3.1 Development Narrative

Glaciers not only shaped the area's landscape but also left behind deposits of sand and gravel resources. These finite resources are vital for public demand and the regional construction industry. Super Aggregates has become a leading supplier of these resources by developing a philosophy balancing public demand with adjacent property/environmental impacts.

Super Aggregates balanced approach philosophy supports:

i. Extraction is a interim or temporary land use.
ii. Interim land use shall not adversely impact adjacent property.
iii. Interim land use shall provide a compatible and harmonious environment.
iv. Productive land reclamation. Long-term, comprehensive land use planning must be considered and integrated in contemporaneous reclamation and development plans.

This Narrative for the Proposed Development supplements submitted plans and provides additional information, means and methods of the proposed extraction and reclamation/development plans.

Ownership of Land and Property Boundaries

The property is owned by Land Reserves, LLC, Jack Pease, managing member. Super Aggregates is the mine operator and the main office is located at 5435 Bull Valley Road, Suite 330, McHenry, IL 60050. Phone: 815-385-8000, Jack Pease cell: 815-790-1293. Appendix A is a current Plat of Survey depicting property boundaries consisting of 124.2 acres more or less. A portion of the property, South of Main Street Road, shall be dedicated to the McHenry County Conservation District. This development plan is applicable to the 104 acres located on the North side of Main Street Road. Appendix B – Current Conditions Plan depicts current topography, soil types and sand/gravel boring information.

Development Sequence

A portion of the property consisting of 20 acres, South of Main Street, which included vacant dilapidated agricultural structures have been demolished. The structure with historic significance, the octagon structure, has been relocated approximately 2.25 miles to the North, ensuring perpetual maintenance and preservation. The building site has been cleaned up, regraded, seeded and a new access, driveway and parking lot have been constructed. This portion of the property, approximately 10 acres, shall be dedicated to the McHenry County Conservation District to ensure natural resources preservation and provides an additional access to the Districts Nippersink Canoe Base Conservation Area. The remaining 10 acres shall be divested and a single-family residence constructed.

On the portion of the property consisting of 104 acres, North of Main Street, the petitioner requests a zoning reclassification on the subject property from Agricultural (A-1) to Agriculture with a Conditional Use (A-1C) to allow for earth extraction/mining and related processing operations to create a lake on approximately 104 acres, per plan. Prior to extraction/mining, the property adjacent to Main Street shall have permanent landscaped berms, paved access road and a gate constructed. The berms shall appear naturally occurring, seeded, tree plantings and shall be maintained weekly. The remaining property line perimeter shall have berms constructed to screen operations. These

berms shall be removed as reclamation occurs per phasing plan. Adjacent property lines with residences shall also have a fence constructed. Sand and gravel shall be extracted forming a lake(s) feature. Continued agriculture use shall occur on areas not mined and on contemporaneously reclaimed areas. Upon final reclamation, future waterfront residential property development shall commence conforming to the 2030 Comprehensive and Beyond Plan. Please see Appendix B - Reclamation Plan for additional information.

Minerals to be Mined

The reserves mined from property are unconsolidated sand and gravel materials which do not require blasting. Mined materials are sorted, processed, and washed providing aggregate materials for use in the construction industry.

Character and Composition of Vegetation, Wildlife and Natural Resources on Land to be Affected

Present land use for the property is row crop agricultural production. Other vegetation includes native grasses, foxtail, goldenrod, sumac, chokeberry, oaks, walnut, and black cherry. The main wildlife species include whitetail deer, turkey, raccoon, woodchuck, rabbit, coyote, red fox, sparrows, robins, squirrel, cardinals, and chickadee. The Illinois Department of Natural Resources (IDNR) Ecological Compliance Assessment Tool (EcoCAT) Tool indicates records of the State-listed Blanding's Turtle in the vicinity of the project area. The Owner shall follow the Departments recommendations by educating on-site personnel and provide IDNR notification if species are encountered at the project site. Additionally, if tree clearing is necessary, the Department recommends removing trees between November 1st and March 31st to avoid impacts to bats and birds. Please see Appendix C – EcoCAT Clearance Letter for additional information.

Natural resources on the property have been reviewed in June 2024 by McHenry-Lake Soil and Water District and a Natural Resources Information Report completed. The report contains natural resource information for local governing bodies and decision makers for land use decisions. The report concludes, *the natural resource concerns regarding wetlands, floodplain and groundwater contamination have been addressed and the McHenry-Lake Soil & Water Conservation District Board of directors have no additional concerns at this time*. Please see Appendix D for additional information.

There are two small wetlands present on the property. A wetland delineation report was completed by DK Environmental Services, Appendix E. These two areas shall be unaffected by the proposed development and adequate buffers shall be maintained.

Archaeological and Cultural Resources – State Historic Preservation

A Phase I Archaeological Reconnaissance Survey has been completed in May 2024 by Midwest Archaeological Research Services. The report does not recommend any additional investigation of the proposed site. Additionally, the Illinois State Historic Preservation Office has issued clearance letters that determine the site has *no significant historic, architectual, or archaeological resources affected within the proposed project area.* Please see Appendix F for additional information.

Property Identification Numbers and Assessed Valuations

The chart below depicts property PIN's, current assessed and two quadrennial assessment valuations.

PIN	Current Assessment	2020 Assessment	2016 Assessment
05-29-126-001	23,694	16,354	9,326
05-29-200-015	12,630	8,116	3,792

The Nature, Depth and Proposed Disposition of the Overburden and Screening

The two most predominant soil types are Lorenzo and Warsaw Loam. The overburden ranges from 2-4 feet in depth throughout the property. Overburden material shall be relocated on-site and used in screening berms and contemporaneous site reclamation/development. Processing operations view from Main Street Road shall be screened by the construction of a 6-10' high undulating, naturally occurring, landscaped berm planted with coniferous and deciduous trees. The landscaped berm shall be maintained weekly comparable to a golf course land feature and remain as on-site development continues. Other property lines shall have a temporary 6-10' high operations berm which shall be removed as reclamation occurs per phasing plan. Please see Appendix G, Soils Survey for additional information and Appendix B, Operations and Phasing Plan.

The Estimated Depth to which the Mineral Deposit shall be Mined

Sand/gravel reserves are estimated to be 50-60 feet in depth. Active mining operations shall not exceed 4-6 acres annually. Row crop agriculture shall continue in unaffected areas and contemporaneous reclamation shall minimize the area of disturbance. Borings have indicated reserves are found below the groundwater of the shallow aquifer. A water feature or lake(s) shall be constructed on the property with surrounding natural occurring, undulating topography. A 20' wide safety shelf shall be constructed around lake perimeter for safe lake entry and exit. Proposed grades and lake configuration may vary due to the lateral and vertical reserve. Please refer to Appendix B, Reclamation for proposed lake configuration.

Estimated Type and Volume of Excavation

Mineable sand and gravel reserves in the 104 Acre tract are estimated at 6.5 million tons.

The Techniques and Equipment Proposed to be used, as Applicable, for;

A. earth materials extraction.

Initial extraction of the process area shall be completed to a depth of approximately 15 - 18'. Once the process area floor is established, continued extraction North of the process area shall continue below the water table until an area is created large enough to install a electric hydraulic dredge. Over the remaining project life, reserves shall be extracted using an electric powered hydraulic dredge that extracts below water material and pumps slurry material to the plant for processing.

B. earth materials processing.

Reserves are processed by a combination of screening, washing, and minor crushing of 5" minus materials. Equipment will consist of a feeder, land conveyors, screening plant, crushing plant, wash plant, stacking conveyors and a wheel loader.

C. ready-mix plant.

Not applicable.

Location of existing roads, anticipated access, and haulage roads planned to be used or constructed in conducting surface mining

All traffic shall use an ingress/egress to Main Street Road. Egress from the site shall be limited to Eastbound only. Estimated average traffic shall be 50 trucks per day. The entrance shall be paved, maintained and swept on a as needed basis to remove loose gravel, reduce dust, and prevent track out. As of the date of this Development Plan, the McHenry County Division of Transportation has not had the opportunity to review the proposed development or provide ingress/egress comments and requirements. Please see Section 3.2 for Proposed Traffic Counts and Appendix B -Main Street Ingress/Egress Plan for additional information.

Practices and methods proposed to be used to minimize noise, dust, air contaminants and vibration and to prevent pollution of surface or underground water

Control methods and practices for the potential adverse effects of noise, dust, (glare, odor, waste disposal and blockage of light or air are not applicable), or other adverse environmental effects of a type or degree not characteristic of Permitted Uses in the proposed zoning district are described below.

Noise:

Noise generated from the processing area shall be in accordance with federal and state standards. Noise shall not violate the Illinois Administrative Code, Title 35: Environmental Protection: Subtitle H: Noise: Chapter 1 Pollution Control Board sections 900.101-900.103 ("Applicable Noise Regulations"). On-site noise reduction measures shall occur by placing the processing area 15-18 feet below the existing ground elevation, located 600 feet away from the nearest residence. Traffic noise generated from Main Street Road shall overshadow noise generated from on-site electric powered operations. Additionally, on-site noise reduction measure shall be perimeter berm construction. Perimeter berms have superior noise-attenuating properties, serve as wind breaks, and screen the operation from view. Finally, continued row crop farming in areas not affected by mining shall aid in minimizing noise and aid in screening the operation. Federal Mine Safety and Health Administrative (MSHA) officials regularly inspect all mining facilities to ensure the health and safety of all employees are maintained.

Dust/Air Contaminants:

Dust and air contaminants are minimal in wet mining operations. Monitoring requirements shall be in accordance with federal and state standards. Preventive dust and air contaminants measures include sweeping the paved access road and water application for on-site roads shall occur on a as needed basis. In the event, visible particulate matter emission is observed, it shall be governed by the regulations set forth in Illinois Administrative Code, Title 35: Environmental Protection: Subtitle B: Air Pollution: Chapter 1 Pollution Control Board, sections 212.301-316, Subpart K: Fugitive Particulate Matter.

Not all dust is silica dust. Respirable crystalline silica dust are very small particles, at least 100 times smaller than ordinary sand grains found in a typical mine or on any local beach. Sand grains must be ground into a fine powder to release silica trapped in the sand grains. Inhaling the respirable silica dust can cause lung damage. However, silica dust is not released from any McHenry County mining site. At the proposed site, sand is not processed into a fine powder but only washed with water. This

has been studied and observed for many years. There is not an occupational or community silica exposure risk at any McHenry County mine site or any local beach.

In addition to the Illinois Administrative Code, Title 35, the Federal Mine Safety and Health Administrative (MSHA) officials regularly inspect facilities to ensure the health and safety of all employees are maintained. The site is also regulated and monitored by Illinois Environmental Protection Agency (IEPA) Air Emission, Registration of Smaller Sources (ROSS) program.

Vibration:
The sand/gravel reserve at this site is unconsolidated in nature; therefore, no blasting mining techniques shall be used, resulting in vibration absence.

Groundwater:
State and County standards govern groundwater elevation protection and quality at all mining and reclamation sites. Area mining sites that do not pump or discharge water off site, which include this proposed development do not affect the groundwater elevation or quantity. Additionally, area mine sites which also include this proposed development, do not introduce any materials such as flocculants into the groundwater that may diminish groundwater quality standards.

Groundwater Elevation:
Groundwater is water contained in the pores and fissures of the earth. Unlike sand and gravel resources, groundwater is a renewable resource. It is in constant motion, part of the hydrologic cycle. Rainfall and snowmelt infiltrate into the earth to recharge groundwater, which then flows as baseflow into streams and lakes. Evaporation from open water, and transpiration from plants, returns water to the atmosphere to complete the cycle.

The water table is the depth at which the soil or rock becomes completely saturated with groundwater. If a hole were dug and left to stand for a while for groundwater to seep in, the water level in the hole would represent the water table. The water table elevation can fluctuate in different seasons and from year-to-year, depending on the amount of recharge. Natural depressions or excavations can intersect the water table to form lakes, ponds and wetlands.

Groundwater is a critical resource in Illinois – most of us rely on wells for our water supply. Some of these are municipal wells serving urban communities, but the vast majority are private water wells, mainly in the rural parts of the State. Two common types of wells are shallow dug wells or sand points which draw water from the water table or upper aquifer, and bored or drilled wells which draw water from deeper aquifers.

Groundwater passing through the property is generally from North to South/Southeast generally in the direction of the Nippersink Creek. Groundwater shall be monitored at two (2) upgradient monitoring wells and two (2) down gradient monitoring wells located on the Operations Plan, Appendix B.

Below-water mining pits that do not dewater offsite, remove only sand and gravel materials from the shallow or upper aquifer using excavator, dragline or hydraulic dredge to excavate below the water table level. The excavation occurs very slowly, over many years resulting in a very minimal impact on groundwater levels (imagine removing a hand full of sand/gravel from a bucket of water). Groundwater remains in the excavation and drains back into the pond from dug materials without de-

watering operations. The groundwater elevations in below-water excavations stabilize at the same uniform level as prior to the excavation.

This type of operation also captures precipitation events and surface water run-off and promotes additional groundwater recharge, but a portion of these benefits may be offset by the increased evaporation that will occur from the surface of a pond. This is highly dependent on fluctuations in seasonal precipitation events and from year-to-year. Excess water from stockpiled materials drains back into the pond. Minor evaporative water losses may occur due to residual moisture contained in the aggregate products that are shipped from the site.

Groundwater Quality:
It surprises some people to learn that aggregate extraction is a clean industry. Processing aggregates is a purely mechanical process of crushing, screening, blending, and washing (with water), without chemicals or flocculants. Extraction and subsequent reclamation do not introduce contamination or change the quality of groundwater. At extraction sites, fuels and lubricants for the equipment are the only potential sources of groundwater contamination, and these are regulated under McHenry County Stormwater management performance standards. Please see Best Management Practices in Super Aggregates Spill Prevention Containment and Control Plan, Appendix H.

In rural agricultural areas, bacteriological contamination from human and livestock waste has a greater potential to contaminate the upper aquifer. Aggregate extraction, processing and reclamation is not a source of bacteriological contamination.

Groundwater Quantity & Quality Monitoring:
To maintain and document State and County groundwater elevation standards, the Owner shall install a staff gauge in the pond and seasonal elevations shall be recorded annually. Groundwater quality, governed by parameters set forth under the McHenry County Groundwater Ordinance. Groundwater shall be monitored and analyzed at two (2) on-site upgradient monitoring wells and two (2) on-site down gradient monitoring wells located on the Operations Plans, Appendix B. Analysis reports shall be submitted to the County quarterly until baseline quality parameters have been established. Once established, testing and analysis shall be submitted to the County annually.

An independent hydrological study has been completed by Autumnwood ESH Consultants, LLC, in June 2024. The study examines the proposed development and any potential effects on groundwater quality and quantity. The study concludes *the proposed development will not have adverse environmental impact to private water wells supplying drinking water to the homes surrounding the Paradise Lake development*. Please see Appendix I for additional information.

When these factors are combined, the net effects of below-water extraction are normally minor and groundwater elevations and groundwater quality remain unchanged.

The Method of Recycling Water used for Washing and Grading

Water used for the processing operations is drawn from a series of ponds. The ponds constructed on-site include: a freshwater pond and 2 deposit ponds. Water used for the washing operation is pumped from the freshwater pond into the processing plant, washing the sand and gravel materials. Process plant water drains from the wash plant into the first deposit pond, allowing clay and silt materials to

settle from suspension. Water from the first deposit pond, slowly flows into the second deposit pond allowing the remaining material to settle. As the fine materials settle out of suspension in the second deposit pond, the process water becomes clean water and flows back into the freshwater pond for reuse. This is a closed-circuit washing system with little or no loss of water.

The Proposed Usage or Drainage of Excess Water

All haul roads, stockpiles and operational areas shall be graded in such a manner as to direct any run-off into the primary pond resulting in an internally drained site. There is no off-site discharge of excess water or farm drain tiles. All other land not affected by mining operations is drained naturally by current topography, infiltration, and evaporation. Non-discharging stormwater sites shall hold an IEPA water pollution control permit upon extractive operations commencement. Please see Appendix B - Temporary Stormwater Drainage Plan and Appendix J – Stormwater Pollution Prevention Plan for additional information.

Current and Past Land Use

The current and past land use has been for agricultural crop production.

Location and names of all streams, creeks, and bodies of water within lands to be affected.

Not applicable, none affected.

Drainage on and away from the lands to be affected, including directional flow of water, natural and artificial drain ways and waterways, and streams or tributaries receiving the discharge.

As extraction progresses, the site shall become internally drained with no off-site discharge. There is not the presence of farm drain tiles. Please see Appendix B – Phasing/Operations Plan for additional information.

Proposed days and hours of operation of all excavation, processing, and operations on the property.

The hours of extraction operations shall be from 6:00 a.m. to 9:00 p.m. Monday through Friday and 6:00 a.m. to 6:00 p.m. Saturday. The picking up or shipping of materials and maintenance shall occur from 6:00 a.m. to 8:00 p.m. No operations including processing, loading and maintenance shall occur on Sundays or holidays.

Employees and Accessible Restrooms.

The site shall be staffed with two employees for extraction, processing and loading activities. Employees shall have potable water and conditioned air in an American Disability Act (ADA) accessible restroom located in the scale house per McHenry County Health Department approved well and septic plans.

The Proposed Property Reclamation/Development Plan.

The Owner shall file a reclamation/development plan for the property in accordance with applicable laws and regulations of the McHenry County UDO. The construction of all berms, planting of vegetation and other landscaping features shall be commenced and completed prior active extractive operations. Contemporaneous reclamation shall include subsoil and topsoil re-distribution and

seeding with a vegetative cover per the Phasing/Operations Plan. Proposed development plans include the creation and appearance of a naturally occurring crystal clear water feature with surrounding undulating topography suitable for agricultural use and future residential development. Please see Appendix B – Reclamation Plan for additional information.

Projected dates of commencement and completion of all excavation, mining, processing and reclamation operations on the property.

Projected site improvements and processing area development is expected to commence upon County approvals. Mining commencement is projected for 4/1/26 and site reclamation/development is projected to be complete by 12/31/37. Upon reclamation and return to agricultural use, future property residential development and internal road construction shall be based on McHenry County zoning and subdivision approvals, market conditions and demand.

For Additional Information Please Review

- **Development Plan Appendicies**
- **Sand/Gravel Mining in McHenry County**
  Super Aggregates Conditional Use Supplement