ridge Road (Route 659). Status: No Issue. Condition 5, SPEX 1990-0019, Luck Stone, requires dedication of noted right-of-way. ○ Relocation of Jackpit Lane to intersect Builders Lane rather than directly to Route 659. Status: No Issue. VDOT Route 659 Project # 0659-053-262 relocates Jackpit Lane to Builders Lane.
Neighboring Jurisdictions (Town of Leesburg)	<ul style="list-style-type: none"> ○ Commission permits needed where the raw water main is constructed within Town of Leesburg boundary. Status: No Issue. Commission permits to be separately submitted to Town of Leesburg.
Parks and Recreation (PRCS, NVRPA), Goose Creek Scenic River Advisory Committee (GSRAC)	<ul style="list-style-type: none"> ○ Dedicate 300-foot Permanent Conservation Easement adjacent to Goose Creek for a linear park or 4-foot wide natural trail within a 30-foot easement within the 300-foot buffer. Provide pedestrian connections to W&OD Trail. Status: No Issue: Much of 300-foot buffer is open quarry and cannot be dedicated. Remaining areas outside quarry wall outside limits of special exception area and not under control of Applicant. PRCS to separately contact landowner (Luck Stone) regarding easement dedication and trail construction. ○ Identify potential recreational opportunities. Status: No Issue. Limited access, steep slopes associated with the quarry wall, low elevation of water storage surface below quarry wall, and safety/security concerns preclude recreational use. ○ Access to storage facility not permitted via existing driveway crossing of W&OD. Status: Resolved. Condition of Approval recommended and agreed to by Applicant (Condition 8). ○ Retain and supplement existing vegetation along W&OD Trail Park Boundary and Scenic Creek Valley Buffer. Status: Resolved. Condition of Approval recommended and agreed to by Applicant (Condition 6).

TOPIC / ISSUE AREA	ISSUES EXAMINED AND STATUS
Emergency Services	○ Availability of Emergency Services. Status: No issue.
County Attorney	○ Development conditions, review and approval to legal form. Status: Complete
Disclosure of Real Parties	○ Received, dated January 13, 2010

POLICY OR ORDINANCE SECTIONS SUBJECT TO APPLICATION
<u>Revised General Plan</u>
Chapter 2 / Water and Wastewater Policies
Chapter 3 / Parks, Recreation, and Community Services
Chapter 3 / General Public Facilities Policies
Chapter 5 / Mineral Resource Extraction Policies
Chapter 5 / Green Infrastructure
Chapter 5 / River and Stream Corridor Resources
Chapter 5 / Scenic River and Potomac River Policies
Chapter 5 / Surface Water Policies
Chapter 5 / Steep Slopes and Moderately Steep Slope Policies
Chapter 6 / General Industrial Policies
Chapter 6 / Suburban Community
Chapter 7 / Planned Land Use Map
<u>Revised 1993 Zoning Ordinance</u>
Section 3-1000: Mineral Resource – Heavy Industrial
Section 4-1506: Floodplain Overlay District, Special Exception Uses
Section 6-1100: Commission Permit
Section 6-1310: Special Exception Issues for Consideration
Section 5-621: Public Utilities Standards

III. PLANNING COMMISSION REVIEW AND RECOMMENDATION

The Planning Commission held a public hearing for the above-mentioned applications on February 22, 2010. No members of the public spoke regarding the applications.

Commissioners questioned the timing of the applications given the projected development window (2017-2020) and whether water stored in the facility would be targeted for reclaimed wastewater use. The Applicant responded that the entitlement to the use is necessary prior to requests for various state and inter-jurisdictional permits necessary to draw water from the Potomac River and for development of the associated water storage / water treatment facilities. Reclaimed water from the Loudoun Water's Broad Run Water Reclamation Facility is currently used for irrigation and cooling water for data centers within the Route 28 / Route 7 corridors adjacent to the facility. The

proposed concept of “water banking” is meant to provide capacity to the Loudoun’s Central Water Supply System.

Following its discussion of the applications, the Planning Commission voted 8-1 (Robinson opposed) to approve the Commission Permit and recommend approval of the Special Exception applications based on the Findings listed below.

FINDINGS

1. The general location, character, and extent of the proposed special exception for water storage tank use is in substantial accord with the existing land use policies of the Revised General Plan (RGP) (Suburban Policy Area, Ashburn Community).
2. The adaptive reuse of the subject quarry site as a raw water storage facility is consistent with the RGP’s vision for Extractive Industry uses and is compatible with established uses on similarly planned properties adjacent to the site. Subject to the prescribed development conditions, the proposed special exception use will be in accordance with the land use policies of the RGP.
3. As a component of the Central Water Supply Program developed by Loudoun Water, the proposed water storage facility is consistent with RGP policies regarding the development of long-range plans for wastewater treatment and water supply within Loudoun County.
4. Through participation in the Potomac Low Flow Allocation Agreement and coordination with the Interstate Commission on the Potomac River Basin (ICPRB), United States Army Corp of Engineers (USACE), and the Virginia Department of Environmental Quality (VA DEQ), the storage of raw water drawn from the Potomac River will have minimal impact on the Potomac River Basin.

An additional Finding for SPMI 2009-0009 is appropriate:

5. The use of existing mature tree stands and vegetation to screen the water storage tank use improves upon the existing buffering and screening requirements for public utilities (Section 5-621(B)). Subject to the prescribed development condition (Condition 6), the proposed Minor Special Exception use will be in accordance with the Revised 1993 Zoning Ordinance.

IV. **SPEX / MINOR SPEX CONDITIONS OF APPROVAL** **(March 30, 2010)**

Staff recommends the following Conditions of Approval in accordance with the applicable land use policies of the Revised General Plan. Final review of the Conditions of Approval by the County Attorney's Office is pending and staff will provide an update to the Board at the Public Hearing.

1. **Substantial Conformance.** The proposed Special Exception uses and Minor Special Exception modification set forth below in Condition 2 shall be developed in substantial conformance with Sheet 1, Sheet 4, Sheet 5, and Sheet 6 (together comprising and herein referred to as the "Special Exception Plat") of the plan set entitled Special Exception / Commission Permit, SPEX 2009-0020, CMPT 2009-0006, SPEX 2009-0033, SPMI 2009-0009, Loudoun Water: Quarry A Water Storage Facility, prepared by Urban, Ltd., dated April 2009, revised through March 30, 2010 (the "Plans") and the Revised 1993 Loudoun County Zoning Ordinance (the "Zoning Ordinance"). Approval of this application for Tax Map /61/////////29/ (PIN# 114-25-6156) (the "Property"), shall not relieve the applicant or the owners of the Property from the obligation to comply with and conform to any other Zoning Ordinance, Codified Ordinance, or applicable regulatory requirement.
2. **Uses Permitted.** Approval of the Special Exceptions and Minor Special Exception grants 1) approval of the quarry area for water storage under the general use "Water storage tank" (SPEX 2009-0020) as set forth in the Zoning Ordinance, in the MR-HI (Mineral Resource – Heavy Industry) Zoning District. This Special Exception specifically approves the storage of non-potable water in Quarry A once the stone quarrying use approved by SPEX 1971-0005, Leesburg Stone Corporation, has ceased on the subject Property; 2) approval under the general use "structures or uses required for the operation of a public utility" in the Floodplain Overlay District (SPEX 2009-0033); and 3) modification of the Type Four (4) Buffer Yard required by Section 5-621(B) as set forth in Condition 6 Buffer Area below (SPMI 2009-0009). The uses approved in SPEX 2009-0020 and SPEX 2009-0033 are approved only for that area of the Property shown on Sheet 4, Sheet 5, and Sheet 6 as lying within the bold, single-dash lines and labeled as "Limits of SPEX" (1,512,121.93 S.F. or 34.71 ac.)" (the "Special Exception Area").
3. **Period of Validity.** The Special Exceptions and Minor Special Exception shall be valid for a period of fifteen (15) years from the date on which the Special Exceptions and Minor Special Exception are approved.
4. **Floodplain Study.** The Applicant shall complete a floodplain study for the Property in accordance with the Zoning Ordinance and Facilities Standards Manual (FSM). The Floodplain Study shall be approved by the County prior to first site plan approval for any use approved pursuant to SPEX 2009-0020 or SPEX 2009-0033.

5. **Fencing.** Prior to first zoning permit approval for any use approved pursuant to SPEX 2009-0020 or SPEX 2009-0033, the Applicant shall install a black vinyl or similarly coated chain link fence at least ten feet (10') in height along the perimeter of the Special Exception Area as shown on Special Exception Plat Sheets 4-6. The said fence will not be required to meet a minimum opacity of 95% required for Type 4 Buffer Yards per Table 5-1414(B) as applied to the subject Property per 5-621(B).
6. **Buffer Area.** Prior to first site plan approval for any use approved pursuant to SPEX 2009-0020 or SPEX 2009-0033, the Applicant shall supplement existing vegetation to achieve seven (7) acres of tree canopy cover within the hatched area shown on Special Exception Plat Sheet 4 ("Quarry Buffer Exhibit"). The size, amount, and species of the supplemental plantings shall be determined in consultation with the County Urban Forester. The Applicant shall utilize native species for new plant material, as determined in consultation with the County Urban Forester, to the maximum extent possible. All required supplemental plantings shall be depicted on and bonded with the said first site plan.
7. **Lighting.** Site lighting shall conform to Section 5-1500 of the Zoning Ordinance and Sections 7.110 and 7.120 of the FSM and the following:
 - a. **Light Fixtures.** Lighting fixtures associated with the use approved pursuant to SPEX 2009-0020 shall be full cutoff and fully shielded and shall direct light downwards and into the interior of the water storage area and away from surrounding public roads and properties. Said lighting shall meet the requirements of the FSM, unless otherwise required by law, ordinance, or regulation.
 - b. **Height of Light Fixtures.** The mounting height of any light fixture shall not exceed 20 feet. Height shall be measured from the ground to the bottom of the light fixture.
8. **Vehicular Access.** Vehicular Access to the Special Exception Area shall be limited to the Access road ("Ex. Jackpit Lane") shown on the Special Exception Plat. In the event the Property Owner or Virginia Department of Transportation (VDOT) seek to relocate or close Jackpit Lane to facilitate improvements to Belmont Ridge Road (Route 659), the Applicant shall be permitted to relocate the Access road between Route 659 and the Special Exception Area, upon written approval of the Zoning Administrator and approval by VDOT, if required. Should the Access road be relocated by the Applicant or successors subsequent to site plan approval for any use approved pursuant to SPEX 2009-0020 or SPEX 2009-0033, a new site plan shall be submitted for approval. Use of the existing tunnel underneath the W&OD Trail shall be limited to construction activities and installation/maintenance of utilities associated with any use approved pursuant to SPEX 2009-0020 or SPEX 2009-0033. In no event shall the Applicant or successors access the Special Exception Area by means of any existing driveway crossings of the W&OD Trail located to the south of the Property.

9. **Previous Special Exception Conditions.** Upon commencement of the water storage use pursuant to SPEX 2009-0020, the conditions of approval of SPEX 1971-0005, Leesburg Stone Corporation, as they apply to the subject Property, shall become null and void.

V. PROJECT REVIEW

A. CONTEXT

Background

Quarry “A” was first mined for diabase rock in the 1880s. The quarry became an unintended water storage tank in 1972 when flood waters associated with Hurricane Agnes overflowed the stream banks of Goose Creek and filled the quarry. Luck Stone Corporation subsequently drained the quarry and resumed mining operations in the 1990s. Some surface water flows continue to empty into a small pond at the base of the quarry pit. Luck Stone reclaims some of the pond water for dust control. Excess water is pumped into Goose Creek in coordination with the Virginia Department of Environmental Quality (DEQ). Luck Stone anticipates continuing mining operations through the 2017-2020 timeframe. Once quarry operations cease, Luck Stone will be required to follow the reclamation standards of the Virginia Department of Mines, Minerals, and Energy prior to release of the quarry permit (and prior to start of water “banking” for Loudoun Water). These standards require grading, soil reclamation, and revegetation of the quarry as appropriate.

Estimated Capacity / Design

The final pit design for Quarry “A” is approximately 220 feet below the existing quarry floor and approximately 290 feet below the elevation of Goose Creek. The quarry is estimated to have a capacity of 1 billion gallons of water. Figure 3 below illustrates the water storage facility design. Relative to its surface area, the storage facility will contain more water than a typical reservoir. The depth of the quarry pit will also result in less evaporation of water stored. The “self sealing” nature of diabase rock within the quarry pit will minimize the potential for water leakage into adjacent properties and aquifers. The Applicant states the maximum water surface elevation will not exceed the elevation of Goose Creek.

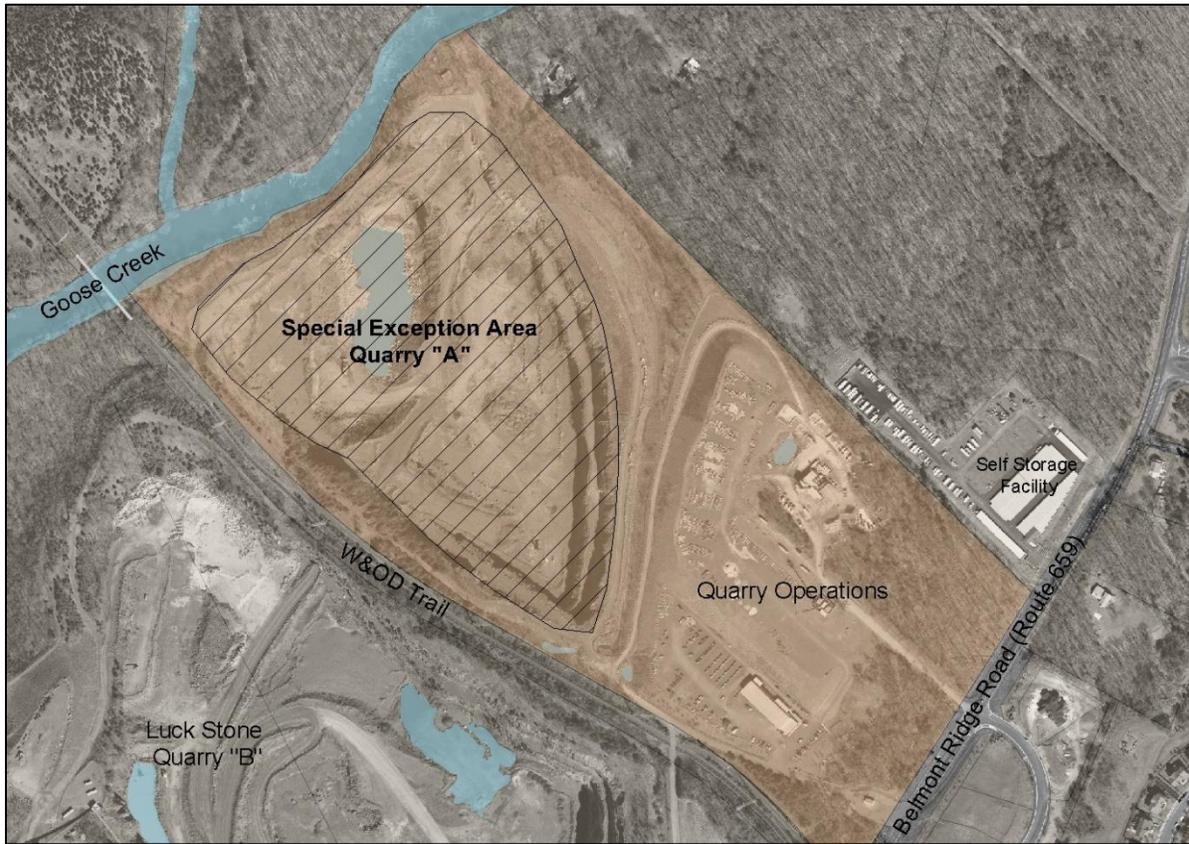


Figure 1. Special Exception Area



Figure 2. View of Quarry "A" (Looking East from Goose Creek)

A 10-foot tall black, vinyl-coated chain link fence is proposed along the perimeter of the quarry pit. The Special Exception Plat identifies a pump station and associated parking area at the terminus of Jackpit lane. The pump station and associated extension of utilities are by-right uses. No further disturbances of the site other than activities associated with reclamation of the quarry site are anticipated once mining operations have ceased.

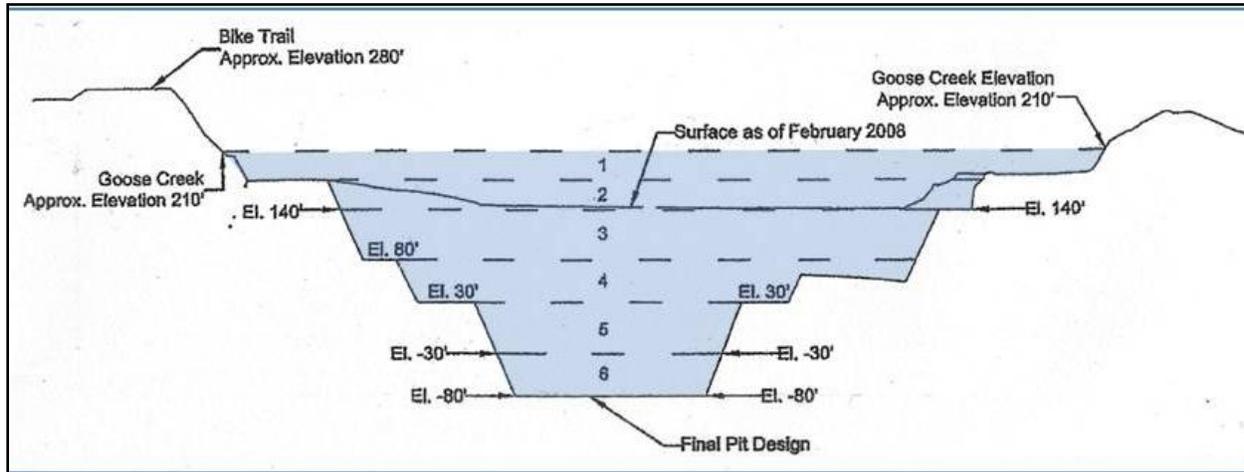


Figure 3. Design of Water Storage Facility – Maximum Surface Water Elevation

Central Water Supply System

Loudoun Water currently provides water within an area identified by Loudoun County as the Central Water Supply System (*equivalent to the area encompassed by the Suburban and Transition Policy Areas*). Loudoun Water obtains about 57 million gallons per day (MGD) from Fairfax Water and the City of Fairfax. Fairfax Water draws water from both the Potomac River and the Occoquan Reservoir. The City of Fairfax draws water from the Goose Creek Reservoir. Based on projected water supply demand, Loudoun Water estimates that 90 MGD will be needed to support the future water needs of the Central Water Supply System (2035-2040).

On December 11, 2008, the Loudoun Water Board of Directors endorsed the proposed Potomac River Water Supply and Raw Water Storage Program (“Central Water Supply Program”). The Central Water Supply program is a two-phased program to meet current and projected needs for the next 30 years and consists of three major components: a raw water intake and pump station at the Potomac River (River Creek), a water treatment plant on a parcel located approximately 1 mile southeast of the subject application, and raw water storage in one or more quarries owned by Luck Stone Corporation, to include Quarry A (*See Figure 4 below*).

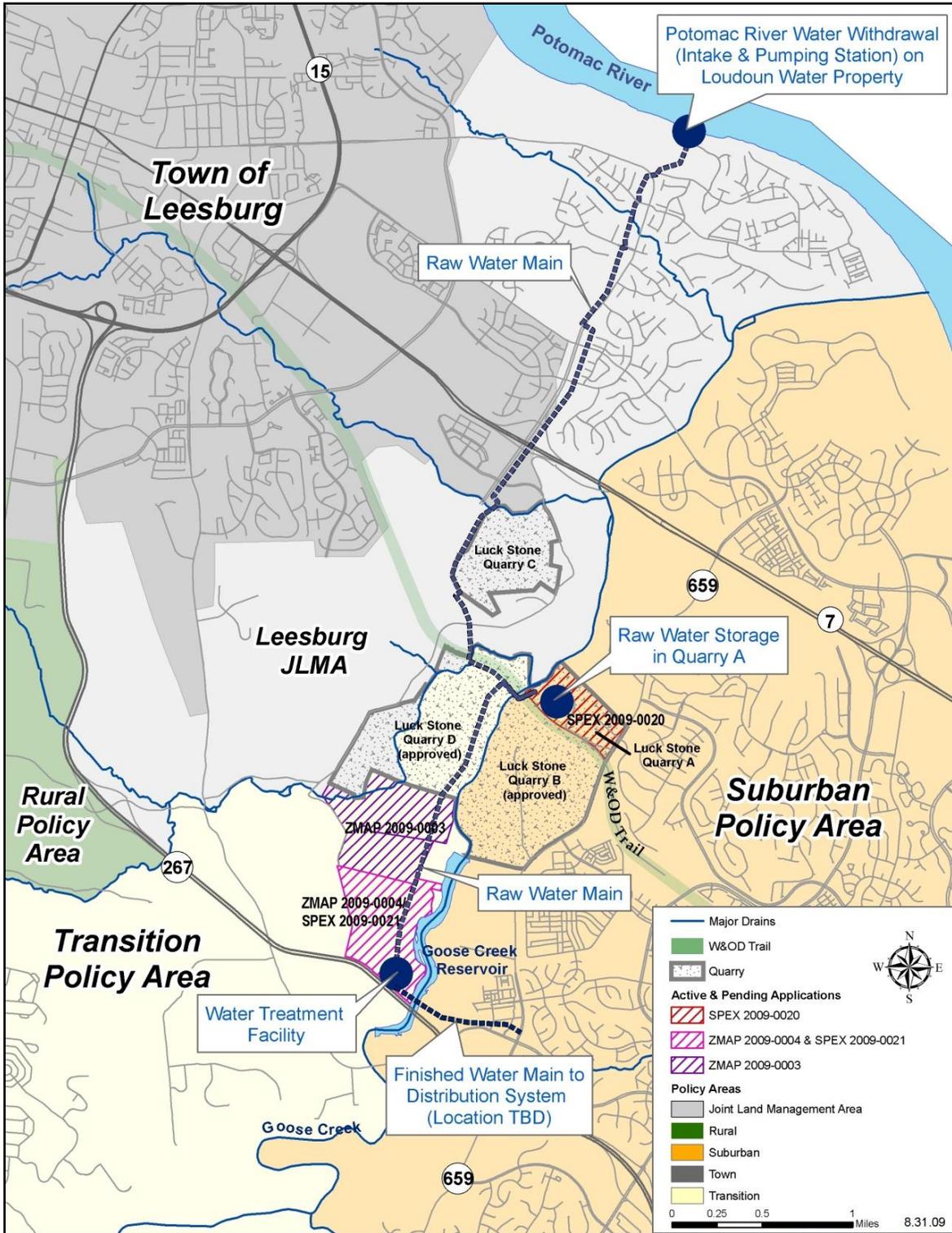


Figure 4. Components of Central Water Supply Program – Corresponding Land Development Applications

While the current application accommodates approximately 1 billion gallons of raw water storage, Loudoun Water anticipates the opportunity to store up to 8 billion gallons of water in four quarries as part of the Central Water Supply Program.

Specific to the raw water storage or “water banking” component of the Program, water is to be drawn from the Potomac River during times of normal to high flow and stored within Quarry “A”. During times of drought, the water is then drawn from the quarry rather than from low-flowing rivers and streams. The Potomac Low Flow Allocation Agreement establishes controls for water withdrawal from the Potomac River. The activity is also subject to coordination/permitting requirements of the Interstate Commission on the Potomac River Basin (ICPRB), United States Army Corp of Engineers (USACE), and the Virginia Department of Environmental Quality (VA DEQ).

Corresponding Applications

Several applications have been received from Luck Stone Corporation and Loudoun Water proposing an expansion of quarry operations and the construction a water treatment facility (ZMAP 2009-0003: Luck Stone Quarry; ZMAP 2009-0004: Loudoun Water and Luck Stone Quarry; and SPEX 2009-0021: Loudoun Water – Treatment Plant) (See *Figure 4*).

Location

Quarry “A” is located on the north side of the Washington & Old Dominion Regional Park (W&OD Trail) between Belmont Ridge Road (Route 659) and Goose Creek. The quarry totals approximately 35 acres of a larger 80.61 acre parcel. The area of the special exception coincides with the existing limits of the quarry pit. The remainder of the parcel would continue to be used for heavy industrial uses and is not part of the application. A second quarry (“Quarry B”) is located on the south side of the W&OD Trail. A tunnel under the W&OD Trail connects the two quarries. The larger property is further bounded by residential uses (Ashburn Community) to the east of Belmont Ridge Road, a self-storage facility and associated single-family dwelling to the north, and vacant land to the west of Goose Creek.

Transportation

The subject parcel is accessed via Jackpit Lane, a private road, which connects to Belmont Ridge Road (Route 659). The Applicant estimates up to 1 trip per day for routine maintenance once the storage facility is in use. VDOT Route 659 project # 0659-053-252 proposes to relocate Jackpit Lane to connect with Builders Lane north of the site.

Site Conditions

The Special Exception area does not contain any significant environmental features due land disturbance associated with current mining operations. County records indicate that the pit is adjacent to significant environmental features including river and stream corridor resources, wetlands, and floodplain associated with Goose Creek. Forest resources and plant and wildlife habitats are present along the north, south, and west of the larger parcel. Steep and moderately steep slopes and diabase soils exist and are also associated with mining operations. A Scenic Creek Valley Buffer extends 200 feet from the channel scar line of Goose Creek onto the subject property.

B. SUMMARY OF OUTSTANDING ISSUES

There are not outstanding issues identified by staff regarding the applications. The Commission Permit application was approved by the Planning Commission on February 22, 2010. Action by the Board of Supervisors is required within 60 days, which would be April 23, 2010.

C. OVERALL ANALYSIS

REVISED GENERAL PLAN (RGP)

Land Use

The proposed water storage facility is located within the Ashburn Community of the Suburban Policy Area and is designated for Extractive Industry use. Revised General Plan (RGP) policies direct that areas planned for Industrial uses accommodate the continued operation and expansion of major industrial uses in the County while providing a degree of protection from incompatible, non-industrial land uses. Specific to Extractive Industries such as the Luck Stone quarries, encroaching new development should not hinder quarry operations. Once these quarries have completed their mining operations, innovative and sensitive reuse of the sites will help minimize the long-term result of diabase extraction. The conversion of Quarry A to a raw water storage facility represents an innovative and sensitive reuse of the quarry and a compatible use within an industrial area as envisioned by County policies.

Water & Wastewater Service

County policies state that Loudoun Water will continue to be responsible for public water and sewer service in the Suburban and Transition Policy Areas. Further, both the County and Loudoun Water will develop long-range plans for wastewater treatment and water supply that establish criteria for siting future wastewater treatment facilities and impoundment sites. These plans will continue to rely on Fairfax City's Goose Creek Impoundment and the Fairfax County Potomac River intake as the major central water supply sources. However, other water-supply options, including the existing Potomac

River water plants operated by the Town of Leesburg and the Fairfax County Water Authority, as well as the construction of an independent Loudoun Water facility on the Potomac, may be considered.

As described above, Loudoun Water Board of Directors has taken steps to implement the prescribed policies through adoption of the Central Water Supply Program. The Program takes into account existing and potential arrangements with Fairfax Water and the City of Fairfax in order to meet current and projected needs for the next 30 years. The resulting two-phase system will draw raw, non-potable water directly from the Potomac River, store it for future use in existing quarries, and then process finished drinking water at a new treatment facility adjacent to the Goose Creek Reservoir.

Green Infrastructure

The RGP defines the County's Green Infrastructure as an integrated collection of natural, cultural, heritage, environmental, protected, passive and active resources. Elements of the countywide Green Infrastructure found on the subject parcel include existing forest cover and floodplain and wetlands associated with Goose Creek. Steep and moderately steep slopes associated with mining operations also exist.

The RGP directs that development should take place around these elements, incorporating them into the design of the site. Such an approach places a priority on preserving both sensitive environmental and man-made features.

Specific to River and stream corridor resources, the RGP calls for a 50-foot management buffer surrounding 100-year floodplains and adjacent steep slopes in order to protect the stream corridor from upland disturbance and adjacent development. The quarry wall and the limits of the Special Exception area are approximately 70 to 150 feet from Goose Creek. The limits of the major and minor floodplain, the 300-foot no-build buffer to Goose Creek, and the 200-foot Scenic Creek Valley Buffer (SCVB) along Goose Creek have been depicted on the plat (*See Figure 5*).

The relationship of the quarry to the limits of the Goose Creek floodplain is unclear as the depicted floodplain does not match the topography of the area. The Applicant has agreed to correct this inconsistency through submission a floodplain study at the time of site plan approval. Much of the noted 300' and 200' buffers to Goose Creek is open quarry and cannot be preserved. The limited amount of buffer area outside the limits of the quarry wall is forested and unlikely to be developed given their location between Goose Creek and the quarry walls.

The Applicant has alternatively agreed to a condition of approval to supplement existing vegetation in the areas outside the quarry wall and adjacent to Goose Creek and the W&OD Trail. The supplemental plantings will achieve an equivalent of seven (7) acres of tree canopy and will be credited to the 10% tree canopy requirement of the Zoning Ordinance.

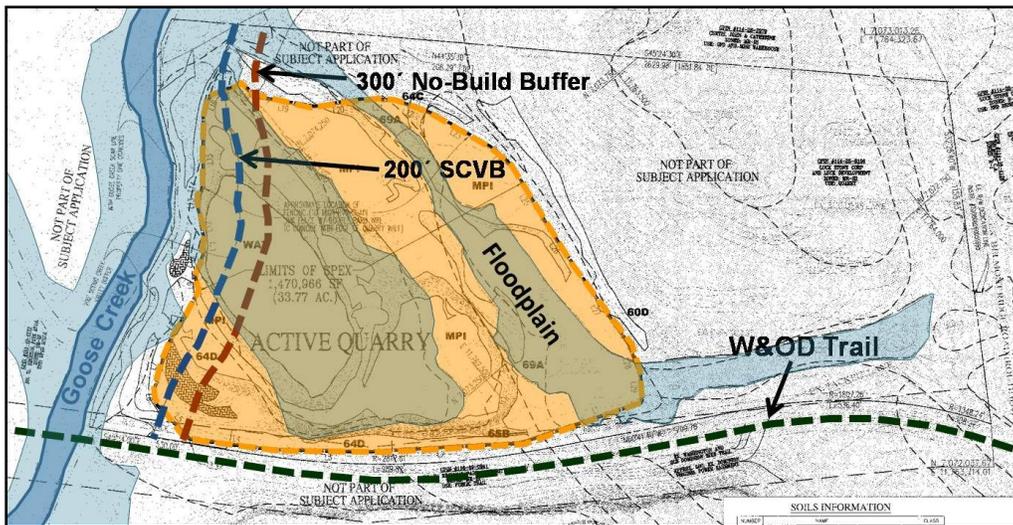


Figure 5. Goose Creek No-build and Scenic Creek Valley Buffers – Boundary of Special Exception Area

Scenic Rivers and Trails

RGP policies envision the construction of a series of trails and trail extensions as part of selected trail master planning efforts including public access trails along designated sections of Goose Creek. Additionally, the County Parks, Recreation, and Community Services Department (PRCS) is developing a system of interconnected linear parks along the County's stream valley corridors and envisions a trail along Goose Creek that will connect with the W&OD Trail. In support of these policies, staff recommended the Applicant consider conservation and/or trail easements along Goose Creek as well as a combination of overlooks to the quarry and interpretative signage along both trails in order to provide trail users with an open space amenity. PRCS and NVRPA staff also requested the Applicant consider recreational use of the storage facility.

The Applicant notes that the areas available for conservation and trail easements are outside the limits of the Special Exception area and therefore not under the control of the Applicant. Further, an embankment and associated steep slopes along the eastern shore of the Goose Creek will unlikely support trail construction. PRCS staff noted the ownership issue in its referral comments and has indicated it will directly approach the owner (Luck Stone) regarding easements and trail access along Goose Creek.

The design of the quarry does not lend itself to overlooks viewing the proposed water storage facility. The surface water elevation is anticipated to be 20+ feet below the quarry wall and at least 60 feet below the elevation of the W&OD Trail. Also, the Applicant's commitment to supplementing existing vegetation along the Goose Creek and W&OD Trail (in response to staff recommendations regarding buffering and screening and as a requirement of the Zoning Ordinance) will preclude visual access to

the water storage facility. Lastly, a 10-foot open weave fence is proposed for the purpose of preventing public access for both safety and security reasons. The Applicant notes that should trail access be provided by others in the future, the open-weave fencing will not preclude trails users from viewing the area.

Regarding use of the storage facility for recreational purposes (i.e. swimming, boating, etc.), the Applicant states that, unlike a water banking reservoir, steep slopes, lack of a shoreline, and changing water levels preclude safe access by the public.

Commission Permit

The Revised 1993 Zoning Ordinance requires a Commission Permit when a public utility or public service facility is constructed to determine if the general location, character, and extent of the proposed use is in substantial accord with the RGP.

The General Public Facilities Policies of the RGP state the County will determine the need for new public facilities and will identify suitable sites based on the Revised General Plan, appropriate area plans, land use, and growth policies. Based on the analysis above, Staff finds that the general location, character, and extent of the proposed use are in substantial accord with the Comprehensive Plan.

ZONING

The Applicant has also submitted a Minor Special Exception application to substitute existing vegetation for the minimum Type Four (4) Buffer Yard required for public utilities (Section 5-621(B)). A type four buffer requires more intense opaque vegetative plantings than lesser buffers to include increased evergreen tree plantings as well as a six foot high fence, wall, or berm providing a minimum opacity of 95% along side and rear yards. In their justification for such a modification, applicants are to demonstrate how the proposed modification achieves an innovative design, improves upon the existing regulation, preserves the County's historic or archeological heritage, or otherwise exceeds the public purpose of the existing regulation per Section 5-600 of the Ordinance.

The Applicant notes unique site characteristics and the nature of the use as justification for the modification:

1. The buffering requirements of Section 5-621 do not differentiate between intense public utility uses (i.e. sewage treatments plants and above-ground storage tanks) and the proposed storage facility which will store raw water below-grade in a reclaimed stone quarry pit.
2. The rim of the existing quarry pit is at a higher elevation than adjacent properties along the northern and western (Goose Creek) boundaries of the Special Exception area. Existing vegetation along the same boundaries will provide an equivalent opaque screen. Buffering and screening along the eastern boundary

would be ineffective given the rise in elevation to uses east of the Special Exception area. Mature trees and vegetation along the southern boundary and sheer quarry wall will adequately screen the use from the W&OD Trail. Overall, the proposed use will be less intense than current quarry operations.

3. A water pump station will be provided in conjunction with the conversion of the quarry to water tank use. No other structures will be constructed that would otherwise require screening.
4. An alternative 10' high, black vinyl-coated chainlink fence will be provided around the perimeter of the property for safety / security of the facility. Eliminating the 95% minimum opacity will provide an additional safety/security measure by permitting observation of the storage area from all directions at the quarry rim.

Staff has determined that the use of existing mature tree stands and vegetation improves upon the existing buffering and screening requirements of Zoning Ordinance. In order to ensure that such landscaping will continue to meet or exceed Type 4 buffer yard standards when the use is established in eight to eleven years from the date of approval of the Minor Special Exception, staff has recommended a condition of approval requiring the Applicant to supplement existing vegetation to achieve seven (7) acres of tree canopy cover within the hatched area shown on Special Exception Plat Sheet 4 ("Quarry Buffer Exhibit") prior to or in conjunction with first site plan approval for the Special Exception use (Condition 6).

TRANSPORTATION

The subject parcel is accessed via Jackpit Lane, a two-lane private road, which connects to Belmont Ridge Road (Route 659). Route 659 is a two-lane public road with a right turn lane onto Jackpit Lane. The Applicant estimates up to 1 trip per day for routine maintenance once the storage facility is in use.

VDOT Route 659 project # 0659-053-252 proposes to relocate Jackpit Lane to connect with Builders Lane north of the site. The 2001 Revised Countywide Transportation Plan (CTP) identifies Route 659 as a planned six-lane, controlled access median divided, urban collector within a 120 foot of right-of-way. OTS staff requested the Applicant confirm whether 60-feet of right-of-way from the centerline of Belmont Ridge Road has been dedicated in support of the planned Route 659. Condition 5 of SPEX 1990-0019 requires dedication of the right-of-way upon the approval of VDOT and the County of construction plans and profiles for expansion of Route 659.

FIRE AND RESCUE

Fire and Rescue Staff has no objection to the approval of this application. The Ashburn VFRC (Lansdowne Station 22) is identified as the first responder to the subject property.

Per the adopted Board Fire and Rescue Policy, all Applicants are typically asked to provide a one-time monetary contribution to be distributed to the primary volunteer fire and rescue agencies that would respond to emergency situations on the subject property. The County's practice is not to request contributions from publicly-funded facilities.

D. ZONING ORDINANCE CRITERIA FOR APPROVAL

Special Exception Application – Public Water Tank

Section 6-1310 of the Revised 1993 Loudoun County Zoning Ordinance states "In considering a special exception application, the following factors shall be given reasonable consideration. The Applicant shall address all the following in its statement of justification or special exception plat unless not applicable, in addition to any other standards imposed by this Ordinance":

(A) *Whether the proposed special exception is consistent with the Comprehensive Plan.*

Analysis: As outlined and discussed above in Section C, Overall Analysis, Revised General Plan (RGP) policies designate the subject site for Extractive Industry uses. The use of the subject site for a water storage facility is consistent with the RGP's vision for innovative and sensitive reuse of quarries and is compatible with established uses on similarly planned properties adjacent to the site. Subject to development conditions described above, the proposed special exception will be in accordance with the RGP.

(B) *Whether the proposed special exception will adequately provide for safety from fire hazards and have effective measures of fire control.*

Analysis: By-right structures associated with the proposed special exception use will be required to provide effective safety and fire control measures that will meet national, state, and local fire safety requirements and regulations.

(C) *Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area.*

Analysis: The proposed special exception use is not anticipated to generate noise which will negatively impact similarly planned properties in the immediate area (Extractive Industry).

(D) *Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area.*

Analysis: A condition of approval requires the applicant to install restrictive lighting fixtures to minimize glare and light trespass onto the immediate area.

- (E) *Whether the proposed use is compatible with other existing or proposed uses in the neighborhood, and adjacent parcels.*

Analysis: The subject property and adjoining properties are similarly zoned MR-HI consistent with the planned land use designation. The proposed use will be less intensive than ongoing quarry operations and will be compatible with established industrial uses on the property (quarry operations) and adjacent parcels (self-storage facility, quarry operations, residential use).

- (F) *Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.*

Analysis: The area of special exception is at a lower elevation than existing quarry-related uses located on the same parcel east of the special exception area. Further, the surface elevation of the stored water will be 20+ feet below the quarry wall. Existing mature vegetation along the perimeter of the special exception area will be supplemented as necessary to achieve seven acres of tree canopy when the special exception use begins operation. Embankments along the northern quarry wall and along the Goose Creek will screen the use from properties to the north and west. A 10% tree canopy requirement of the Zoning Ordinance will also provide additional screening.

- (G) *Whether the proposed special exception will result in the preservation of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.*

Analysis: No topographic or physical, natural, scenic, archeological, or historic features of significant importance has been identified within the special exception area as stated in study waivers requested by the Applicant.

- (H) *Whether the proposed special exception will damage existing animal habitat, vegetation, water quality (including groundwater) or air quality.*

Analysis: The proposed special exception use is a less intense activity than the active stone quarry operations on the site. The use will likely encourage animal habitat and improve water and air quality.

- (I) *Whether the proposed special exception at the specified location will contribute to or promote the welfare or convenience of the public.*

Analysis: The proposed special exception is one component of a Central Water Supply Program designed by Loudoun Water to meet current and future demand for water by means of cost-effective, low impact water banking for the benefit of Loudoun Water customers.

- (J) *Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.*

Analysis: OTS Staff has determined the anticipated traffic impact of the proposed use is negligible and that the local road network has adequate capacity to safely serve the site.

- (L) *Whether the proposed special exception will be served adequately by essential public facilities and services.*

Analysis: As identified in the attached referral agency comments, the proposed special exception use will be adequately served by existing public services (fire-rescue).

- (M) *The effect of the proposed special exception on groundwater supply.*

Analysis: The proposed special exception is not anticipated to effect the groundwater supply. The self-sealing nature of the diabase rock lining the quarry will limit leeching of water into adjacent properties and aquifers. The applicant states any fissures will be properly sealed prior to operation of the water storage facility.

- (N) *Whether the proposed use will affect the structural capacity of the soils.*

Analysis: The proposed storage area is not anticipated to affect the structural capacity of the soils once quarry operations end and the water storage use is established. Compliance with the requirements of the County's Facilities Standards Manual will ensure adequate structural capacity for any by-right structures constructed in support of the special exception use.

- (O) *Whether the proposed use will negatively impact orderly and safe road development and transportation.*

Analysis: OTS Staff has determined the anticipated traffic impact of the proposed use is negligible and that the local road network has adequate capacity to safely serve the site.

- (P) *Whether the proposed special exception use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.*

Analysis: The proposed special exception use will facilitate Loudoun Water's Central Supply Program which will provide desirable employment in support of the Loudoun Water Central Supply System, consistent with the policy directives of the RGP.

- (Q) *Whether the proposed special exception considers the needs of agriculture, industry, and businesses in future growth.*

Analysis: The proposed special exception use is intended to support existing and future public water needs of agriculture, industry and businesses within areas served by the Central Water Supply System.

- (R) *Whether adequate on and off-site infrastructure is available.*

Analysis: Infrastructure associated with water intake from the Potomac River to the water storage facility and subsequent distribution to the water treatment facility will be subject to separate special exception and zoning applications.

- (S) *Any anticipated odors which may be generated by the uses on site, and which may negatively impact adjacent uses.*

Analysis: The proposed special exception use is not anticipated to generate odors which will negatively impact similarly zoned properties in the immediate area (MR-HI).

- (T) *Whether the proposed special exception uses sufficient measure to mitigate the impact of construction traffic on existing neighborhoods and school areas.*

Analysis: Existing and proposed road networks serving the proposed special exception use have adequate capacity divert construction traffic away from existing neighborhoods and school areas.

Special Exception Application – Public Utility Within a Floodplain

Section 4-1506(D) of the Revised 1993 Loudoun County Zoning Ordinance permits structures or uses required for the operation of a public utility to be located within the floodplain by special exception. In considering applications for special exception, Section 5-1507 states the Board of Supervisors must be satisfied that the following standards have been met:

- (A) *The proposed use will not increase the danger to life and property due to increased flood heights or velocities.*

Analysis: The Applicant has agreed to complete a floodplain study at the time of site plan approval to resolve inconsistencies between the mapped floodplain and existing elevations identified on the subject parcel. It is not anticipated that the surface elevation of the water storage facility will exceed the elevation of the Goose Creek, therefore reducing the potential for water from the storage facility flooding Goose Creek and/or increasing flood velocities. Further, the self sealing nature of the quarry wall (diabase rock) and embankments along the northern

and western (Goose Creek) quarry walls will limit the transfer of water between the two water bodies.

- (B) *The proposed use will not increase the danger that materials may be swept downstream to the injury of others.*

Analysis: No structures are proposed within the limits of the major and minor floodplain identified on the subject parcel.

- (C) *The proposed water supply and sanitation systems are designed to prevent disease, contamination, and unsanitary conditions.*

Analysis: With the exception of the installation of raw, non-potable water lines directing raw water to and from the storage facility, no public water supply or sanitation systems will be required to serve the proposed special exception use.

- (D) *The proposed use or structure must be located and designed to limit its susceptibility to flood damage, and available alternative locations, not subject to flooding, for the proposed use must be considered.*

Analysis: The self sealing nature of the quarry wall (diabase rock) and embankments along the northern and western (Goose Creek) quarry walls will limit susceptibility to flood damage. Alternate quarry sites have been identified for water storage but

- (E) *The proposed use is compatible with existing and planned development.*

Analysis: As noted above, the subject property and adjoining properties are similarly zoned MR-HI consistent with the planned land use designation. The proposed use will be less intensive than ongoing quarry operations and will be compatible with established industrial uses on the property (quarry operations) and adjacent parcels (self-storage facility, quarry operations, residential use).

- (F) *The proposed use is in harmony with the comprehensive plan.*

Analysis: As outlined and discussed above in Section C, Overall Analysis, Revised General Plan (RGP) policies designate the subject site for Extractive Industry uses. The use of the subject site for a water storage facility is consistent with the RGP's vision for innovative and sensitive reuse of quarries and is compatible with established uses on similarly planned properties adjacent to the site. Subject to development conditions described above, the proposed special exception will be in accordance with the RGP.

- (G) *The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site should not cause significant damage.*

Analysis: The Applicant has agreed to complete a floodplain study at the time of site plan approval to resolve inconsistencies between the mapped floodplain and existing elevations identified on the subject parcel. Further, the self sealing nature of the quarry wall (diabase rock) and embankments along the northern and western (Goose Creek) quarry walls will limit floodwaters from entering the water storage facility.

VI. ATTACHMENTS (UNLESS NOTED OTHERWISE, ATTACHMENTS ARE NOT AVAILABLE ELECTRONICALLY BUT MAY BE OBTAINED FROM THE DEPARTMENT OF PLANNING)	PAGE NUMBER
1. Review Agency Comments	
a. Planning, Comprehensive Planning (11-23-09, 09-17-09)	A-1
b. Building and Development, Environmental Review Team (11-20-09, 09-18-09)	A-15
c. Planning, Community Information and Outreach (12-01-09)	A-19
d. Building and Development, Zoning (12-11-09, 09-30-09)	A-21
e. Office of Transportation Services (11-12-09, 09-08-09)	A-29
f. Virginia Department of Transportation (11-18-09, 08-19-09)	A-35
g. Planning, Town of Leesburg (11-20-09, 08-28-09)	A-39
h. Parks, Recreation, and Community Services (11-24-09, 08-17-09)	A-43
i. Northern Virginia Regional Park Authority (11-19-09, 08-28-09)	A-53
j. Goose Creek Scenic River Advisory Committee (08-05-09)	A-57
k. Fire, Rescue, and Emergency Services (08-17-09)	A-59
l. Health Department (08-06-09)	A-61
m. Department of General Services (08-19-09)	A-63
2. Disclosure of Real Parties in Interest (03-22-10)	A-65
3. Applicant's Response to Referral Comments (01-08-10, 10-20-09)	A-77
4. Applicant's Statement of Justification (Revised 01-08-10)	A-105
5. Plat (revised through 03-30-10)	Follows A-118