BEACON POINTE | VILLAGE 1A PLAN

MARCH 2019 | SARATOGA SPRINGS, UT

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PREFACE

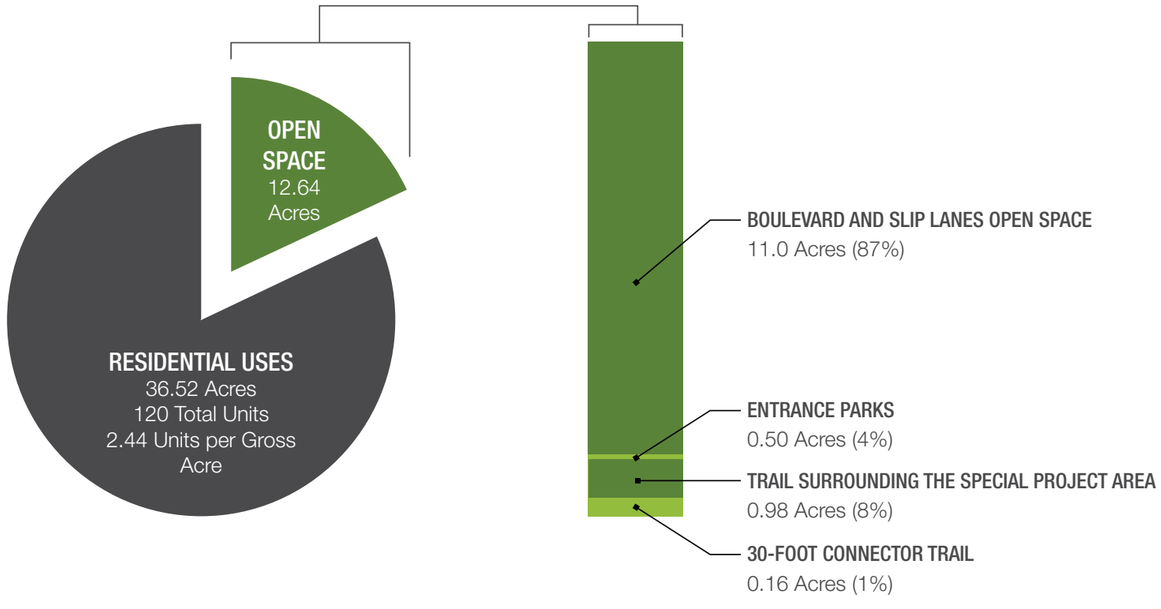
The following Village Plan document addresses the Improvements as they pertain to the Beacon Pointe Community located in Saratoga Springs, Utah. The property and the proposed improvements for the development are discussed in detail and follow the requirements set forth within the Village Plan requirements of the City Code of Saratoga Springs. This document supersedes Title 19 land development code and ordinances for Village 1A, however any issue not addressed in either the Beacon Pointe Community Plan or Village Plan, will default to Title 19 standards. The purpose of the document is to inform the City (Staff, Planning Commission and City Council) and Public of the proposed general design elements, open space plans, guiding design principles and land uses for Village 1A. In addition, utility capacities, based on conceptual plans, will outline the methods used to anticipate the demands and service requirements necessary to provide adequate utility service and infrastructure for both the residences within the development and the City.

EXECUTIVE SUMMARY

Village 1A - Founders Boulevard is an approximate 49.16 acre parcel located west of State Route 68 (Redwood Road) and North of the existing Grandview and Saratoga Hills subdivisions of Saratoga Springs.

The proposed Village Plan incorporates the following units and approximate acreages:

49.16 TOTAL ACRES



VILLAGE PLAN | LEGAL DESCRIPTION

THE PROPOSED BEACON POINTE VILLAGE 1A CONTAINS APPROXIMATELY 49.16 ACRES OF PROPERTY. THE PARCEL METES AND BOUNDS LEGAL DESCRIPTION IS AS FOLLOWS:

LOCATED IN SECTIONS 34 AND 35, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

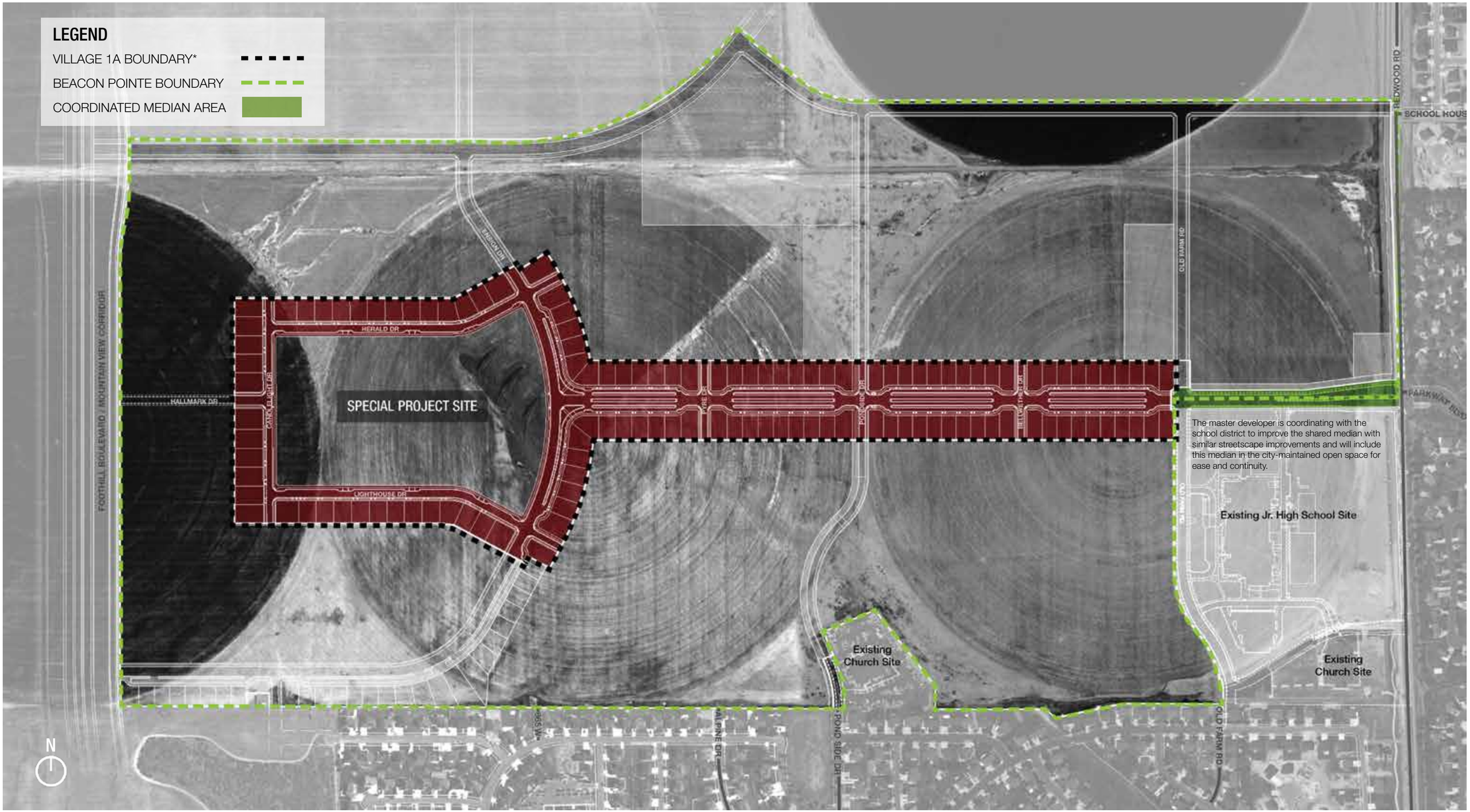
Beginning at a point located N89°50’00”W along the Section Line 358.93 feet and South 669.06 feet from the North Quarter Corner of Section 34, Township 5 South, Range 1 West, Salt Lake Base and Meridian; thence East 1063.29 feet; thence N68°54’04”E 73.34 feet; thence N61°50’59”E 272.53 feet; thence S34°11’34”E 19.00 feet; thence along the arc of a 1243.50 foot radius curve to the right 10.56 feet through a central angle of 0°29’12” (chord: S33°56’59”E 10.56 feet); thence N56°18’37”E 154.00 feet; thence southeasterly along the arc of a 1397.50 foot radius non-tangent curve to the right (radius bears: S56°17’44”W) 571.84 feet through a central angle of 23°26’41” (chord: S21°58’56”E 567.86 feet); thence East 2916.38 feet; thence South 130.99 feet; thence West 77.00 feet; thence southwesterly along the arc of a 15.00 foot radius non-tangent curve to the right (radius bears: West) 23.56 feet through a central angle of 90°00’00” (chord: S45°00’00”W 21.21 feet); thence South 95.00 feet; thence southeasterly along the arc of a 15.00 foot radius non-tangent curve to the right (radius bears: South) 23.56 feet through a central angle of 90°00’00” (chord: S45°00’00”E 21.21 feet); thence South 131.01 feet; thence West 2823.88 feet; thence southwesterly along the arc of a 1397.50 foot radius non-tangent curve to the right (radius bears: N84°19’45”W) 548.30 feet through a central angle of 22°28’46” (chord: S16°54’38”W 544.79 feet); thence S28°09’01”W 113.55 feet; thence N61°50’59”W 120.69 feet; thence southwesterly along the arc of a 38.50 foot radius non-tangent curve to the right (radius bears: N72°42’39”W) 7.30 feet through a central angle of 10°51’40” (chord: S22°43’11”W 7.29 feet); thence S28°09’01”W 29.06 feet; thence N61°50’59”W 388.24 feet; thence West 1067.49 feet; thence North 1111.24 feet to the point of beginning.

LESS AND EXCEPTING THE FOLLOWING:

A PORTION OF THE NORTHEAST QUARTER AND THE NORTHWEST QUARTER OF SECTION 34, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, DESCRIBED AS FOLLOWS:

Beginning at a point located N89°50’00”W 146.61 feet and South 862.60 feet from the North Quarter Corner of Section 34, Township 5 South, Range 1 West, Salt Lake Base and Meridian; thence N89°55’22”E 847.48 feet; thence along the arc of a 284.50 foot radius curve to the left 139.40 feet through a central angle of 28°04’23” (chord: N75°53’10”E 138.00 feet); thence N61°50’59”E 220.15 feet; thence along the arc of a 12.00 foot radius curve to the right 19.43 feet through a central angle of 92°45’00” (chord: S71°46’31”E 17.37 feet) to a point of compound curve; thence along the arc of a 1162.50 foot radius curve to the right 1030.78 feet through a central angle of 50°48’13” (chord: S0°00’06”W 997.34 feet) to a point of compound curve; thence along the arc of a 12.00 foot radius curve to the right 19.42 feet through a central angle of 92°44’49” (chord: S71°46’37”W 17.37 feet); thence N61°50’59”W 236.98 feet; thence along the arc of a 284.50 foot radius curve to the left 139.78 feet through a central angle of 28°09’01” (chord: N75°55’29”W 138.38 feet); thence West 827.47 feet; thence along the arc of a 12.00 foot radius curve to the right 18.77 feet through a central angle of 89°36’43” (chord: N45°11’39”W 16.91 feet); thence N0°23’17”W 700.10 feet; thence along the arc of a 12.00 foot radius curve to the right 18.91 feet through a central angle of 90°18’39” (chord: N44°46’02”E 17.02 feet) to the point of beginning.

CONTAINS: ±49.16 ACRES


LEGEND
VILLAGE 1A BOUNDARY*
BEACON POINTE BOUNDARY
COORDINATED MEDIAN AREA
SPECIAL PROJECT SITE
HERALD DR
HALLMARK DR
LIGHTHOUSE DR
KINGSTON DR
FOOTHILL BOULEVARD / MOUNTAIN VIEW CORRIDOR
REDWOOD RD
OLD FARM RD
SCHOOL HOUS
PARKWAY BLVD
The master developer is coordinating with the school district to improve the shared median with similar streetscape improvements and will include this median in the city-maintained open space for ease and continuity.
Existing Jr. High School Site
Existing Church Site
Existing Church Site
ALPINE DR
POND SIDE DR
OLD FARM RD
N

VILLAGE PLAN I USE MAP AND BUILDOUT ALLOCATION

The following **Use Map** depicts the proposed land uses for the proposed Founders Boulevard - Village 1A. The District Area Plan (DAP) for Saratoga Springs provides specific “Place Types” that have been offered as guidelines for future development. The proposed land uses for Founders Boulevard fall within the Traditional Neighborhood category with an gross dwelling density of 2.44 units per acre. The land use tabulations are broken down into the following categories:

SINGLE FAMILY RESIDENTIAL. This Village is characterized by detached, traditional single-family housing products. The single-family areas of development have been set based on the proximity and visual impact from existing development within Saratoga Springs. As this will serve as the East/West gateway to the community and its central promenade it is the intention to establish this Village with larger lots and custom or semi-custom housing products to anchor the community.

Accessory Dwelling Units will be allowed in this village but at the sole and absolute discretion of the Architectural Review Committee. Accessory Dwelling Units are intended to facilitate the rental of either the Primary or Accessory Dwelling Unit, with the Owner (as listed on the Title) residing on-site.

OPEN SPACE. The overall site contains 12.64 acres (26%) of open space focused around the central boulevard with future connections to a larger community park with trails, amenities and improvements. Open space types as defined in the DAP include Entrance parks, Parkways (boulevards), and Connector trails.

THE INDIVIDUAL VILLAGE INFORMATION IS BASED ON THE FOLLOWING LAND USE INTENSITIES:

- 4.11 persons per residential ERU has been used for estimating projected populations.

THE ASSOCIATED ERUS AND ACREAGE IS AS FOLLOWS:

FOUNDERS BOULEVARD – VILLAGE 1A

This Village will center on the Special Project area as the focal feature of the Community. The decisions of layout, elevations, roadway improvements and housing product selections all accent and enhance the Special Project site. Additional unique aspects of this Village include:

- The proposed Founders Boulevard is key to the establishment of view corridors, transportation planning and housing access. In order to accommodate traffic flow and limit the number of driveway or access points, the use of slip lanes has been incorporated. Slip lanes allow for housing to face the boulevard, while providing shared access, parking, additional landscaping and trail improvements. See the Transportation Section of this document for additional detail.
- All housing products within Village 1A will be single family detached houses which take advantage of the boulevard, view of the Special Project area and trail network.

OVERALL VILLAGE AREA:	**49.16 AC (100%)***
Single Family Residential Area: 36.52 Ac (74%) |120 ERUs (100%)	
Open Space Area: 12.64 Ac (26%)	
PROJECTED POPULATION:	493 Persons
UNITS PER GROSS AREA:	2.44 Units per Acre

***NOTE:** Pursuant to the Community Plan, Lot Count may fluctuate up to 15% with approval of the Planning Director and lot dimensions may vary up to minimum established for Village 1A, shifting village boundaries accordingly.

BEACON POINTE | VILLAGE PLAN | USE MAP AND BUILDOUT ALLOCATION

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED

RESIDENTIAL

LOT REGULATIONS:

LOT SIZE. The following minimum lot size shall be provided and maintained for each dwelling and uses accessory thereto:

FOUNDERS BLVD | VILLAGE 1A – An area of not less than 6,000 square feet. Average lot size 8,500 square feet

LOTS 1-34 & 87-120
Typical 70-75 FT Frontage
~7,000-9,000 SQ FT Lots

LOTS 35-53 & 67-86
Typical 85-100 FT Frontage
9,000-11,000 SQ FT Lots

LOTS 54-66
Typical 90-120 FT Frontages
~11,000-15,000 SQ FT Lots

WIDTH. The minimum width for any residential lot shall be 40 feet at the designated front setback. The minimum lot frontage along a public right-of-way shall be 30 feet.

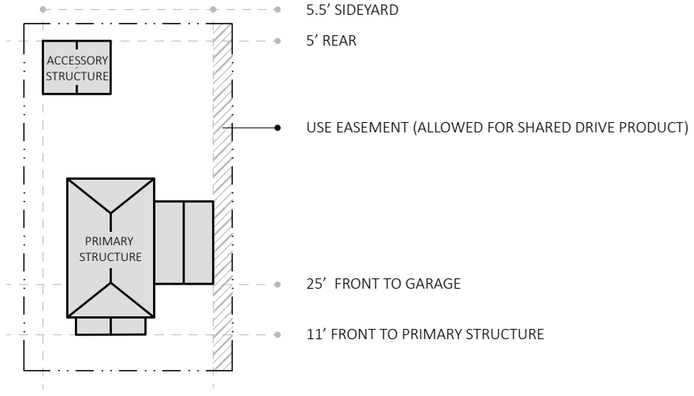
MAXIMUM LOT COVERAGE. The maximum lot coverage shall be seventy-five percent.

FRONT YARD REQUIREMENTS. The minimum front yard setback shall be 25 feet as measured from a public right-of-way to the garage face, and 11 feet measured to foundation of living space, a covered porch, patio, or garage side if present.

SIDE YARD REQUIREMENTS. All dwelling structures, other main buildings and accessory buildings requiring a building permit shall be set back from each side property line a distance of at least 5.5 feet. Setbacks shall be measured to the foundation.

REAR YARD REQUIREMENTS. All primary dwelling structures, shall be set back from the rear property line a minimum of 20 feet as measured to the foundation. Accessory Dwelling Units, uncovered decks, patios, garages, and other accessory buildings shall be set back from the rear property line a minimum of 5 feet as measured to the foundation.

MINIMUM SETBACK DIAGRAM



CORNER LOTS. On corner lots, the side yard setback on the street side of the lot shall be 25 feet as measured from a public right-of-way to the garage face and 11 feet measured to foundation of the primary dwelling structure, a covered porch, patio, or garage side if present.

SIZE OF BUILDINGS:

HEIGHT OF BUILDINGS. All single-family buildings shall be no higher than 40 feet as measured per Saratoga Springs Land Development Code.

MINIMUM SQUARE FEET. The minimum finished square footage shall be:

LOTS 1-34 & 87-120
1,600 square feet of living space above grade.

LOTS 35-53 & 67-86
1,800 square feet of living space above grade.

LOTS 54-66
2,000 square feet of living space above grade.

PARKING REQUIREMENTS

All single-family housing shall incorporate a minimum of 2 (two) enclosed parking spaces. All single-family housing shall incorporate a minimum 25' (twenty) foot long driveway when facing a public right-of-way.

DRIVEWAYS. Narrow driveways at the street and widen them closer to the garage entrance.

ACCESSORY BUILDINGS AND DWELLING UNITS. Any Accessory Buildings including Accessory Dwelling Units (ADU) shall complement the architecture and style of the main residence, with the intent that it appear part of the original build. ADUs may not be constructed beyond the tenure of the Architectural Review Committee and must be incorporated into another structure. ADUs will count towards density calculations found in the DAP and Community Plan.

ADU SIZE. The minimum square footage shall be 500, the maximum square footage shall be 1,000, with a maximum of (2) bedrooms.

SETBACKS. Structures containing Accessory Dwelling Units up to 15 feet in height may have a rear setback of 5 feet and a side setback of 5.5 feet as measured to the structure. For every 2 feet of height above 15 feet the structure must add an additional foot of rear setback.

ENTRANCES. Entrances shall be visually subordinate to the main entrance and located on the side or rear of the home.

ADU PARKING. Shall require two additional off-street parking stalls, located behind the front setback. Stalls shall not include the garage or driveway.

UTILITIES. May have separate utility meters for water, gas, electric, but must be in the property owner's name.

FIRE & BUILDING CODE. Accessory Dwelling Units will be required to meet all current fire and building codes. If incorporated into the primary dwelling structure, any passages between main dwelling and ADU must use a secure fire rated door.

OCCUPANCY. An Accessory Dwelling Unit shall be occupied by one family as defined by Title 19.

ADU AMENDMENTS. Amendments to the ADU standards listed herein may be altered with Staff Approval to better align with future Tile 19 ADU regulations.

LANDSCAPING

No area shall be maintained with bare soil for longer than 6 months. All ground surfaces not used for buildings, sidewalks, roadways, or other impermeable surfaces shall be covered with live grass, turf, shrubbery, trees, ground cover, flowering plants or appropriate mulching.

All landscaping shall be installed with initial construction (within 30 days of certificate of occupancy). Landscape plans shall be prepared by a licensed landscape architect, certified nurseryman or master gardener and approved by the Architectural Review Committee (ARC). If the planting of live material is hindered by adverse weather conditions, an extension of time may be granted for a period of up to six months. The ARC will monitor and enforce compliance with landscaping requirements. All plant material will meet or exceed ANSI Z60.1 standards for size and quality.

OPEN SPACE

STREETSCAPE:

PLANTING STRIPS. The minimum width for planting strips in Village 1A is 8 FT.

SIDEWALKS. The minimum width for sidewalks in Village 1A is 5 FT.

TRAIL WIDTH. The trail along Founders Boulevard and surrounding Village 1B shall be 10 FT in width.

STREET TREE SPACING. Street trees should be planted to create a continuous canopy at maturity. Actual spacing will depend on species variety.

SEATING. Melville Series from Landscape Forms

SIGN POSTS. Capital Streetscapes 3" Fluted Pole - Ball Finial - Base 31 - White on Green or Blue Street Signs - ST Series frames without scrolls

LIGHTING. All street lighting will use the Saratoga Springs City standard fixtures.

Melville Bench Series by Landscape Forms

TRADITIONAL

Backed - Wood Seat

Backless - Wood Seat

Skateboard Deterrent - 1 Divider

MODERN

Backed - All Metal

Backless - All Metal

Skateboard Deterrent - 2 Dividers

Capital Streetscapes Sign Posts

Saratoga Springs City Light Fixtures

14' Local Street Light

20' Collector Street Light

28' Arterial Street Light

ARCHITECTURAL STANDARDS:

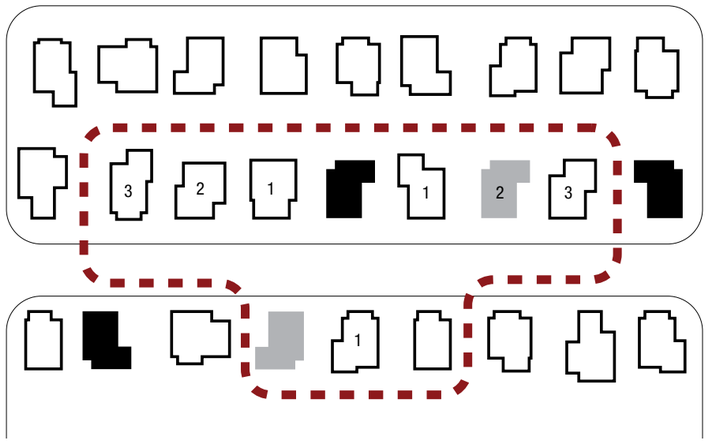
Architectural styles that include extreme colors, problematic materials, or styling as defined by the Architectural Review Committee will not be allowed within the Village. However, reasonable variations in the architectural styles and construction materials are allowed and will be necessary to give flexibility for future trends in the market place. All variations in style and material require formal approval from the Village Architectural Review Committee.

FLOORPLAN AND EXTERIOR COLOR SCHEME MIXING:

In an effort to promote variety within the neighborhood the following village-wide restriction will be enforced:

- No single-family homes may be built on lots next door to or directly across the street from a previously selected single family home with the same floorplan.
- Identical floor plan and elevation combinations must be separated by at least 3 lots
- No main body exterior color can be built next door or directly across the street from a previously selected main body exterior color.

AREA OF INFLUENCE



Identical Floor Plan & Elevation Combination

Identical Floor Plan

ARCHITECTURAL STYLES:

Listed in this section are examples of architectural styles that will be acceptable for Village 1A Builders. Architectural Styles should be inspired by local and regional architecture to contribute to a sense of place. Avoid combining structural and decorative characteristics from different architectural styles into a single building. Allowable styles as set forth in this plan are as described by the Utah Department of Heritage and Arts. Further detail and reference at https://heritage.utah.gov/history/building-styles and in the document 'Architectural Styles in Utah' in Appendix G of the Community Plan.

A. CLASSICAL BUILDING STYLES
- Georgian
- Federal

B. PICTURESQUE BUILDING STYLES
- Greek Revival
- Gothic Revival
- Italianate

C. VICTORIAN BUILDING STYLES
- Stick Style
- Shingle Style
- Romanesque

D. EARLY TWENTIETH-CENTURY BUILDING STYLES
- Bungalow
- Arts and Crafts
- Prairie School

E. PERIOD REVIVAL BUILDING STYLES
- Colonial Revival
- Jacobethan Revival 1900-1935

F. G. WORLD WAR II/POST-WAR BUILDING STYLES†
- Post-War Colonial
- Post-War Modern

† Due to iconic nature of these styles, these Styles will be limited to a select number of premium lots identified on the lotting map on pg. 38

SPATIAL HIERARCHY. Create a progression of spaces, transitioning from the public to private realm. At the sidewalk begin to define the semi-public front yard with a change in materials or planting and continue to articulate the semi-private porch or entry court with seating, planters and other furniture.

MASSING. Minimize the bulk of the buildings by limiting building length, or designing structure with two or more of the following special features to break up building bulk, including:

- Horizontal and vertical modulation defined by a minimum of 10 corners at the foundation
- Changes in roof form and height,
- Major full-height recesses (at least 5 feet deep) along the length of the building that successfully break the building into smaller discrete masses.

BUILDING HEIGHT. Step back the upper stories from the stories below, tuck the upper stories inside a pitched roof, or use pitched roofs with dormer windows for upper story rooms in order to maximize light, air, and privacy for residents. In sloped areas, design buildings to step down following the grade of the land, rather than having tall down-slope walls that are highly visible or out of scale with surrounding properties

PICTURESQUE BUILDING STYLES

Greek Revival

Gothic Revival

Italianate

CLASSIC BUILDING STYLES

Georgian Style

Federal Style

VICTORIAN BUILDING STYLES

Stick Style

Shingle Style

Romanesque

PERIOD REVIVAL BUILDING STYLES

Colonial Revival Style

Jacobethan Style

EARLY TWENTIETH-CENTURY BUILDING STYLES

Bungalow Style

Arts and Crafts Style

Prairie Style

WORLD WAR II/POST WAR BUILDING STYLES†

Post War Colonial

Post War Modern Style

BUILDING MATERIALS. Material choices should reflect and reinforce the architectural style of the residence. A minimum of 3 colors or materials should be used for the main structure, trim and accent.

- Use building materials that convey a sense of durability and permanence.
- Use the highest quality and most durable materials at the base of buildings, because those can be most impacted by landscaping, people, and automobiles.
- Use a complementary palette of materials on all four sides of buildings. Use building materials of similar durability and quality throughout the project.
- Use exterior siding materials such as wood siding, masonry, tile, wood shingles, metal panels, stucco and glass panels.
- Locate material changes at interior corners as a return at least six feet from the external corners or other logical terminations; and not at external corners.

FOUR-SIDED ARCHITECTURE | DO THIS

FOUR-SIDED ARCHITECTURE | NOT THIS

BUILDING COLORS.
Select a coordinated palette of complimentary colors, rather than a patchwork of competing colors.

- Use bright and/or dark colors only as accent colors on trim.
- Do not use fluorescent or neon colors.
- Select a set of colors that is compatible with the architectural style of the property.

ARCHITECTURAL ARTICULATION. Design doorways, columns, overhangs, and other architectural elements to be substantial in depth, in order to create shadow and architectural relief. Architecture should be have elevated articulation on any publicly visible face. Rear facades may not be flat or featureless. Incorporate the following features, consistent in design style, that provide articulation and design interest consistently throughout the property:

- Decorative trim elements that add detail and articulation, such as door surrounds with at least a two-inch depth, decorative eave detailing or belt courses appropriate for the architectural style
- Roof overhangs at least 18 inches deep
- Use a variety of materials, especially at ground level stories, for detailing at porches / entry areas, paneling at bays or at special parts of the building
- Building base (typically bottom three feet) that is faced with a stone or brick material, or is delineated with a channel or projection; and/or railings with a design pattern and materials such as wood, metal, or stone which reinforces the architectural style of the building
- Incorporate projections and recesses throughout the façade design to add architectural interest and a visual play of light and shadow. Examples include: bay windows, chimneys, front porches, balconies, overhangs, brackets, and cornices.
- Incorporate building projections that enhance the design and articulation of the building. These may project into required front, side, and rear yards up to the limits allowed in the development standards.

ROOF FORMS. Incorporate variable roof forms into the building designs, to the extent necessary to avoid a boxy appearance of residential buildings. This may be accomplished by changes in roof height, offsets, change in direction of roof slope, dormers, parapets, etc.

DOORS, PORCHES & ENTRANCES. Emphasize building entrances with special architectural and landscape treatments. Generous, functional porches or entry courts are strongly encouraged. Design building entrances so that they are not over-scaled relative to the size of the buildings, such that they exaggerate the scale of the structure. Front Entry doors are encouraged to have elevated styling and detail. Emphasis through color, material, upgraded hardware, transoms and sidelights, etc. is expected.

WINDOWS. Design window patterns and proportions to enhance all facades of the building and add architectural interest. Differentiate window designs (size, proportion) to reflect the different components of residential units, (for example entrances, living areas, stairways, and bedrooms) while ensuring harmony within that variety.

Design windows recesses, window trim and other window elements to be substantial in depth to create shadows and add architectural interest. Incorporate at least one of the following window features throughout the project:

- A minimum depth of at least two inches from glass to exterior of trim;
- A minimum depth of at least six inches from glass to wall edge around windows if there is no trim (this is only appropriate for certain genres such as Modern or Post-War styles);
- Decorative trim elements that add detail and articulation, such as window surrounds with at least a two-inch depth. They must be designed as an integral part of the design, and not appear “tacked-on.” Shutters must have hardware that implies full functionality, even if they are merely decorative.

ACCESSORY BUILDINGS. Design accessory buildings such that the exterior appearance of the building demonstrates design integrity in the following ways:

- Use complementary materials for exterior facades;
- Use window types that are similar in size, shape and proportion of the windows on the original building;
- Use consistent roof materials and roof forms.

PRIVACY. Use design strategies to protect privacy, such as offsetting windows of adjacent units, locating minor windows above eye level, and using opaque glass for minor windows.

FENCING

Fences and walls help define public and private open space boundaries, but can detract from the character of a community without regulation. Fence design should correspond to the style of the Architecture and will be approved by the Architectural Review Committee. Privacy fences for side yards adjacent to a public street are encouraged to use a gabion & weathering steel fence (as shown in example on pg. 27).

RESIDENTIAL PERIMETER FENCING

- Front Yard Fencing is not allowed
- Back/Side Yard Height: maximum of 6 FT for privacy fencing between lots
- A privacy fence shall be reduced to a height of 3 FT for 10 FT in either direction of a driveway for visibility
- Acceptable materials – Wood, Metal, Brick, Stone, Architectural Concrete, etc. Vinyl and precast concrete products will be allowed on a case-by-case basis as approved by the Architectural Review Committee.

MAILBOX STRUCTURES

As a decentralized neighborhood, Village 1A will utilize the 16 Door Vogue Classic Cluster Mailbox or approved equivalent, located near the beginning of the slip lane for convenience. ADA accessible paths will allow access to the retrieval side. Mailbox locations will be identified on all final plats.

FENCING | RESIDENTIAL

Wooden Perimeter Fence

Wooden Privacy Fence

Modern Slat Privacy Fence

Modern Wood & Stucco Privacy Fence

Wood & Metal Perimeter Fence

Traditional White Picket Fence

Gabion & Wooden Fence

Contemporary Mesh Fence

MAILBOX | VILLAGE 1A

MAILBOX | VILLAGE 1A

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED

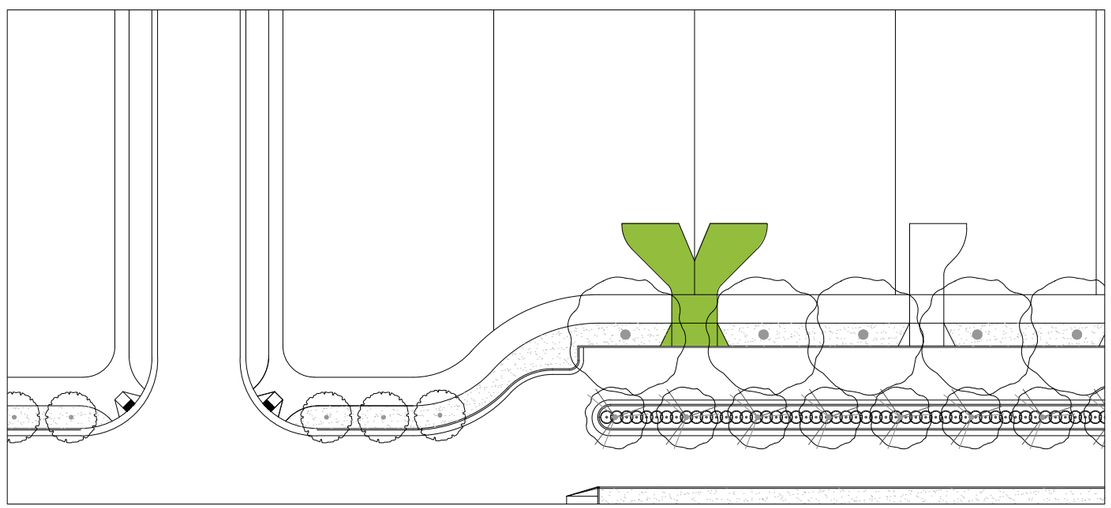
PROTRUDING GARAGE | NOT THIS

RECESSED GARAGE | GOOD

SIDE FACING GARAGE | BETTER

REAR GARAGE | BEST

SHARED DRIVEWAYS



Due to the constraints of the slip lanes a limited number of lots will need to share drive access with the neighboring lot. Appropriate cross access easements will be shown on final plats.

Setting the garage towards the rear of the lot increases the maneuverability of the shared drive. If paving is expanded to allow greater maneuverability, screening elements should be used to minimize the impact from the street. Efforts should be made to keep sight lines clear of visual obstacles that would increase the likelihood of collisions.

LANDSCAPE PLANS

Landscaping should be considered an extension of a residence and viewed as a series of outdoor rooms. This level of planning can dramatically extend the living environment by creating outdoor spaces with defined functions across the lot. Yards, especially those areas visible from the street, should complement the architecture while expressing the individuality of each homeowner.

Residential landscapes are a visible expression of neighborhood culture and identity. Any guidelines provided in this document are meant to create coherent streetscapes and encourage thoughtful planning of yards for each housing typology. Expression though landscaping is encouraged and aids in personalizing neighborhoods. Example planting palettes have been provided in the following pages. Additional plants and schemes may be used, but must be approved by the Architectural Review Committee.

Landscape designs should frame the home and reinforce the human scale already integrated into the architecture. For front yards, and side yards adjacent to a road, consider the impact of the design on social opportunities and street life. In general, the landscape should connect the residence to the street.

INTENT

- Landscaping should complement the surrounding architecture and unify open spaces.
- Landscapes should reduce the apparent mass of adjacent buildings by considering important architectural elements prior to planting and how vegetation will aid in grounding the structure.
- Landscaping should screen cars, trash enclosures, secondary structures, and parking from the road.
- Vegetation should be used to define boundaries and preserve residential privacy and discourage defaulting to fencing and walls. Plantings should soften fences and walls exposed to public view.
- Landscape should enhance safety and comfort. Avoid vegetation that reduces visibility along primary paths.

DESIGN GUIDELINES

RESIDENTIAL LANDSCAPES

All residential yards are encouraged to have plantings that correspond to the following locations or features of the lot:

FOUNDATION PLANTING

- 3 FT wide densely planted with shrubs to screen the foundation where exposed to view.

FENCE PLANTING

- Minimum of 2-3 FT of landscaping on sides exposed to public view where consistent maintenance is provided.

All planting areas (planter beds and lawn) should contain a minimum of 12 inches of topsoil, tilled into the top 4 inches of the existing grade, and 3 inches of mulch (organic or inorganic) to maintain soil moisture and prevent weed growth.

Clean edges between lawn and plantings should be integrated into the landscape and can be accomplished with edging or shovel cut.

LAWNS

Should be limited to areas where it serves a function. Deep rooted and drought tolerant turf varieties should be considered in an effort to conserve water. Do not place turf in narrow, small, or odd shaped areas that reduce irrigation efficiency. Lawn strips are encouraged to be at least 8 FT wide. Lawn strips on side yards may be reduced to 3 FT.

- Lawns must be a minimum of 2 FT from fencing and 3 FT from building foundations on sides exposed to public view.

IRRIGATION

Implement water efficient landscaping techniques. Utilize matched precipitation rate spray and rotor heads for all lawn areas. Avoid overspray by using the appropriate spray head distances and inspect system frequently. Shrub and perennial beds should be drip irrigated to more efficiently water planter areas and avoid spraying the house, garden structures, and fencing.

LANDSCAPE | FOUNDATION PLANTING

LANDSCAPE | FENCE PLANTING

LANDSCAPE | ALLEY PLANTING

GREEN ON GREEN PLANT PALETTE

Persian Ironwood

Tiger Eyes Sumac

Heavenly Bamboo

Burning Bush

Kinnickinnick

Mormon Tea

TREES

Arborvitae

Linden

Hazelnut
English Oak
Norway Maple
Sumac
Green Ash
Zelkova
Bradford Callery Pear
Cypress
Fir
Spruce

GRASSES

Zebra Maiden Grass

Japanese Forest Grass

Sedge
Maidenhair

SHRUBS

Boxwood

Laurel

Dogwood

Lo-grow Sumac

Dwarf Oregon Grape

Lowdense Privet
Hedge Cotoneaster
Burning Bush
Dwarf Arctic Willow
Viburnum
Yew

GROUNDCOVERS

Lily of the Valley

Pachysandra

Speedwell
Veronica
Sweet Woodruff
Bishops Weed
Sedum
Scotch Moss

VINES

Boston Ivy

Dutchman's Pipe

English Ivy
Hops
Clematis

MODERN COTTAGE PLANT PALETTE

Persian Ironwood

Serviceberry

English Lavender

Dwarf Fountain Grass

Speedwell

Blue Mist Shrub

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED

TREES

Flowering Plum

Flowering Pear

Sumac
Birch
Red Maple
Ginnala Maple
English Oak
Weeping Cherry
Lilac
Crabapple
Cherry
Redbud
Black Locust

SHRUBS

Spirea

Forsythia

Viburnum
Snowberry
Dogwood
Dwarf Arctic Willow
Mock Orange
Myrtle
Sage
Hydrangea
Lilac
Mazanita
Laurel
Lodense Privet

GROUNDCOVERS

Hardy Plumbago

Lilly of the Valley

Gro-low Sumac
Lilyturf
Sweet Woodruff
Bugleweed
Crested Iris
Vinca

GRASSES

Blue Oat Grass

Mexican Feather Grass

Muhly Grass
Little Bluestem
Alkali Sacaton
Deer Grass
Blue Fescue
Horsetail
Indian Grass
Feather Read Grass
Blue Grama

PERENNIALS

Russian Sage

Blue Flax

Baptista
Bleeding Heart
Bluebells
Catmint
Columbine
Coneflower
Tickseed
Delphinium
Fuchsia
Gaura
Hyssop
Iris
Penstemon
Wormwood

VINES

Wisteria

Clematis

Hops
Boston Ivy
Honeysuckle
Trumpet Vine

ORNAMENTAL GRASS PLANT PALETTE

Blue Oat Grass

Blonde Ambition Grama Grass

Karl Foerster Reed Grass

Dwarf Fountain Grass

Maiden Grass

Tufted Hair Grass

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED

TREES

Birch

Sumac

Sweetgum

SHRUBS

Horsetail

Redtwig Dogwood

Mormon Tea

GRASSES

Maidenhair

Little Bluestem

Muhly Grass

Dwarf Fountain Grass

Mexican Feather Grass

Purple Fountain Grass

GROUNDCOVERS

Desert Green

Lily Turf

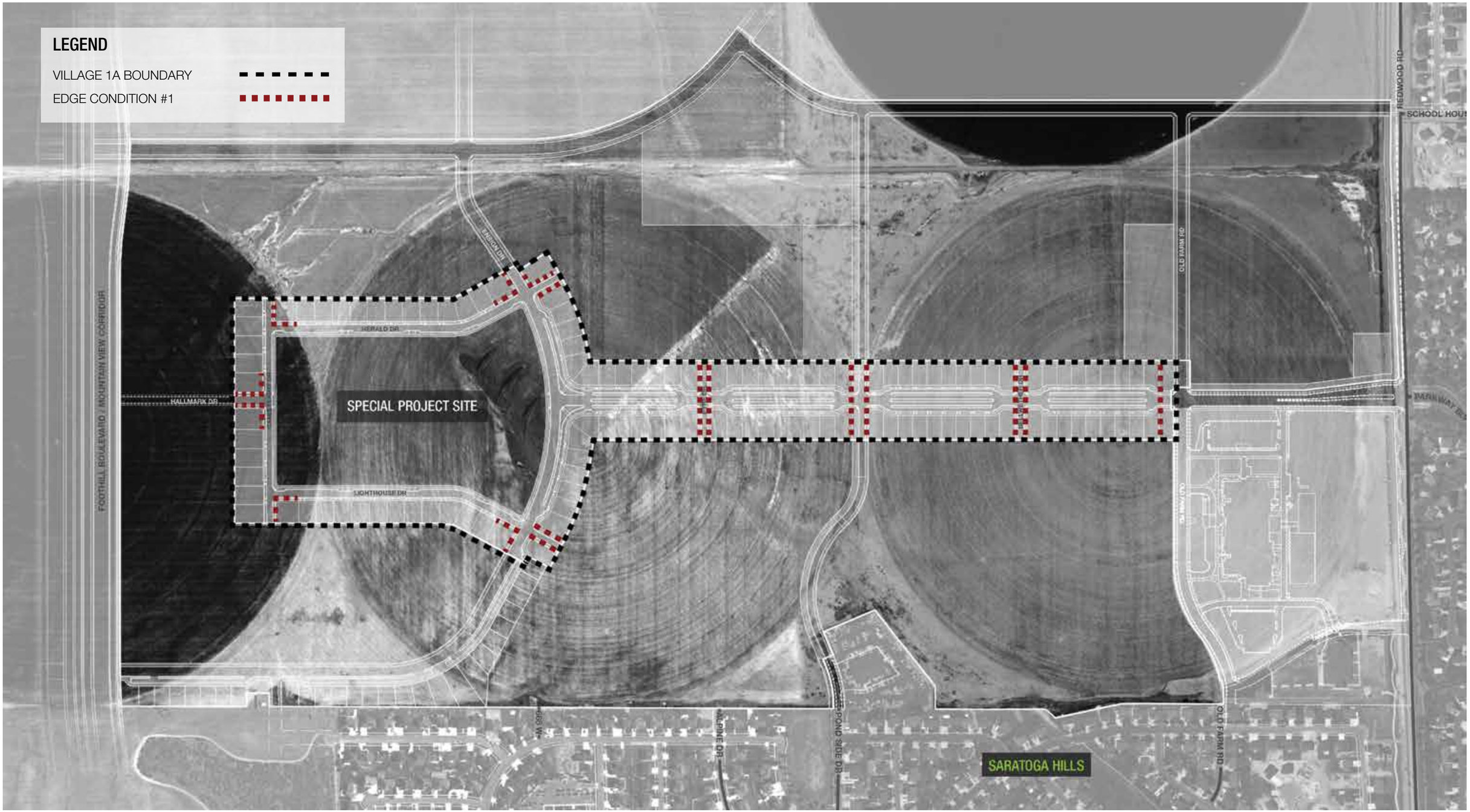
Sedge

VINES

Hops

Clematis

Honeysuckle



NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED

EDGE CONDITION #1

1. Privacy fences for side yards will be required to compliment the architecture of the home, with preference to using gabion & weathering steel fence
2. Four-sided architecture is required
3. Appropriately irrigated & maintained fence planting is required (see pg.19)
4. Side park strips should contain at least 1 tree for every 30 feet (excluding driveway access and sight triangles) with a minimum of 2 trees.

VILLAGE PLAN | ARCHITECTURAL REVIEW COMMITTEE

ARCHITECTURAL REVIEW COMMITTEE:

In order to create, maintain and improve the integrity of the community, and to establish and implement a consistent and harmonious design concept and to protect and promote the present and future values of Beacon Pointe, all exterior, architectural building elevations and building materials, colors and usage design, site plan and landscape treatments, wall and fencing, and signage within the Village shall be subject to a design review process and approval established by the Master Developer.

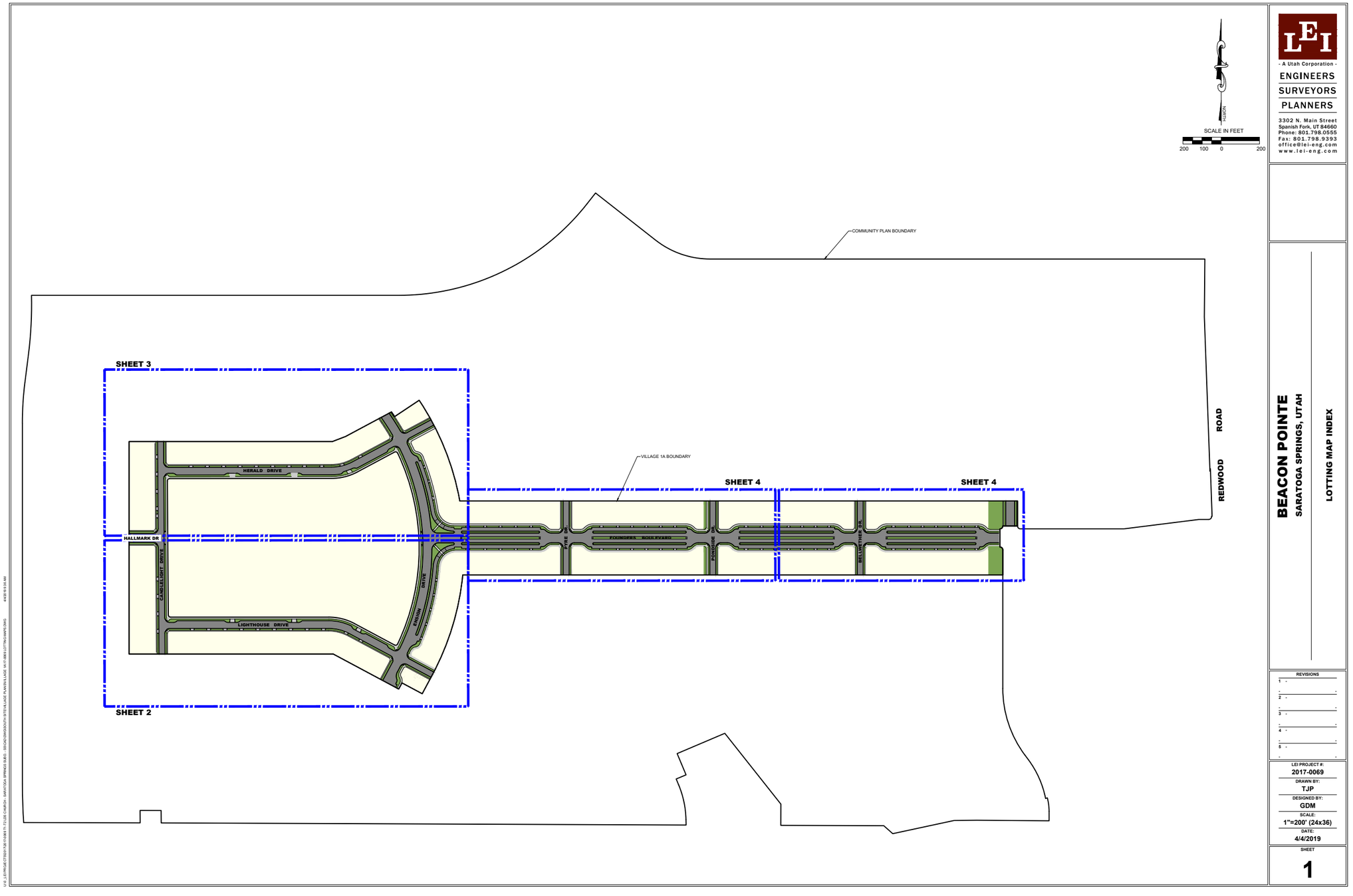
The committee shall consist of representatives from the following: The Master Developer and a selected team of design professionals, i.e. planners, engineers, architects, contractors, etc. The committee will review proposed materials as well as architectural and site plans for compliance with Guiding Principles set forth in the Community Plan and Village Design Guidelines.

Applicants are responsible for submitting evidence of ARC approval to the City at the time of building permit application. The Master Developer shall retain the right to retain or replace members of the committee at its discretion. The Architectural Review Committee shall be the approval body until the Village is fully built out, at which time it can transition responsibilities over to the Village HOA, if established.

VILLAGE PLAN | PHASING PLAN


LEGEND
PHASE 1
SPECIAL PROJECT SITE
HERALD DR
HALLMARK DR
LIGHTHOUSE DR
ENGRAVER DR
FOOTHILL BOULEVARD / MOUNTAIN VIEW CORRIDOR
REDWOOD RD
OLD FARM RD
PARKWAY BLVD
Existing Jr. High School Site
Existing Church Site
Existing Church Site
POND SIDE DR
ALPINE DR
N

VILLAGE PLAN | LOTTING MAP



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Spanish Fork, UT 84660
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BEACON POINTE
SARATOGA SPRINGS, UTAH

LOTTING MAP INDEX

REVISIONS
1 -
2 -
3 -
4 -
5 -

LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: GDM
SCALE: 1"=200' (24x36)
DATE: 4/4/2019
SHEET: 1

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BEACON POINTE
SARATOGA SPRINGS, UTAH
LOTTING MAP

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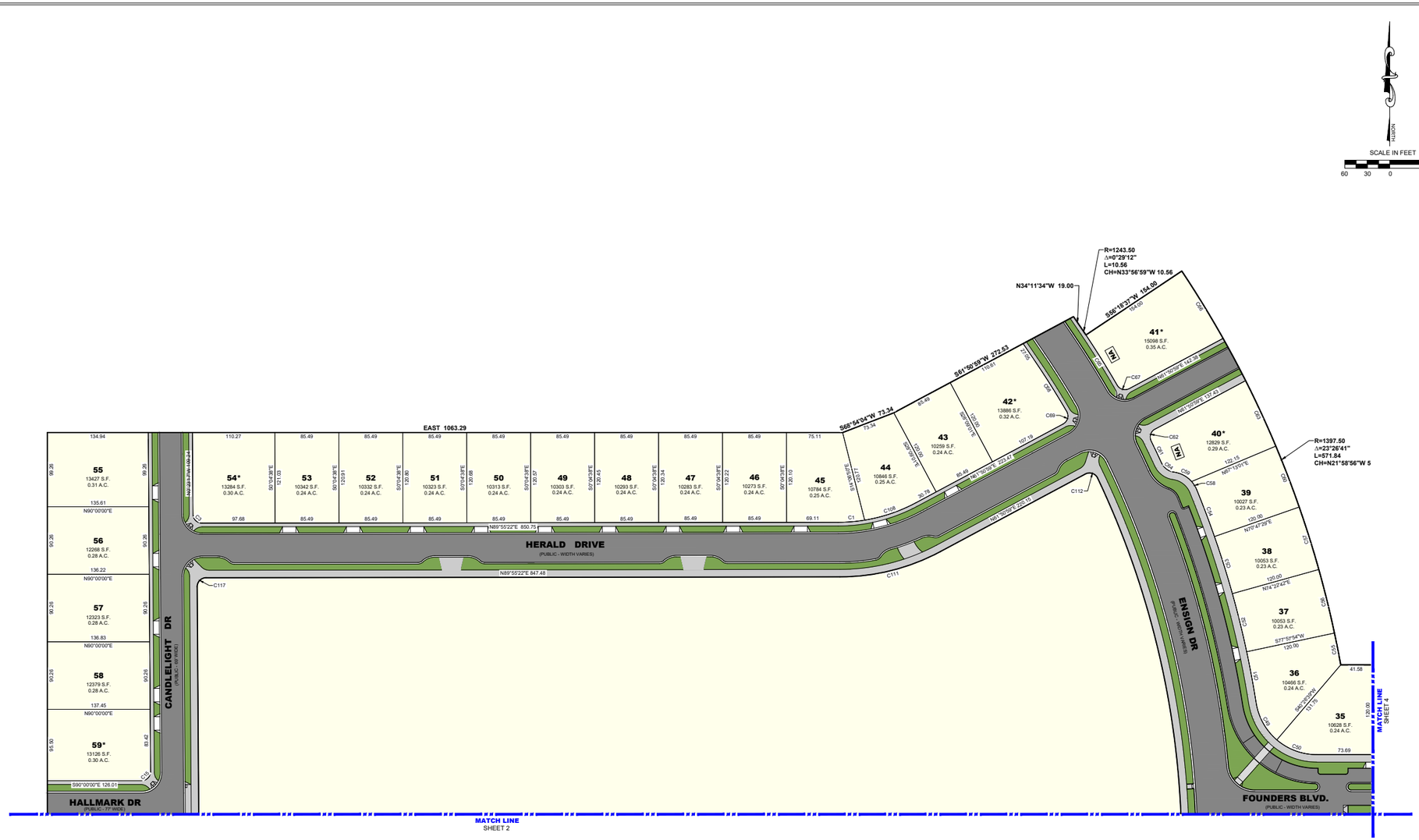
SHEET: 2

BEACON POINTE | VILLAGE PLAN | LOTTING MAP



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BEACON POINTE
SARATOGA SPRINGS, UTAH

LOTTING MAP

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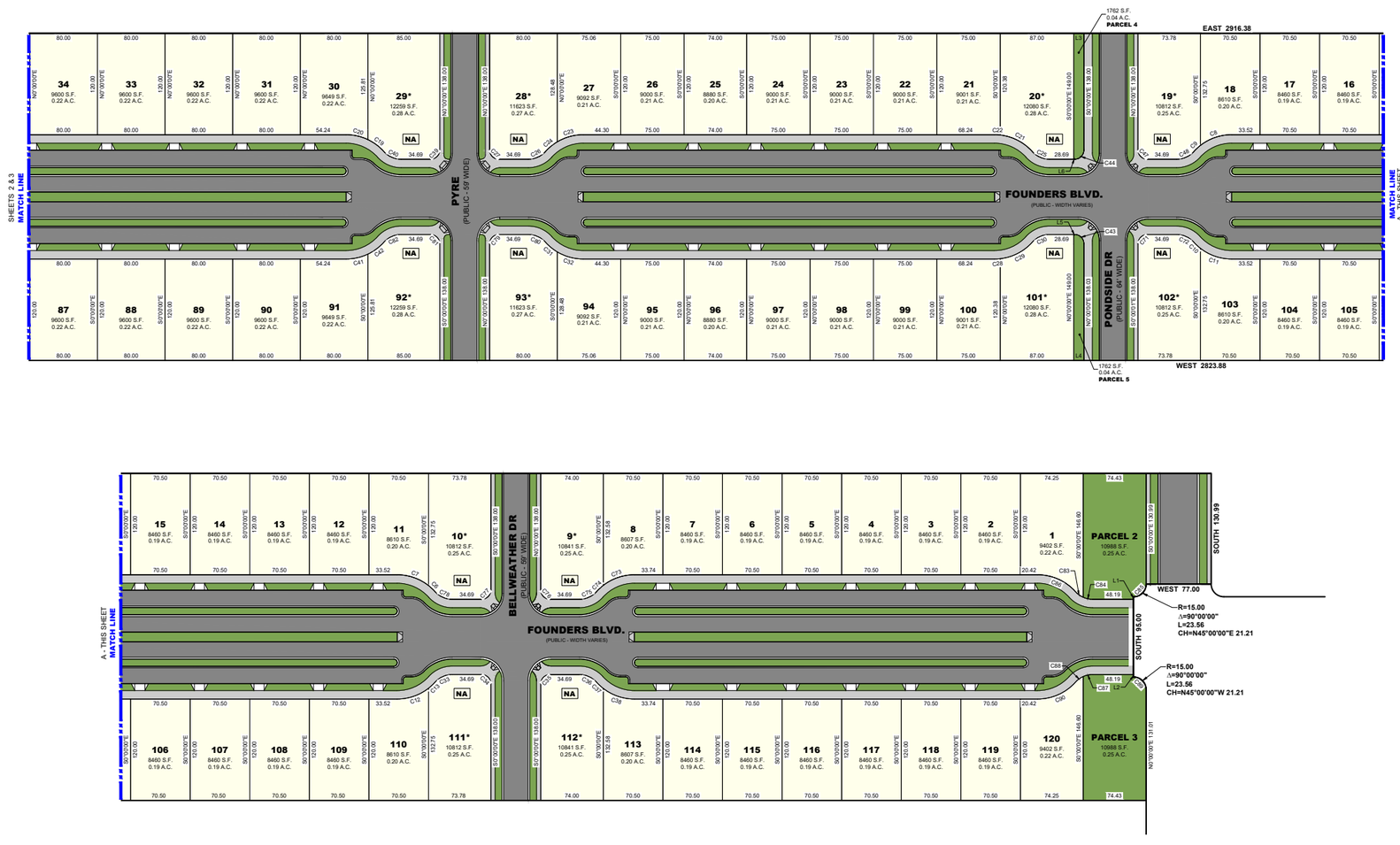
DATE: 4/4/2019

SHEET 3

BEACON POINTE | VILLAGE PLAN | LOTTING MAP



NORTH

SCALE IN FEET
60 30 0 60

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BEACON POINTE
SARATOGA SPRINGS, UTAH

LOTTING MAP

REVISIONS
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LEI PROJECT #: 2017-0069
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DESIGNED BY: GDM
SCALE: 1"=60' (24x36)
DATE: 4/4/2019

SHEET 4

U:\E_LEI_PROJECTS\2017\2017-0069 FY - 7 LDS CHURCH - SARATOGA SPRINGS (SBC - SRC ADVISORS)\3-PLSF\VILLAGE PLAN\VILLAGE VIA TITLE 19 LOTTING MAPS.DWG 4/4/2019 9:36 AM

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C1	220.50	9°12'35"	35.44	N85°19'04"E 35.40
C2	220.50	18°51'48"	72.59	N71°16'53"E 72.27
C3	12.00	89°41'21"	18.78	S45°13'58"E 16.92
C4	220.50	19°10'06"	73.77	N80°24'57"W 73.42
C5	12.00	90°23'17"	18.93	S44°48'21"W 17.03
C6	60.00	9°59'45"	10.47	N46°57'18"W 10.45
C7	60.00	38°02'50"	39.84	N70°58'35"W 39.11
C8	60.00	38°02'50"	39.84	S70°58'35"W 39.11
C9	60.00	9°59'45"	10.47	S46°57'18"W 10.45
C10	60.00	9°59'45"	10.47	S46°57'18"E 10.45
C11	60.00	38°02'50"	39.84	S70°58'35"E 39.11
C12	60.00	38°02'50"	39.84	N70°58'35"E 39.11
C13	60.00	9°59'45"	10.47	N46°57'18"E 10.45
C14	12.00	89°36'43"	18.77	N45°11'39"W 16.91
C15	12.00	90°23'17"	18.93	N44°48'21"E 17.03
C16	12.00	90°00'00"	18.85	S73°09'01"W 16.97
C17	38.50	48°01'48"	32.27	N8°43'33"W 31.34
C18	21.50	58°53'28"	22.10	S1°17'43"E 21.14
C19	60.00	22°37'07"	23.69	N53°15'58"W 23.53
C20	60.00	25°25'28"	26.62	N77°17'16"W 26.41

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C21	60.00	41°34'31"	43.54	N62°44'41"W 42.59
C22	60.00	6°28'04"	6.77	N86°45'58"W 6.77
C23	60.00	30°50'27"	32.30	S74°34'46"W 31.91
C24	60.00	17°12'08"	18.01	S50°33'29"W 17.95
C25	27.50	48°02'35"	23.06	S65°58'42"E 22.39
C26	27.50	48°02'35"	23.06	N65°58'42"E 22.39
C27	11.00	90°00'00"	17.28	S45°00'00"E 15.56
C28	60.00	6°28'04"	6.77	N86°45'58"E 6.77
C29	60.00	41°34'31"	43.54	N62°44'41"E 42.59
C30	27.50	48°02'35"	23.06	S65°58'42"W 22.39
C31	60.00	17°12'08"	18.01	S50°33'29"E 17.95
C32	60.00	30°50'27"	32.30	S74°34'46"E 31.91
C33	27.50	48°02'35"	23.06	S65°58'42"W 22.39
C34	11.00	90°00'00"	17.28	N45°00'00"W 15.56
C35	11.00	90°00'00"	17.28	S45°00'00"W 15.56
C36	27.50	48°02'35"	23.06	N65°58'42"W 22.39
C37	60.00	10°15'41"	10.75	S47°05'16"E 10.73
C38	60.00	37°46'54"	39.56	S71°06'33"E 38.85
C39	11.00	90°00'00"	17.28	N45°00'00"E 15.56
C40	27.50	48°02'35"	23.06	S65°58'42"E 22.39

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C41	60.00	25°25'28"	26.62	N77°17'17"E 26.41
C42	60.00	22°37'09"	23.69	N53°15'59"E 23.53
C43	11.00	90°00'00"	17.28	N45°00'00"W 15.56
C44	11.00	90°00'00"	17.28	N45°00'00"E 15.56
C45	82.00	56°25'46"	80.76	S61°47'07"W 77.54
C46	82.00	29°20'54"	42.00	S18°53'47"W 41.54
C47	11.00	90°00'00"	17.28	S45°00'00"E 15.56
C48	27.50	48°02'35"	23.06	N65°58'42"E 22.39
C49	82.00	40°29'01"	57.94	S29°10'00"E 56.74
C50	82.00	40°35'29"	58.09	S69°42'15"E 56.89
C51	1277.50	3°06'54"	69.45	N10°28'56"W 69.45
C52	1277.50	3°35'20"	80.02	N13°50'03"W 80.01
C53	1277.50	3°35'20"	80.02	N17°25'23"W 80.00
C54	1277.50	2°59'51"	66.83	N20°42'58"W 66.83
C55	1397.50	1°46'47"	43.41	N11°08'59"W 43.41
C56	1397.50	3°35'19"	87.53	N13°50'02"W 87.52
C57	1397.50	3°35'19"	87.53	N17°25'21"W 87.52
C58	38.50	19°33'07"	13.14	N31°59'27"W 13.07
C59	38.50	40°31'11"	27.23	N62°01'36"W 26.66
C60	1397.50	3°34'34"	87.23	N21°00'17"W 87.21

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C61	1248.50	1°29'18"	32.43	N25°18'20"W 32.43
C62	12.00	87°53'58"	18.41	S17°54'00"W 16.66
C63	1397.50	3°57'18"	96.47	N24°46'13"W 96.45
C64	21.50	57°43'30"	21.66	S53°25'26"E 20.76
C65	1243.50	3°38'53"	79.18	N31°52'56"W 79.16
C66	1397.50	4°19'57"	105.67	N31°32'18"W 105.65
C67	12.00	88°05'32"	18.45	S74°06'15"E 16.69
C68	1167.50	3°58'10"	80.89	N32°12'29"W 80.87
C69	12.00	92°04'23"	19.28	N15°48'47"E 17.27
C70	12.00	90°00'00"	18.85	N16°50'59"W 16.97
C71	11.00	90°00'01"	17.28	S45°00'00"W 15.56
C72	27.50	48°02'35"	23.06	N65°58'42"W 22.39
C73	60.00	37°46'54"	39.56	S71°06'33"W 38.85
C74	60.00	10°15'41"	10.75	S47°05'16"W 10.73
C75	27.50	48°02'35"	23.06	N65°58'42"E 22.39
C76	11.00	90°00'00"	17.28	S45°00'00"E 15.56
C77	11.00	90°00'00"	17.28	N45°00'00"E 15.56
C78	27.50	48°02'35"	23.06	S65°58'42"E 22.39
C79	11.00	90°00'00"	17.28	S45°00'00"W 15.56
C80	27.50	48°02'35"	23.06	N65°58'42"W 22.39

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C81	11.00	90°00'00"	17.28	N45°00'00"W 15.56
C82	27.50	48°02'35"	23.06	S65°58'42"W 22.39
C83	27.50	23°55'32"	11.48	S53°55'11"E 11.40
C84	27.50	24°07'03"	11.58	S77°56'28"E 11.49
C85	15.00	90°00'00"	23.56	N45°00'00"E 21.21
C86	60.00	48°02'35"	50.31	N65°58'42"W 48.85
C87	27.50	24°07'03"	11.58	S77°56'28"W 11.49
C88	27.50	48°02'35"	23.06	S65°58'42"W 22.39
C89	15.00	90°00'00"	23.56	N45°00'00"W 21.21
C90	60.00	48°02'35"	50.31	N65°58'42"E 48.85
C91	1277.50	0°48'30"	18.02	N22°42'54"E 18.02
C92	1277.50	3°35'24"	80.05	N20°30'57"E 80.03
C93	1277.50	3°35'19"	80.02	N16°55'35"E 80.00
C94	1277.50	3°35'20"	80.02	N13°20'15"E 80.00
C95	1277.50	3°35'20"	80.02	N9°44'55"E 80.01
C96	1277.50	3°43'56"	83.22	N6°05'17"E 83.20
C97	1397.50	2°16'59"	55.69	N6°48'44"E 55.68
C98	1397.50	4°28'28"	108.32	N24°31'48"E 108.29
C99	12.00	87°54'09"	18.41	S17°53'55"E 16.66
C100	1248.50	0°35'14"	12.79	N25°45'33"E 12.79

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD
C101	21.50	57°43'30"	21.66	S54°19'41"W 20.76
C102	38.50	60°04'18"	40.37	N53°09'17"E 38.54
C103	1397.50	3°35'24"	87.56	N20°30'53"E 87.55
C104	1397.50	3°35'19"	87.53	N16°55'31"E 87.51
C105	1397.50	3°35'19"	87.53	N13°20'12"E 87.52
C106	1397.50	3°35'19"	87.53	N9°44'53"E 87.52
C108	220.50	18°51'48"	72.59	N71°16'53"E 72.27
C109	220.50	19°10'06"	73.77	N80°24'57"W 73.42
C111	284.50	28°04'23"	139.40	N75°53'10"E 138.00
C112	12.00	92°45'00"	19.43	S71°46'31"E 17.37
C113	1162.50	50°48'13"	1030.78	S0°00'06"W 997.34
C114	12.00	92°44'49"	19.42	S71°46'37"W 17.37
C115	284.50	28°09'01"	139.78	N75°55'29"W 138.38
C116	12.00	89°36'43"	18.77	N45°11'39"W 16.91
C117	12.00	90°18'39"	18.91	N44°46'02"E 17.02

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N0°00'00"E	3.01
L2	N0°00'00"E	2.99
L3	N90°00'00"E	12.00
L4	N90°00'00"E	12.00
L5	S88°29'38"W	1.00
L6	S90°00'00"W	1.00

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BEACON POINTE
SARATOGA SPRINGS, UTAH

CURVE & LINE TABLES

REVISIONS
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LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: GDM
SCALE: N.T.S.
DATE: 4/4/2019

SHEET 5

U:_LEI PROJECTS\2017\2017-0069 TI 7212_CHURCH - SARATOGA SPRINGS BLDG - ENGR\DWGS\SOUTH SITE\VILLAGE PLAN\SVILLAGE AV-17-0069 LOTTING MAPS.DWG 4/4/2019 8:04 AM

PRODUCT TYPE LEGEND

TYPE 1

OVERALL AREA:	7.77 ACRES
MINIMUM LOT SIZES:	6,200 sqft.
MINIMUM FRONTAGE:	62'
MINIMUM SETBACKS:	LIVING SPACE - 11'
	GARAGE - 25'
	SIDES - 5.5'
	REAR - **

TYPE 2

OVERALL AREA:	6.75 ACRES
MINIMUM LOT SIZES:	7,000 sqft.
MINIMUM FRONTAGE:	70'
MINIMUM SETBACKS:	LIVING SPACE - 11'
	GARAGE - 25'
	SIDES - 5.5'
	REAR - **

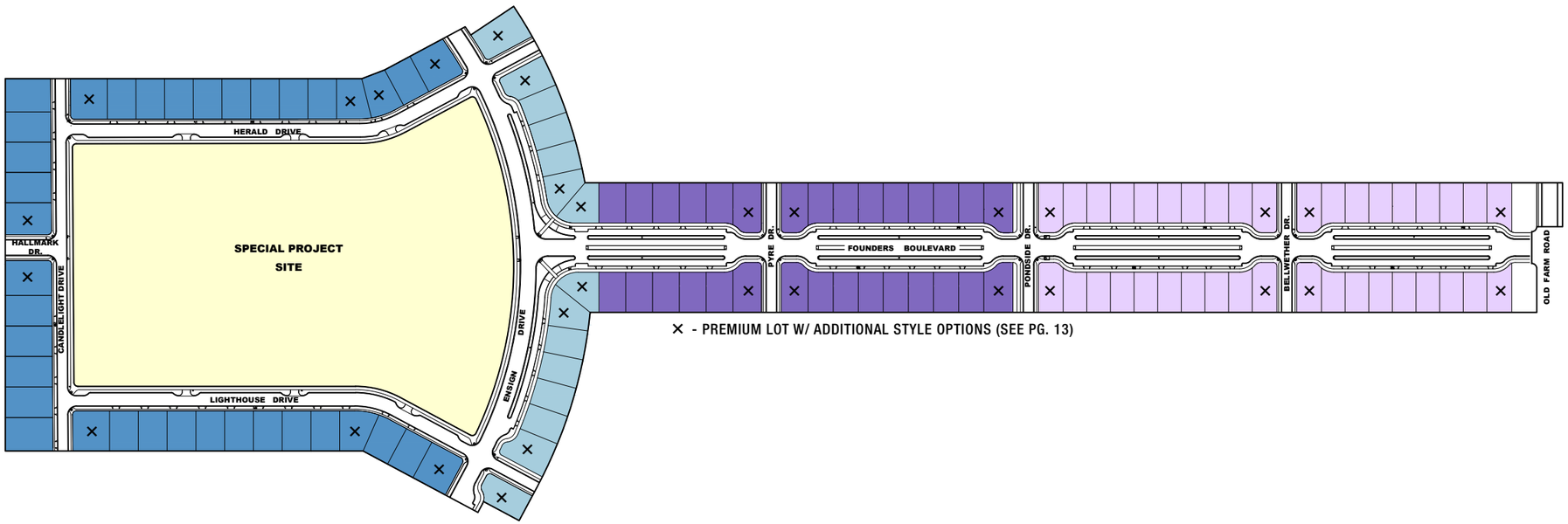
TYPE 3

OVERALL AREA:	3.55 ACRES
MINIMUM LOT SIZES:	8,000 sqft.
MINIMUM FRONTAGE:	80'
MINIMUM SETBACKS:	LIVING SPACE - 11'
	GARAGE - 25'
	SIDES - 5.5'
	REAR - **

TYPE 4

OVERALL AREA:	9.77 ACRES
MINIMUM LOT SIZES:	9,000 sqft.
MINIMUM FRONTAGE:	80'
MINIMUM SETBACKS:	LIVING SPACE - 16'
	GARAGE - 25'
	SIDES - 5.5'
	REAR - **

** REAR SETBACK (TYPICAL FOR ALL PRODUCT TYPES) ALL **PRIMARY DWELLING STRUCTURES**, SHALL BE SET BACK FROM THE REAR PROPERTY LINE A MINIMUM OF 20 FEET AS MEASURED TO THE FOUNDATION. ACCESSORY DWELLING UNITS, UNCOVERED DECKS, PATIOS, GARAGES, AND OTHER ACCESSORY BUILDINGS SHALL BE SET BACK FROM THE REAR PROPERTY LINE A MINIMUM OF 5 FEET AS MEASURED TO THE FOUNDATION.



× - PREMIUM LOT W/ ADDITIONAL STYLE OPTIONS (SEE PG. 13)

NORTH

SCALE IN FEET
150 75 0 150

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BEACON POINTE
SARATOGA SPRINGS, UTAH
PRODUCT TYPE EXHIBIT

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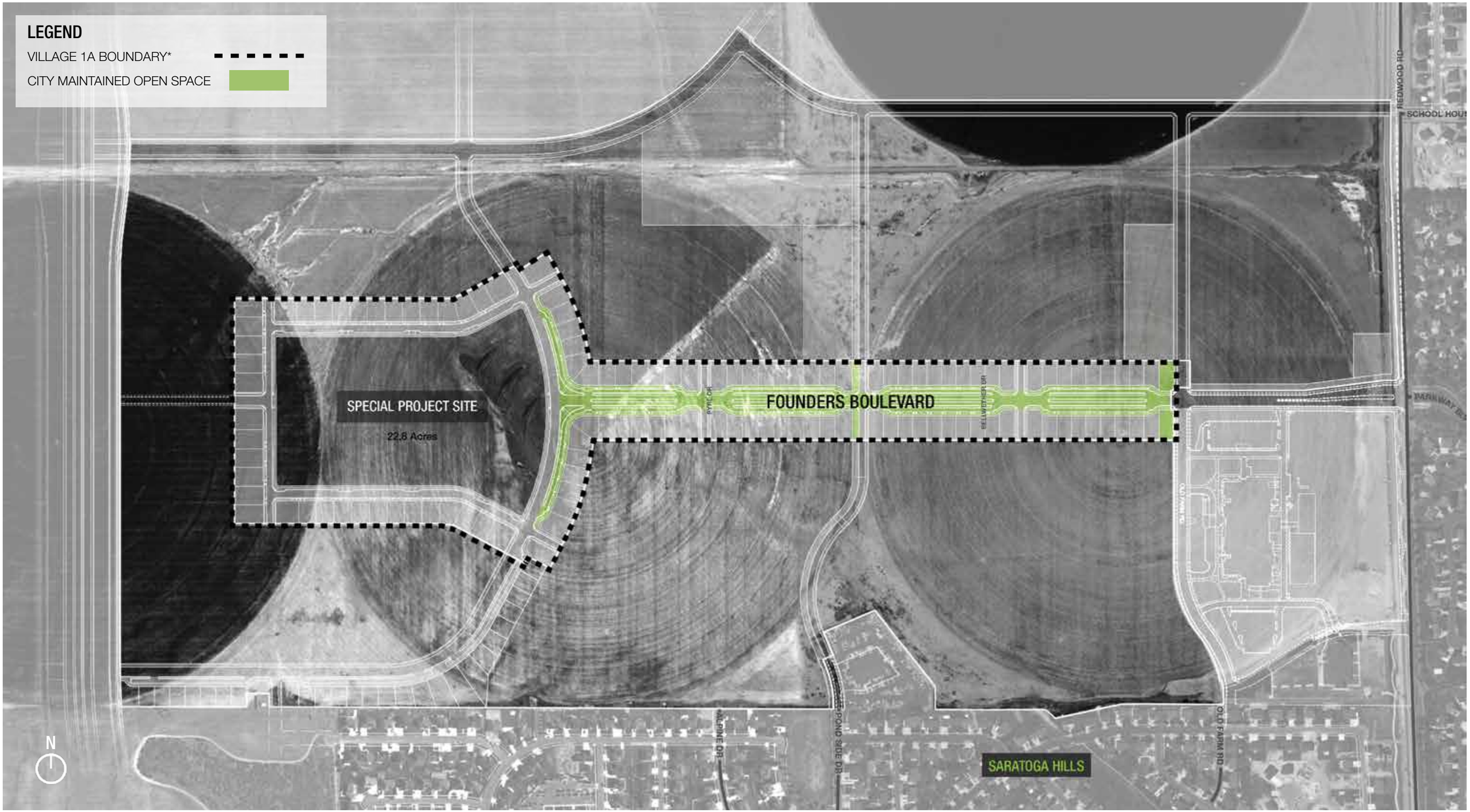
LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: GDM
SCALE: 1"=150' (24x36)
DATE: 5/01/2019
SHEET: 1

VILLAGE PLAN | LANDSCAPING PLAN



LEI Engineers & Surveyors

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED

loci

ENTRANCE PARKS

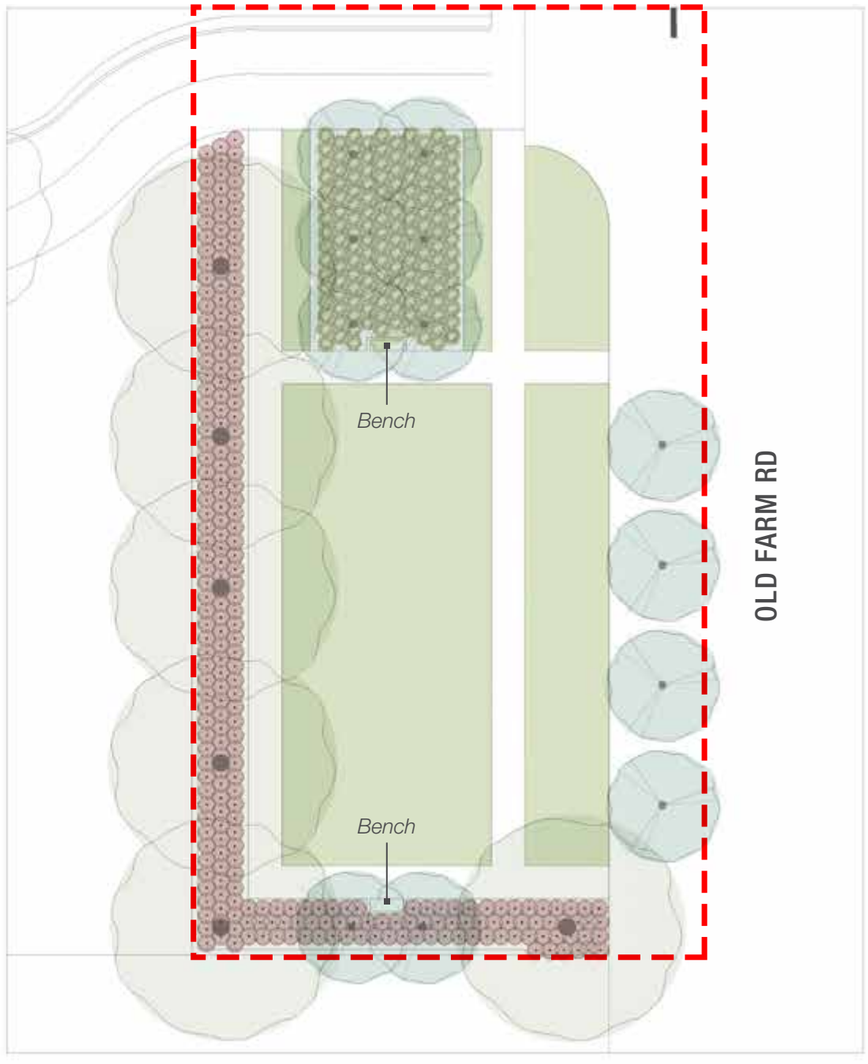
London Plane Tree

Spring Snow Crabapple

Kelsey Dogwood

Dwarf Fountain Grass

Turf Grass



London Plane Tree
3” Caliper - Qty. 6

Kelsey Dogwood
#5 - Qty. 257

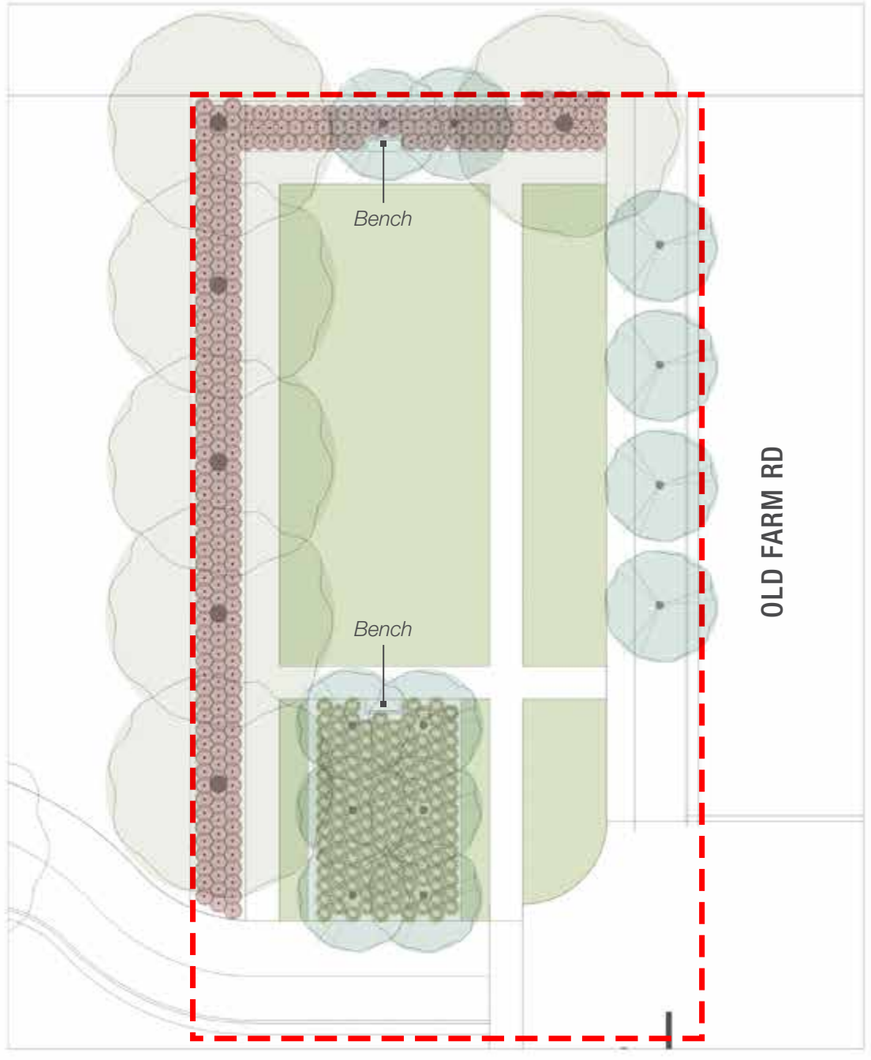
City Maintained

Spring Snow Crabapple
2” Caliper - Qty. 12

Dwarf Fountain Grass
1 gall. - Qty. 149

Turf Grass

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED



London Plane Tree
3" Caliper - Qty. 6

Kelsey Dogwood
#5 - Qty. 257

City Maintained

Spring Snow Crabapple
2" Caliper - Qty. 12

Dwarf Fountain Grass
1 gall. - Qty. 152

Turf Grass

FOUNDER'S BOULEVARD


London Plane Tree

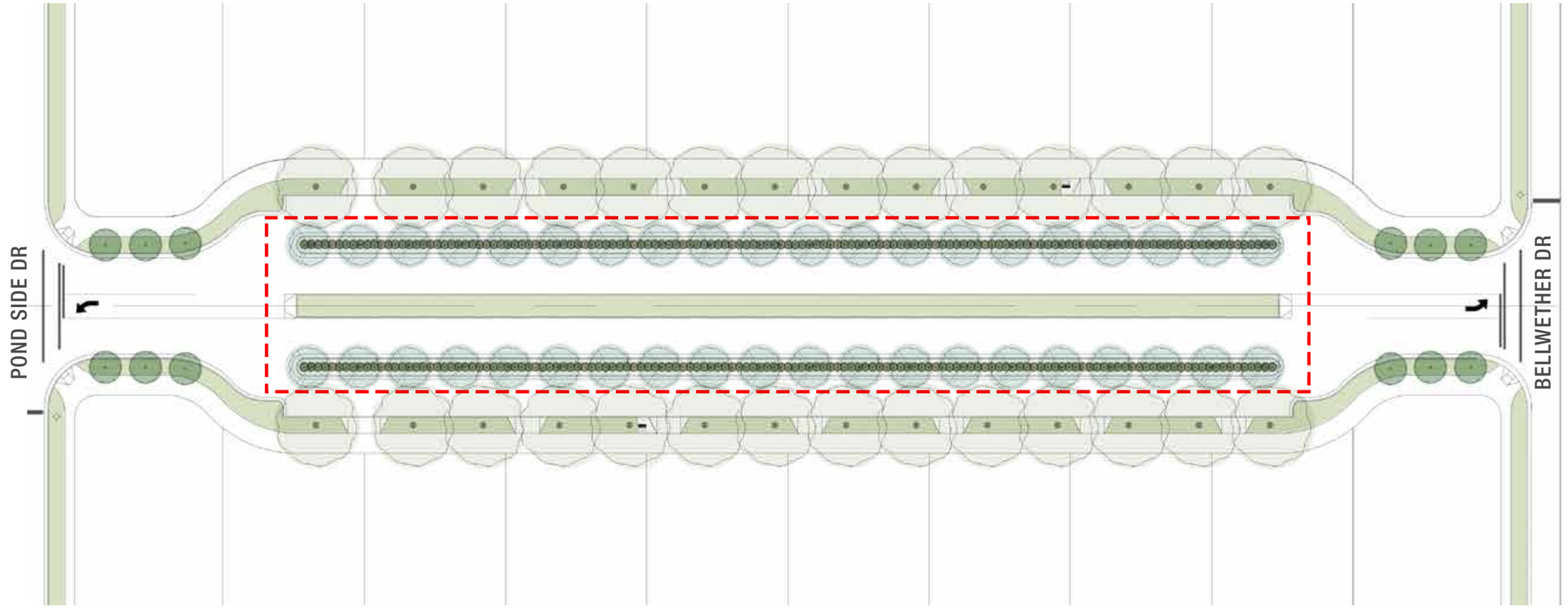

Spring Snow Crabapple


Alpine Currant


Flowering Pear


Turf Grass

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED



FOUNDER'S BOULEVARD

London Plane Tree

Spring Snow Crabapple

Alpine Currant

Flowering Pear

Turf Grass

London Plane Tree
3" Caliper - Qty. 28

Spring Snow Crabapple
2" Caliper - Qty. 40

Flowering Pear
2" Caliper - Qty. 12

Alpine Currant
#5 - Qty. 280

FOUNDER'S BOULEVARD


London Plane Tree


Spring Snow Crabapple


Alpine Currant


Flowering Pear


Turf Grass


London Plane Tree
3" Caliper - Qty. 26


Spring Snow Crabapple
2" Caliper - Qty. 40


Flowering Pear
2" Caliper - Qty. 12


Alpine Currant
#5 - Qty. 274

FOUNDER'S BOULEVARD


London Plane Tree

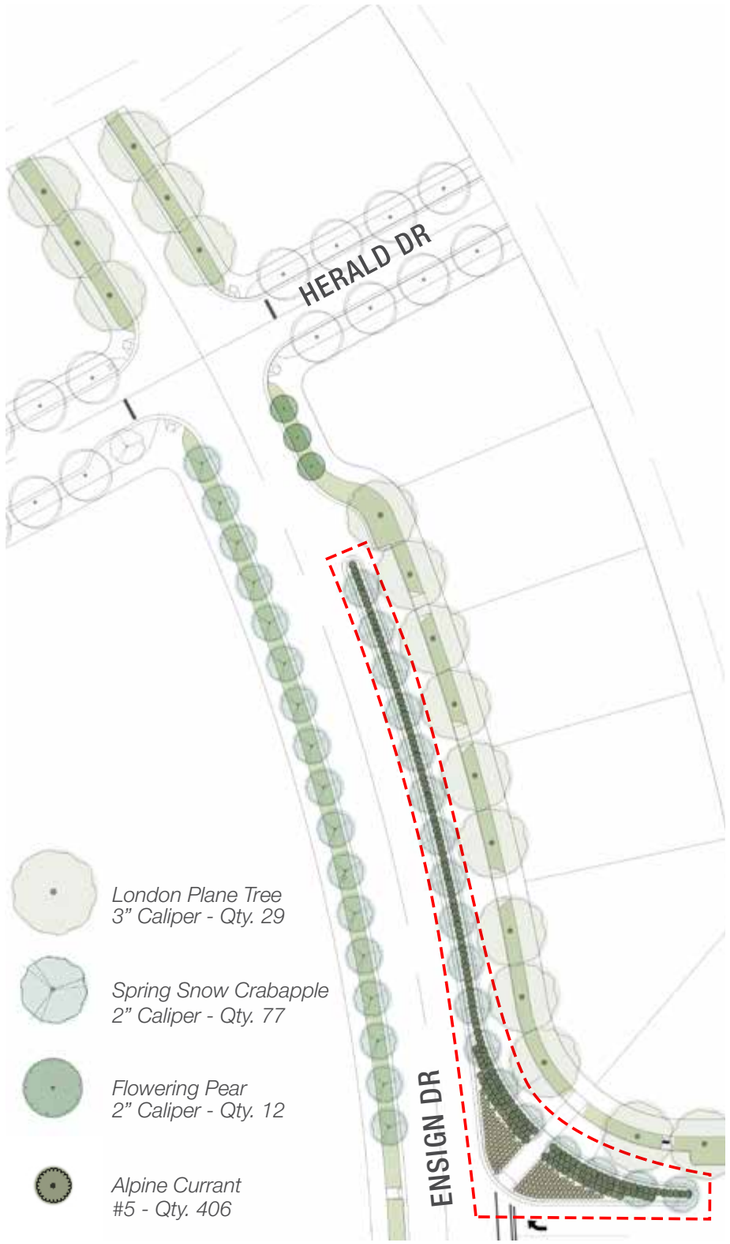

Spring Snow Crabapple


Alpine Currant


Flowering Pear


Dwarf Fountain Grass


Turf Grass



London Plane Tree
3” Caliper - Qty. 29

Spring Snow Crabapple
2” Caliper - Qty. 77

Flowering Pear
2” Caliper - Qty. 12

Alpine Currant
#5 - Qty. 406

Dwarf Fountain Grass
1 gall. - Qty. 426

SLIP LANES

London Plane Tree

Spring Snow Crabapple

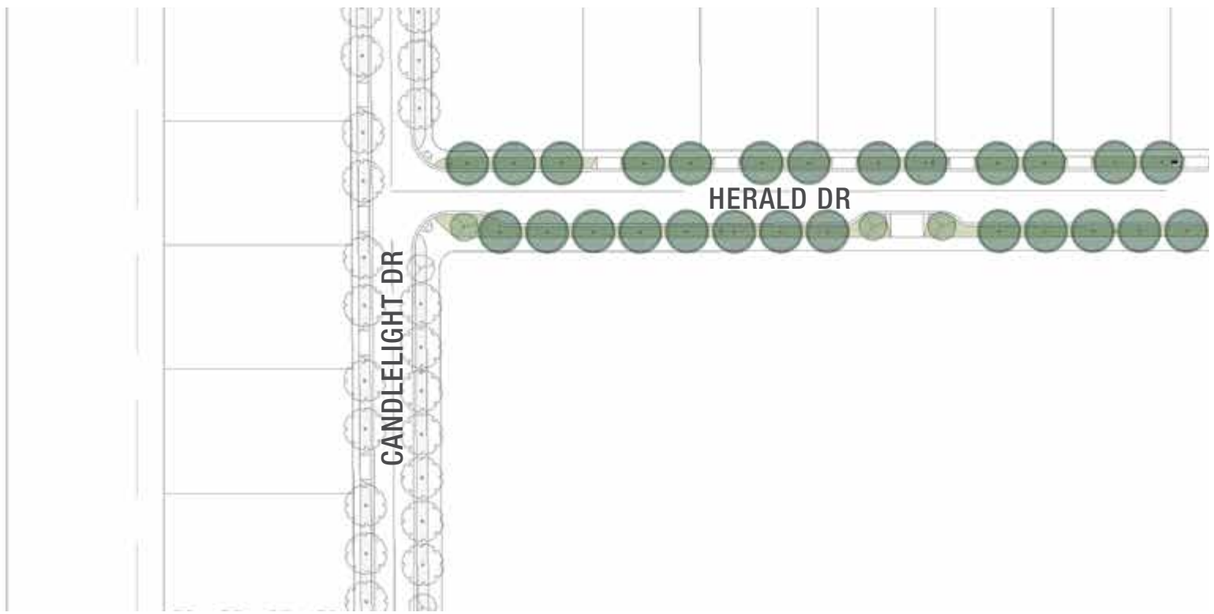
Alpine Currant

Dwarf Fountain Grass

Flowering Pear

Turf Grass

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED



NORTH ROAD

Frontier Elm

Turf Grass

Spring Snow Crabapple

Frontier Elm
2” Caliper - Qty. 66

Spring Snow Crabapple
2” Caliper - Qty. 8

Turf Grass

SOUTH ROAD

Kentucky Coffee tree

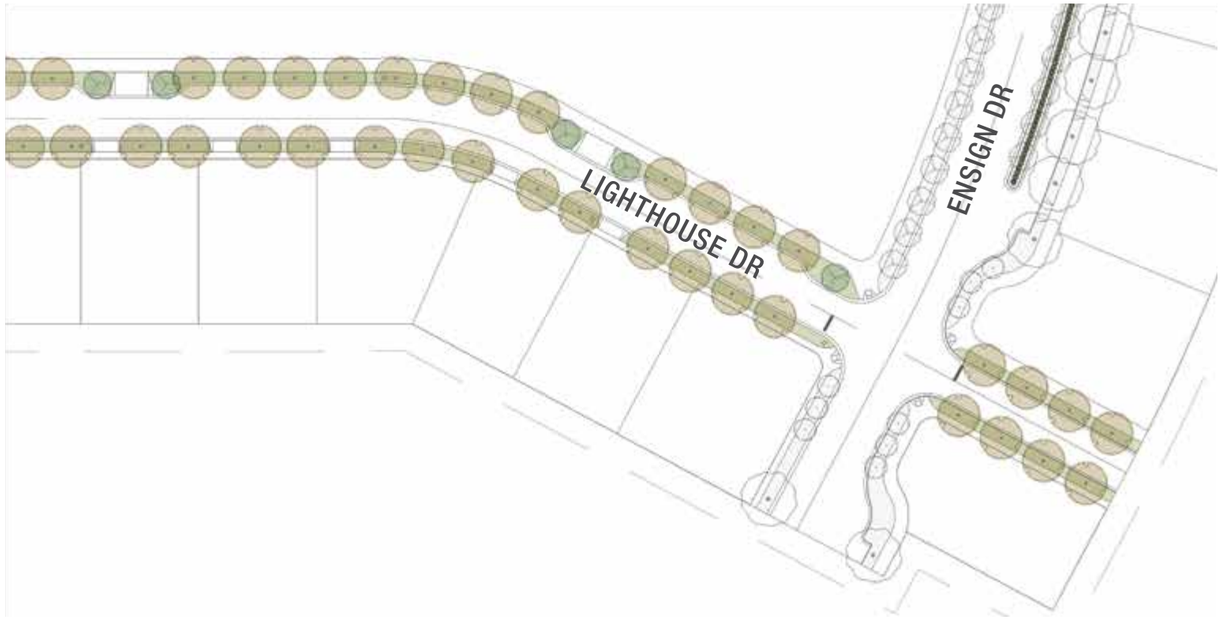
Turf Grass

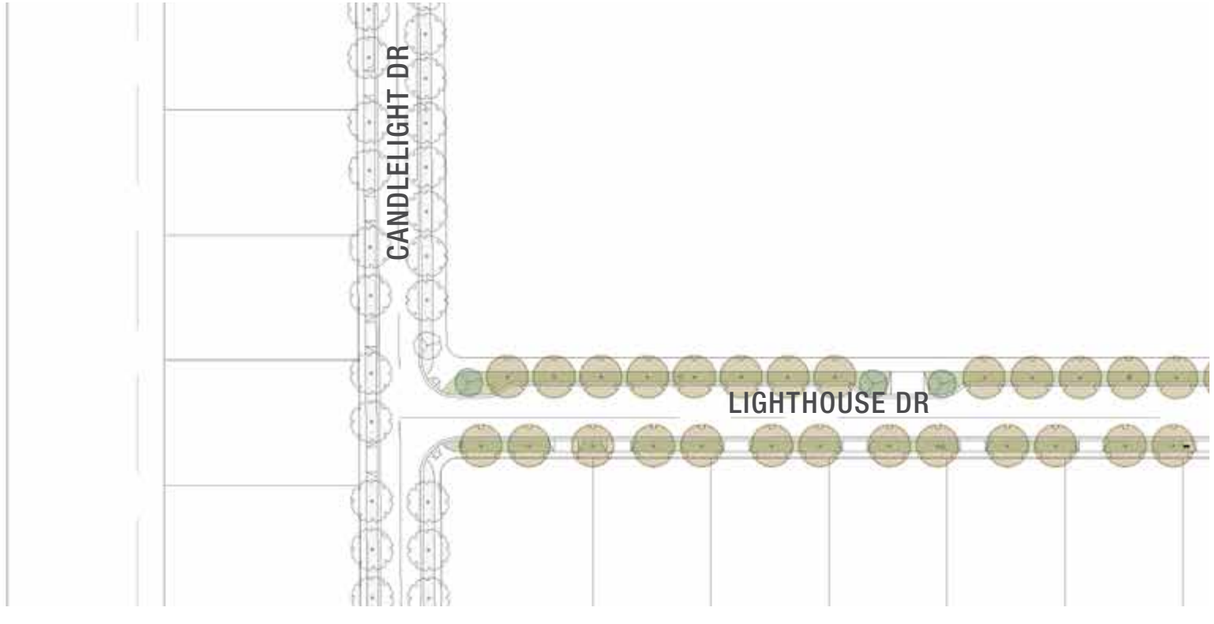
Spring Snow Crabapple

Kentucky Coffeetree
2” Caliper - Qty. 63

Spring Snow Crabapple
2” Caliper - Qty. 8

Turf Grass





WEST ROAD

Bur Oak

London Plane Tree

Spring Snow Crabapple

Turf Grass

Bur Oak
2” Caliper - Qty. 48

London Plane Tree
2” Caliper - Qty. 8

Spring Snow Crabapple
2” Caliper - Qty. 4

Turf Grass

VILLAGE PLAN | UTILITY PLANS

UTILITY CAPACITIES

The location of Village 1A has existing utilities located or stubbed on the east side of the project. These utilities include culinary water, secondary water, sanitary sewer and storm water. The following briefly addresses specific details to individual utilities that were not included within the Utility Master Plan submitted with the approved Community Plan:

CULINARY WATER

The culinary water within Village 1A will follow the standards set forth in the approved Utility Master Plan. There are two different water zones: Zone 1 and Zone 2 as depicted within the Culinary Water Exhibit. The Zone 1 culinary water will extend west from the existing main in Parkway Boulevard and connect with the Zone 2 pressure reducing valve (PRV). An offsite-water main will be required to connect with the existing Grandview Boulevard and serve as the backbone infrastructure to Zone 2 and eventually loop back to the PRV near Zone 1.

SECONDARY WATER

The secondary water within Village 1A will follow the standards set forth in the approved Utility Master Plan. There are two different water zones: Zone 1 and Zone 2 as depicted within the Secondary Water Exhibit. The Zone 1 secondary water will extend west from the existing main in Parkway Boulevard and connect with the Zone 2 pressure reducing valve (PRV). An offsite-water main will be required to connect with the existing Grandview Boulevard and serve as the backbone infrastructure to Zone 2 and eventually looping back to the PRV near Zone 1.

SANITARY SEWER

The sanitary sewer main within Village 1A will follow the standards set forth in the approved Utility Master Plan. See the exhibit for reference to the proposed improvements.

STORM DRAIN

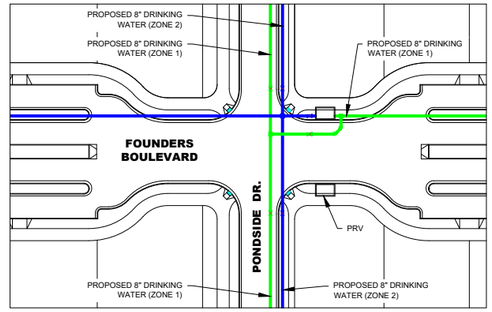
The storm drain within Village 1A will follow the standards set forth in the approved Utility Master Plan with one temporary change in the first Village. The overall discharge for the for the full project, including the middle school is limited to 58.0 cfs. Village 1A generates a maximum runoff of 12.8 cfs in a 10-year, 3-hour storm event which will allow the first Village to discharge undetained to the existing outfall. Therefore, the storm detention basins sized with the Community Plan are not necessary until future development occurs. All storm drain infrastructure will be sized and installed to accommodate full build-out of the project with a temporary pipe network installed with the first Village that can be abandoned in the future at such time future development occurs and warrants the improvement of the basins. See the Storm Drain Exhibit with a copy of the preliminary storm drain report found within Appendix A.

COLOR CODING LEGEND
PIPE DIAMETER (IN)

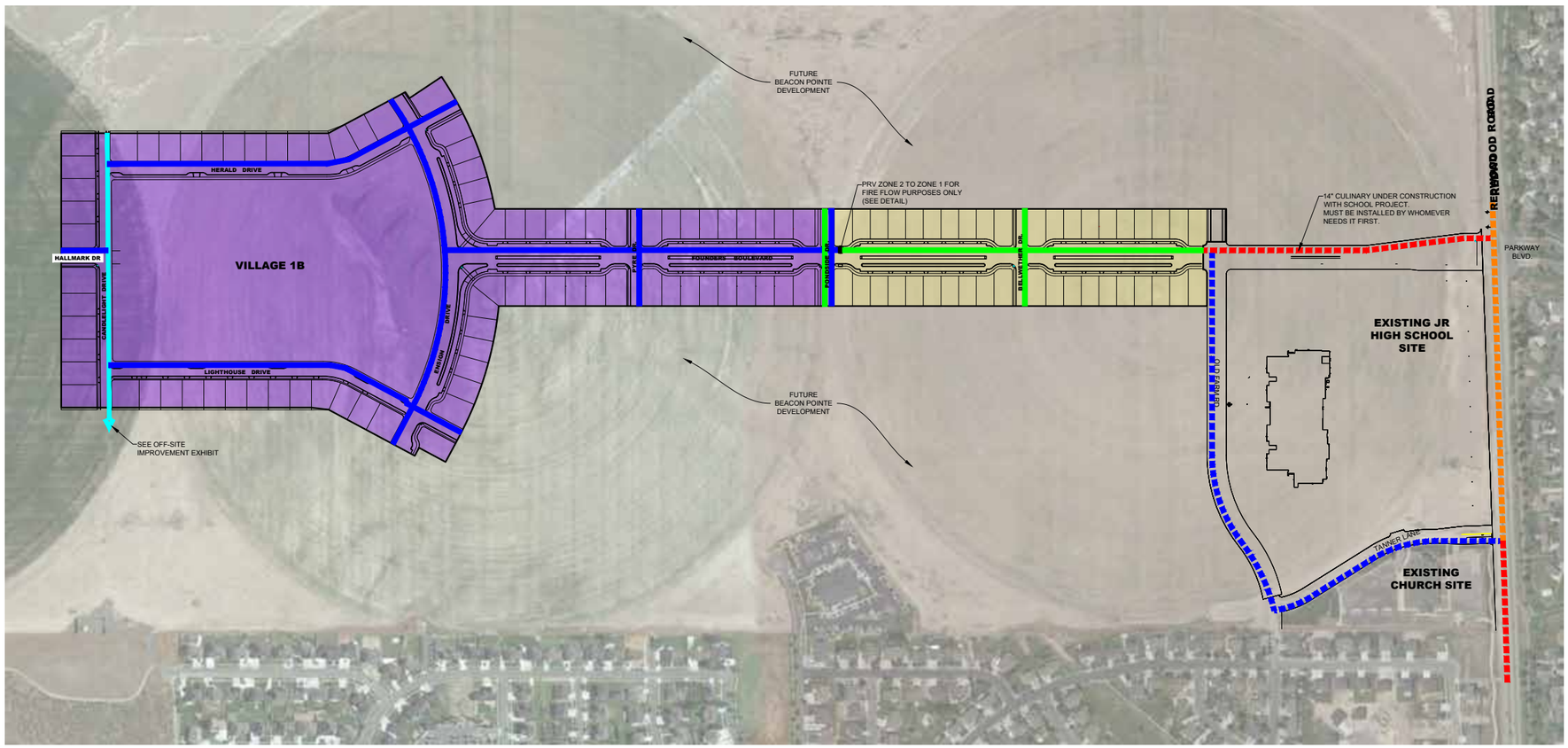
- EXISTING 8" CULINARY
- EXISTING 12" CULINARY
- EXISTING 14" CULINARY
- PROPOSED 8" CULINARY (ZONE 1)
- PROPOSED 8" CULINARY (ZONE 2)
- PROPOSED 16" CULINARY
- PRESSURE ZONE 1
- PRESSURE ZONE 2

NOTES

1. ZONE BOUNDARIES ADJUSTED TO ROADWAY LOCATIONS
2. PROPOSED INTERIOR WATERLINE LOCATIONS MAY VARY BASED ON FINAL INTERIOR ROAD LAYOUT.



PRV DETAIL
(NOT TO SCALE)



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STATE OF UTAH — GREGORY D. MASLEY — No. 189044 — REGISTERED PROFESSIONAL ENGINEER

SUBURBAN LAND RESERVE
SARATOGA SPRINGS, UTAH
FOUNDERS DRINKING WATER PLAN

REVISIONS
1 -
2 -
3 -
4 -
5 -

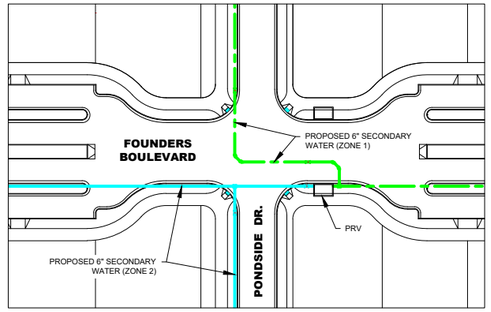
LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: NKW
SCALE: 1" = 200'
DATE: 4/08/2019
SHEET: 1

COLOR CODING LEGEND PIPE DIAMETER (IN)

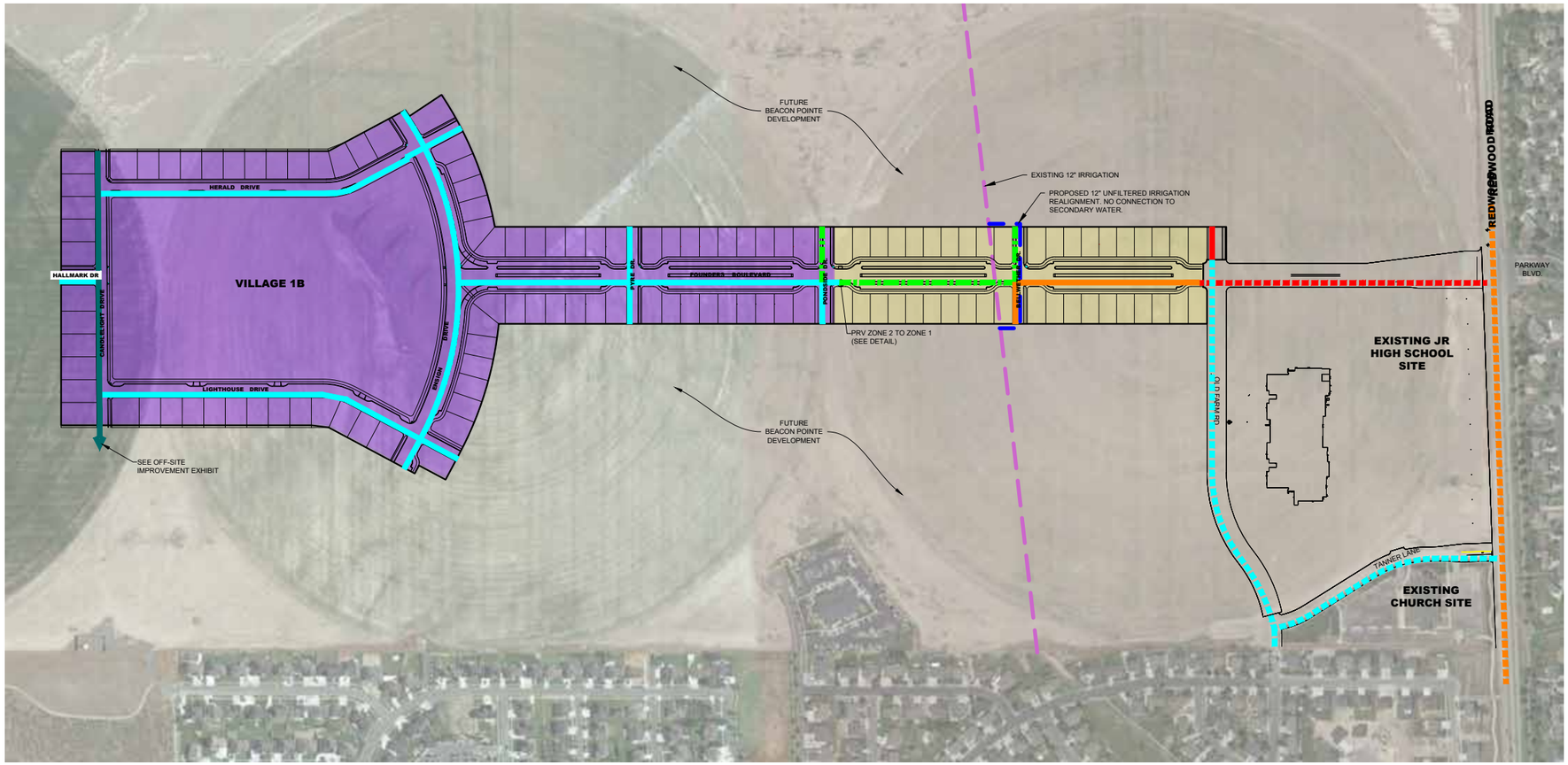
- EXISTING 6" SECONDARY
- EXISTING 12" SECONDARY
- EXISTING 16" SECONDARY
- EXISTING IRRIGATION
- PROPOSED IRRIGATION
- PROPOSED 6" SECONDARY (ZONE 2)
- PROPOSED 6" SECONDARY (ZONE 1)
- PROPOSED 10" SECONDARY (ZONE 1)
- PROPOSED 16" SECONDARY
- PROPOSED 20" SECONDARY
- PRESSURE ZONE 1
- PRESSURE ZONE 2

NOTES

1. ZONE BOUNDARIES ADJUSTED TO ROADWAY LOCATIONS
2. PROPOSED INTERIOR WATERLINE LOCATIONS MAY VARY BASED ON FINAL INTERIOR ROAD LAYOUT.



PRV DETAIL
(NOT TO SCALE)



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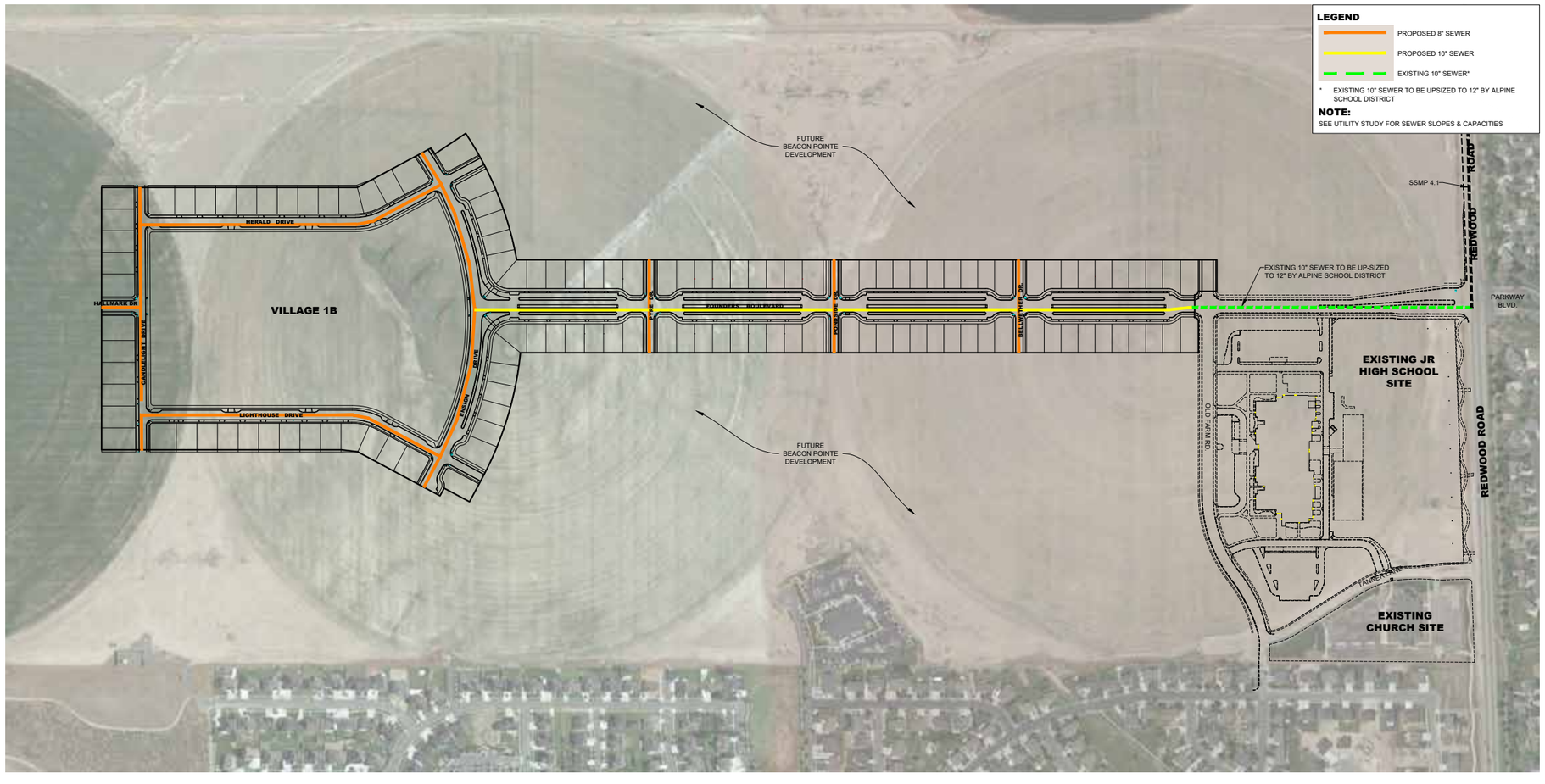
STATE OF UTAH — GREGORY D. MADSEN — No. 189644 — REGISTERED PROFESSIONAL ENGINEER — 04/08/19

SUBURBAN LAND RESERVE
SARATOGA SPRINGS, UTAH
FOUNDERS SECONDARY WATER PLAN

REVISIONS
1 -
2 -
3 -
4 -
5 -

LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: GDM
SCALE: 1" = 200'
DATE: 4/08/2019

SHEET 1



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GREGORY D. MASLEY
No. 189044
REGISTERED PROFESSIONAL ENGINEER
(GO TO WWW.LEI-ENG.COM)

SUBURBAN LAND RESERVE
SARATOGA SPRINGS, UTAH
FOUNDERS SEWER PLAN

REVISIONS
1 -
2 -
3 -
4 -
5 -

LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: GDM
SCALE: 1" = 200'
DATE: 3/4/2019
SHEET: 1

Engineers & Surveyors
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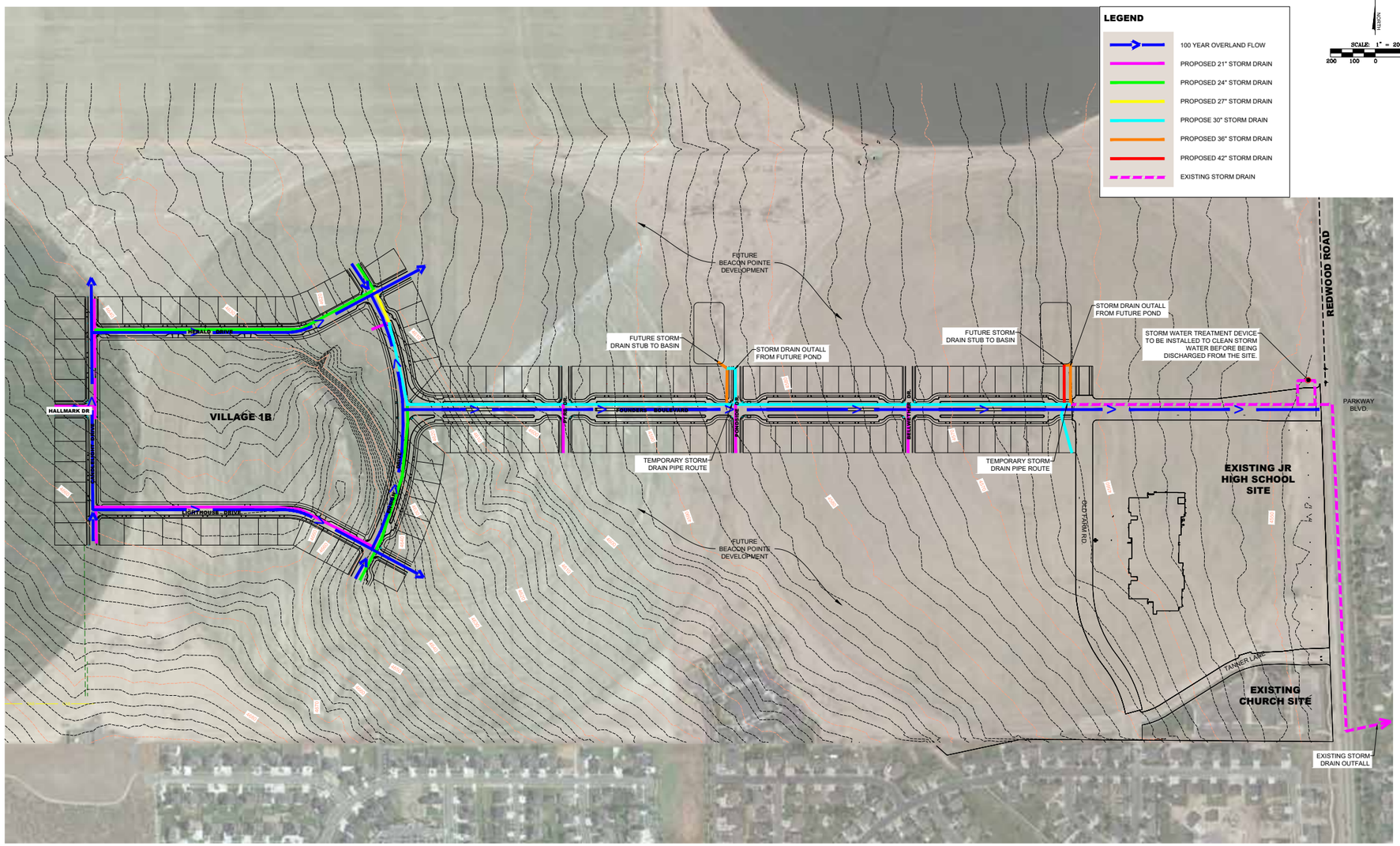

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STATE OF UTAH
GREGORY D. MAGLEBY
No. 189844
PROFESSIONAL ENGINEER
REGISTERED
COPY

SUBURBAN LAND RESERVE
SARATOGA SPRINGS, UTAH
FOUNDERS STORM DRAIN PLAN

REVISIONS
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5 -

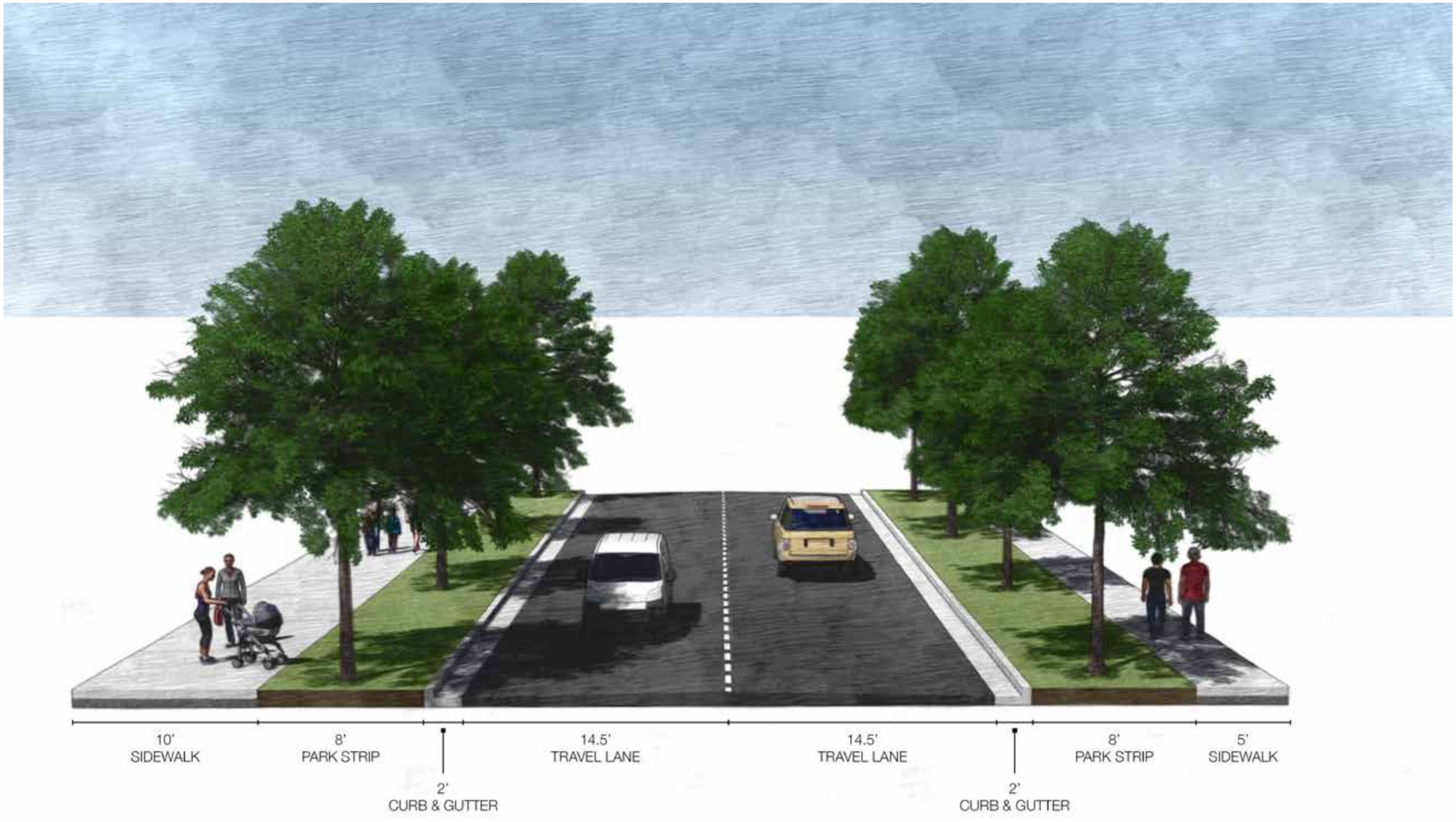
LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: GDM
SCALE: 1" = 200'
DATE: 4/08/2019

SHEET
1

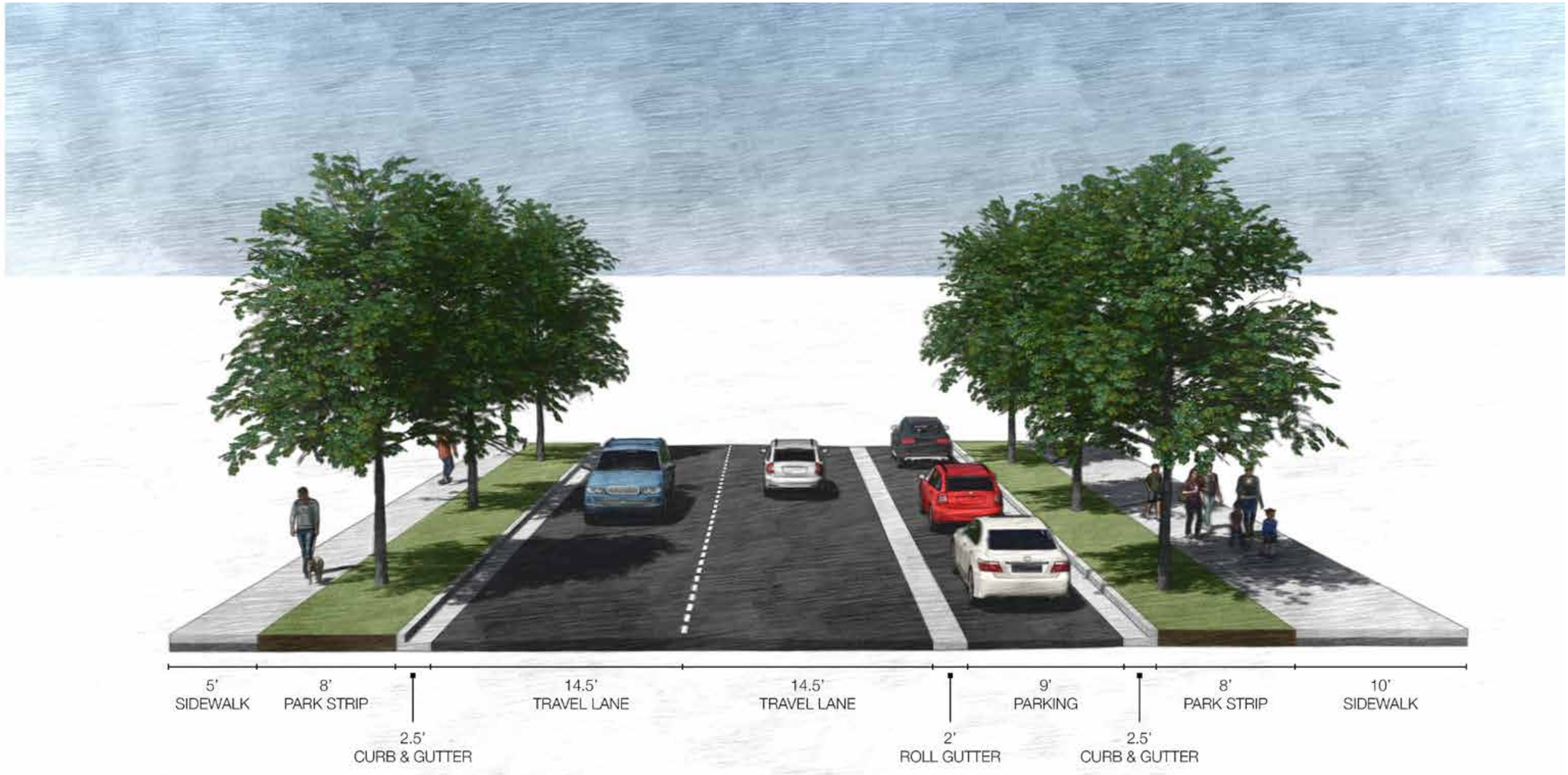
VILLAGE PLAN I VEHICULAR PLAN


LEGEND
59' RIGHT OF WAY
64' RIGHT OF WAY
73' RIGHT OF WAY
77' RIGHT OF WAY
115' RIGHT OF WAY
147' RIGHT OF WAY
TEMP. FIRE ACCESS
SPECIAL PROJECT SITE
FOUNDERS BOULEVARD
TEMPORARY EMERGENCY ACCESS ROAD (12 FT WIDE COMPACTED ROAD BASE)
SARATOGA HILLS
FOOTHILL BOULEVARD / MOUNTAIN VIEW CORRIDOR
REDWOOD RD
OLD FARM RD

CITY STANDARD LOCAL ROADWAY
59' RIGHT OF WAY



MODIFIED CITY STANDARD LOCAL ROADWAY
64' RIGHT OF WAY



LOCAL ROADWAY WITH STREET PARKING

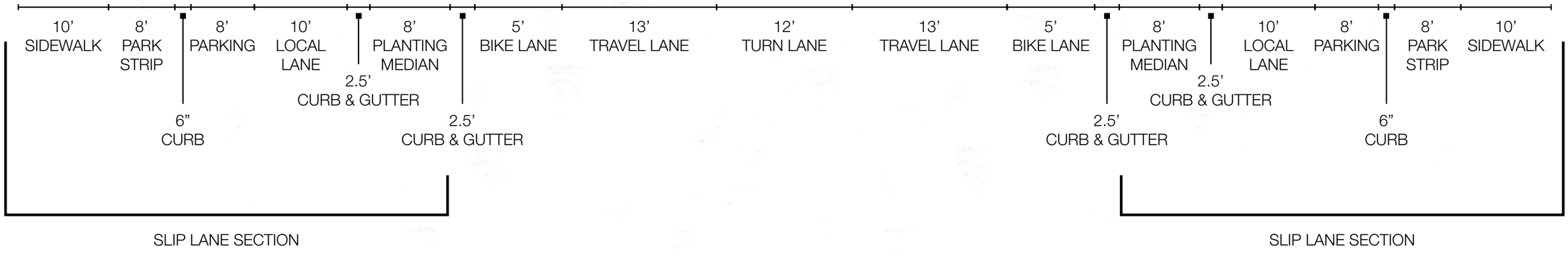
73' RIGHT OF WAY

NOTE: ALL GRAPHICS SHOWN ARE CONCEPTUAL ONLY - ACTUAL FORM, DESIGN AND LAYOUT YET TO BE DETERMINED

CITY STANDARD COLLECTOR

77' RIGHT OF WAY

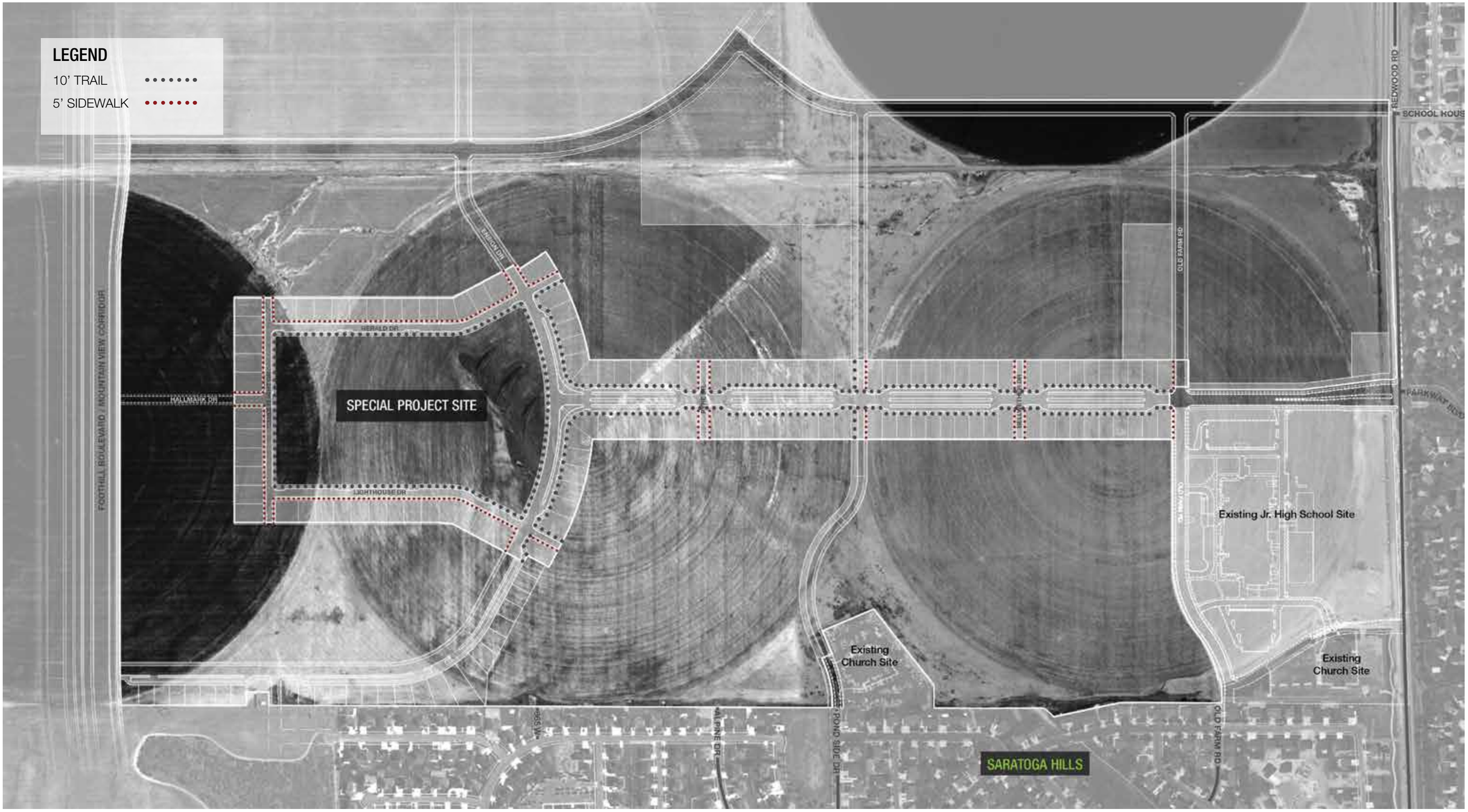
COLLECTOR WITH SLIP LANE
115' ROW



FOUNDERS BLVD

147’ RIGHT OF WAY

VILLAGE PLAN | PEDESTRIAN PLAN


LEGEND
10' TRAIL
5' SIDEWALK
SPECIAL PROJECT SITE
HERALD DR
HALLMARK DR
LIGHTHOUSE DR
FOOTHILL BOULEVARD / MOUNTAIN VIEW CORRIDOR
REDWOOD RD
SCHOOL HOUS
OLD FARM RD
PARKWAY BLVD
Existing Jr. High School Site
Existing Church Site
Existing Church Site
SARATOGA HILLS
OLD FARM RD

WILDLIFE MITIGATION PLANS.

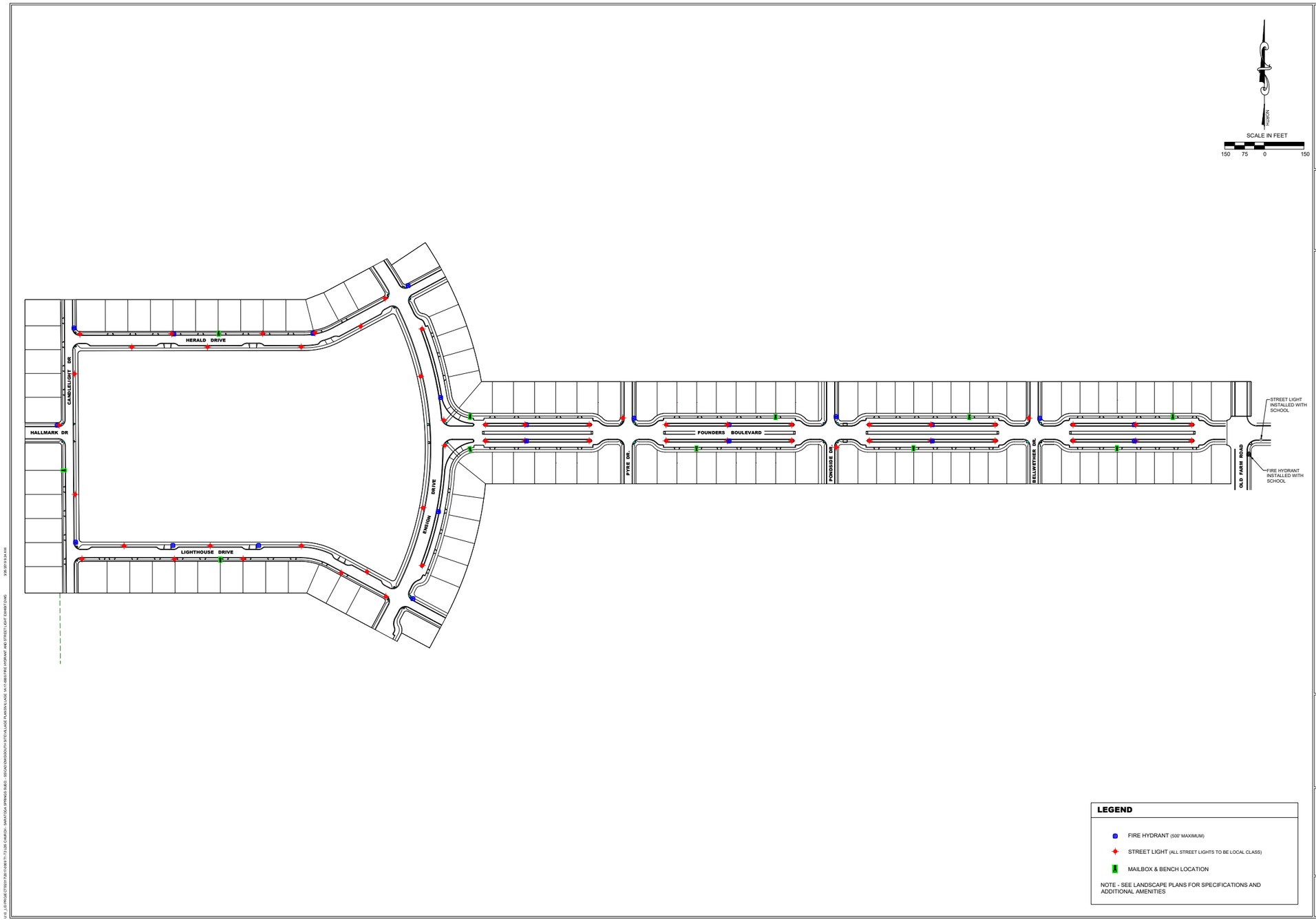
The United States Fish and Wildlife Service has been contacted to determine whether there are any endangered species or wildlife that needs to be mitigated at this time. The Division responded and do not have any concerns due to the current agricultural use of the land.

OPEN SPACE MANAGEMENT PLANS.

The proposed open space will be owned and maintained by the City of Saratoga Springs as written in the community plan, including connecting trails, entrance park, boulevard trails along Founders Blvd, and the entirety of the median from the Special Project Site to Redwood Rd.

HAZARDOUS MATERIAL REMEDIATION PLANS.

No hazardous materials have been identified within the site. Should any hazardous materials be identified through further geotechnical investigation or site observation, acceptable mitigation must be completed prior to development.



LEGEND

- FIRE HYDRANT (500' MAXIMUM)
- STREET LIGHT (ALL STREET LIGHTS TO BE LOCAL CLASS)
- MAILBOX & BENCH LOCATION

NOTE - SEE LANDSCAPE PLANS FOR SPECIFICATIONS AND ADDITIONAL AMENITIES

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BEACON POINTE
SARATOGA SPRINGS, UT

FIRE HYDRANT, STREET LIGHT, & MAILBOX EXHIBIT

REVISIONS
1 -
2 -
3 -
4 -
5 -

LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: GDM
SCALE: 1"=150' (24x36)
DATE: 4/08/2019

SHEET 1

U:\S_J\PROJECTS\2017\0069\11-71\LDR CAD\FIG\ - SARATOGA SPRINGS SUBD. - ISSUED\DWG\SOUTH SITE\VILLAGE PLAN\VILLAGE 1&2 FIRE HYDRANT AND STREET LIGHT EXHIBIT.DWG 3/8/2019 9:24 AM

VILLAGE PLAN | OFFSITE UTILITIES

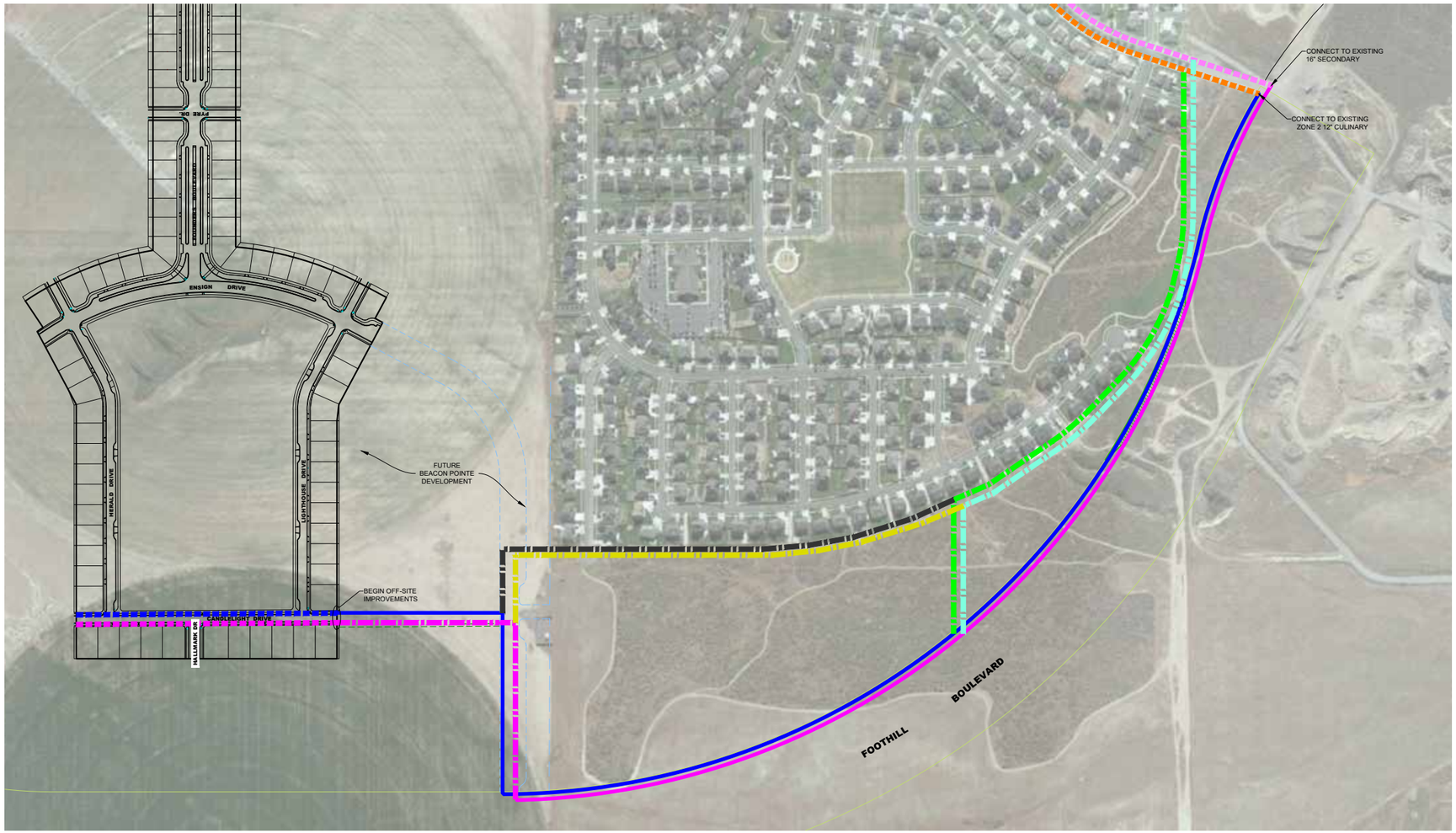
COLOR CODING LEGEND
PIPE DIAMETER (IN)

	OPTION A	OPTION B	OPTION C
PROPOSED 16" CULINARY (OFF-SITE)			
PROPOSED 16" CULINARY (VILLAGE 1A)			
PROPOSED 16" SECONDARY (OFF-SITE)			
PROPOSED 20" SECONDARY (OFF-SITE)			
PROPOSED 20" SECONDARY (VILLAGE 1A)			
EXISTING 12" CULINARY			
EXISTING 16" SECONDARY			

NOTES

1. ZONE BOUNDARIES ADJUSTED TO ROADWAY LOCATIONS
2. PROPOSED INTERIOR WATERLINE LOCATIONS MAY VARY BASED ON FINAL INTERIOR ROAD LAYOUT.

NORTH
SCALE: 1" = 200'
200 100 0 200



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STATE OF UTAH — GREGORY D MADSEN — No. 189644 — PROFESSIONAL ENGINEER — 04/08/19 — NOT FOR CONSTRUCTION

SUBURBAN LAND RESERVE
SARATOGA SPRINGS, UTAH
OFF-SITE WATER PLAN

REVISIONS
1 -
2 -
3 -
4 -
5 -

LEI PROJECT #: 2017-0069
DRAWN BY: TJP
DESIGNED BY: NKW
SCALE: 1" = 200'
DATE: 4/08/2019
SHEET: 1

VILLAGE PLAN | SITE CHARACTERISTICS

SITE CHARACTERISTICS

SENSITIVE LANDS
There are no known sensitive lands within the village boundary.

WATERWAYS
There are no known waterways within the village boundary.

FAULT LINES
There are no known fault lines within the village boundary.

GENERAL SOILS DATA
Soils vary from silty clay loam to a gravelly loam.

WETLANDS
There are no known wetlands within the village boundary.

SLOPES
The site slopes from west to east at an average slope of 3%. A rocky outcropping with steeper slopes occupies the Special Project Site (Future Village 1B), however no slope within Village 1A exceeds 25%.

HISTORICAL SITES
There are no known historical sites within the village boundary.

ENDANGERED PLANTS
There are no known endangered plants within the village boundary.

FINDINGS

Village Plan 1A is the 49.16-acre first phase within the 371.8-acre Beacon Pointe Community Plan located in Saratoga Springs, Utah. Beacon Pointe Village 1A is compliant with all Planned Community Zone Requirements for Village Plans as defined in Section 19.26.09 of the Saratoga Springs Municipal Code. We find that Village Plan 1A:

A. IS CONSISTENT WITH THE ADOPTED COMMUNITY PLAN;
Village Plan 1A adheres to the development standards, design guidelines, infrastructure plans, and other requirements established in the Beacon Pointe Community Plan.

B. DOES NOT EXCEED THE TOTAL NUMBER OF EQUIVALENT RESIDENTIAL UNITS (ERUS) DICTATED IN THE ADOPTED COMMUNITY PLAN;
The number of potential ERUs established in the Community Plan for Village Plan 1A establishes a maximum of 120 ERUs.

C. FOR AN INDIVIDUAL PHASE, DOES NOT EXCEED THE TOTAL NUMBER OF EQUIVALENT RESIDENTIAL UNITS DICTATED IN THE ADOPTED COMMUNITY PLAN UNLESS TRANSFERRED PER THE PROVISIONS OF THE COMMUNITY PLAN;
The number of ERUs established in the Community Plan for Village Plan 1A will not exceed the maximum of 120 ERUs.

D. IS CONSISTENT WITH THE UTILITY, INFRASTRUCTURE, AND CIRCULATION PLANS OF THE COMMUNITY PLAN; INCLUDES ADEQUATELY SIZED UTILITIES, SERVICES, AND ROADWAY NETWORKS TO MEET DEMANDS; AND MITIGATES THE FAIR-SHARE OF OFF-SITE IMPACTS;
Village Plan 1A implements the utility, infrastructure, and circulation plans as specified in the Beacon Pointe Community Plan.

E. PROPERLY INTEGRATES UTILITY, INFRASTRUCTURE, OPEN SPACES, PEDESTRIAN AND BICYCLE SYSTEMS, AND AMENITIES WITH ADJACENT PROPERTIES;
Village Plan 1A has been designed to accommodate necessary infrastructure elements for residents and establish a framework that will provide for future community development and adjacent connections. Village Plan 1A was designed to create comfortable, easily accessible pedestrian and bike options for residents. Boulevard open space is highly integrated to provide direct and easy access to residents.

F. CONTAINS THE REQUIRED ELEMENTS AS DICTATED IN SECTION 19.26.10 OF THE SARATOGA SPRINGS MUNICIPAL CODE.
Village Plan 1A contains all the relevant required elements as dictated in Section 19.26.10.

G. MEETS THE MINIMUM REQUIRED SPACE IN ADOPTED COMMUNITY PLAN, AND ADOPTED DISTRICT AREA PLAN IF APPLICABLE.
Village Plan 1A contains 49.16 acres, up from 45.2 acres as listed in the Beacon Pointe Community Plan, an increase of 8.7%.

Beacon Pointe

VILLAGE 1A UTILITY ANALYSIS

March 6, 2019

Prepared By:

3/6/2019

ENGINEERS
SURVEYORS
PLANNERS

3302 N Main Street
Spanish Fork, UT 84660
(801) 798-0555

Description of Development

The Beacon Pointe development site is to be located north of the existing Grandview subdivision, and west of Redwood Road, in Saratoga Springs, Utah. There is a total of approximately 372 acres in the proposed development. The development is to consist of residential housing, church areas, civic areas, parks, and other open space. The Village 1A area is to consist of single-family residential housing, and a major backbone road to service the future development. The Village 1 area covers approximately 45.2 acres and will have 120 units.

This report was prepared to detail the design of the storm drain and sewer infrastructure that will be installed.

Storm Drainage

Existing Storm Drainage Features

There is no existing storm drain infrastructure that drains into this site. See the exhibit included in Appendix A for the included areas. There is an existing storm drain stub that was installed with the recent junior high improvements that this development will connect to. The outfall for the Beacon Pointe development will be the existing outfall that is shared with the school.

Anticipated Discharge

A model was created using Autodesk Storm and Sanitary Sewer Analysis (SSA) for the proposed development. The model was set up based on the TR-55 methodology and City standards. This was done in order to estimate the peak flows that could be expected from the site.

The anticipated pervious and impervious areas were calculated for the site based on the preliminary design of the site. The pervious and impervious areas were assigned the curve numbers of 61 and 98 respectively.

The time of concentration was calculated based on the methodology outlined in the TR-55 design manual. The time of concentration from the hydraulically most distant point to the nearest discharge point or basin was calculated. Detailed calculations for the contributing areas and time of concentration are included in Appendix B.

The results from the SSA model for the total release from the 5-year, 10-year, and 100-year storm events are shown in Table 1.

Table 1: Maximum Runoff Estimates

Storm Event	Maximum Runoff (cfs)
5-yr, 3-hr	12.24
10-yr, 3-hr	16.32
100-yr, 3-hr	36.72

As was previously mentioned, the runoff will be discharged into the existing outfall pipe installed with the school. The storm drain report that was previously submitted for this area, including the school, stated that the overall site has an allowable discharge rate of 58.00 cfs. Of this discharge, the school has an allowable discharge rate of 5.76 cfs, leaving the Beacon Pointe development the remaining 52.24 cfs.

Due to the discharge for all analyzed storm events for Village 1A being lower than the maximum allowable release rate for the overall site, the detention basins will not be constructed at this time. The pipe infrastructure that will connect to the detention basins in the future will be installed with this phase, but bypass pipes will be added to prevent the runoff from being routed to the future basins. Once more development occurs, and the basins are installed these bypass pipes will be plugged and the runoff will be conveyed to the detention basins. A schematic of the pipes connecting to the basins in included on the exhibit in Appendix A.

A hydrodynamic storm water treatment device will be installed at the lower end of the Beacon Pointe development. The treatment device was sized and rated to treat the runoff from the 5-year storm event for the entire site according to City standards. It was found that the peak treatment rate at full build out will be 36.06 cfs.

Storm Drain Pipe Sizing

The storm drain pipes will be sized to convey the runoff from the 10-year storm event according to City standards. Any runoff in excess of the 10-year storm event will be conveyed by the streets as overland flow. This overland flow will be directed to the detention basins that are to be installed throughout the development.

There are areas of the development where the flows from the 100-year storm event needs to be conveyed to the detention basins. In these areas, the inlets were sized to capture the 100-year flows based on HEC 22 criteria. The pipes downstream from these inlets were sized to convey this additional flow to the basins as well. All future upstream development areas as well as future upstream 100-year overflows were accounted for in the inlet and pipe sizing calculations. The future inflow of 5.0 cfs from the Rushton development site was also included in the model and pipe sizing calculations. Detailed pipe sizing calculations are included in Appendix C.

Detention Basin Sizing

As was mentioned, due to the lower release rate of this phase, the detention basins will not be constructed with this phase. In the future when the basins are constructed, they will be designed so the maximum allowable release rate for the site of 52.24 cfs will not be exceeded. Due to the conceptual basis of the plan for the upstream areas, it is possible that the size of these basins may change in the future. As the village plans are refined and more detail of the lot and road layout is determined, the storm drain calculations will be refined as well. The limiting factor that will be maintained is the maximum allowable discharge rate which will not be exceeded.

School

The new school that is being constructed at the southeast corner of the development will not receive any storm water from the Beacon Pointe site. The storm drain infrastructure associated with the school has been designed in order to prevent the Beacon Pointe runoff from entering the school site.

Sewer Calculations

Detailed sewer capacity calculations were completed for the main trunk line that will extent to the west, up Founders Boulevard. Calculations were completed based on the pipes flowing at 80 percent full q/Q ratio based on City standards. All future sewer inflows were accounted for in the pipe sizing calculations. This includes 115 ERUs from the Rushton site and all future upstream connections from the Beacon Pointe development. An exhibit showing the contributing areas and sewer nodes and detailed pipe sizing calculations are included in Appendix D.

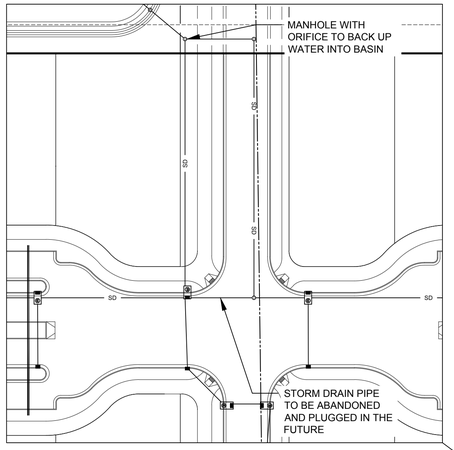
The limiting capacity is the sewer that is installed in Founders Boulevard on the north of the new school. Due to limits of capacity in this line some portions of the Beacon Pointe development will not be routed to this main trunk line but will instead be routed internally and connected directly to the master plan sewer line in Redwood Road. These areas include Village #5 and portions of Village #4. The actual number of connections and areas that will be routed directly to the master plan line will be determined with the final design of these areas, but the maximum of 1630 ERCs will not be exceeded in the trunk line downstream of node F.

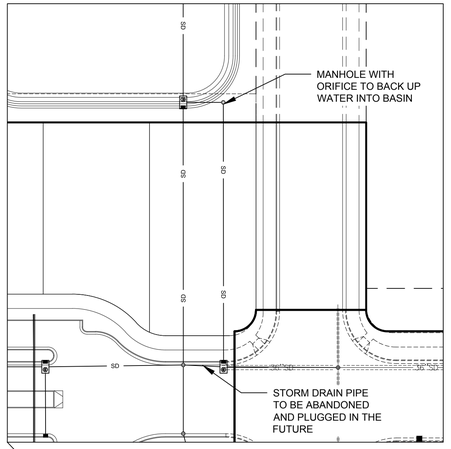
Conclusion

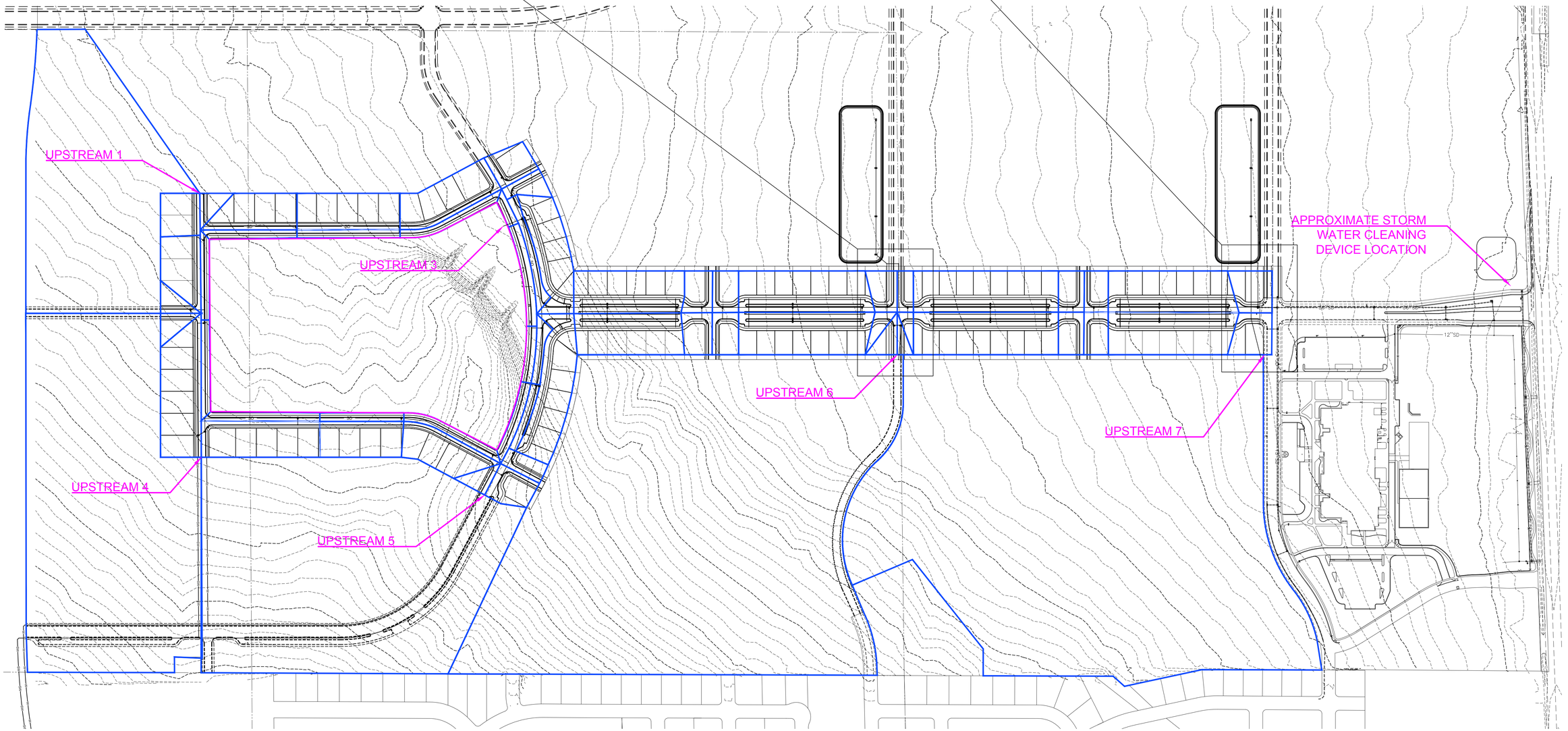
A storm drain model was created using the SSA software to estimate the runoff from the Beacon Pointe Village 1A development area. The runoff from the development area will flow un-detained from the site until additional development requires the addition of detention basins in order to keep the flows within the allowable release rate. Pipe sizing calculations were completed and account for all upstream flows.

Sewer calculations were completed to ensure there will be adequate capacity in the main sewer trunk line in Founders Boulevard for proposed and future development. Future portions of the Beacon Pointe development will be connected directly to the master plan sewer line in Redwood Road to allow for adequate capacity in the trunk line in Founders Boulevard.

Appendix A – Contributing Area Exhibits







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BEACON POINTE
SARATOGA SPRINGS, UTAH

FOUNDERS PLAT A
UPSTREAM CONTRIBUTING AREA EXHIBIT

REVISIONS
1 -
2 -
3 -
4 -
5 -

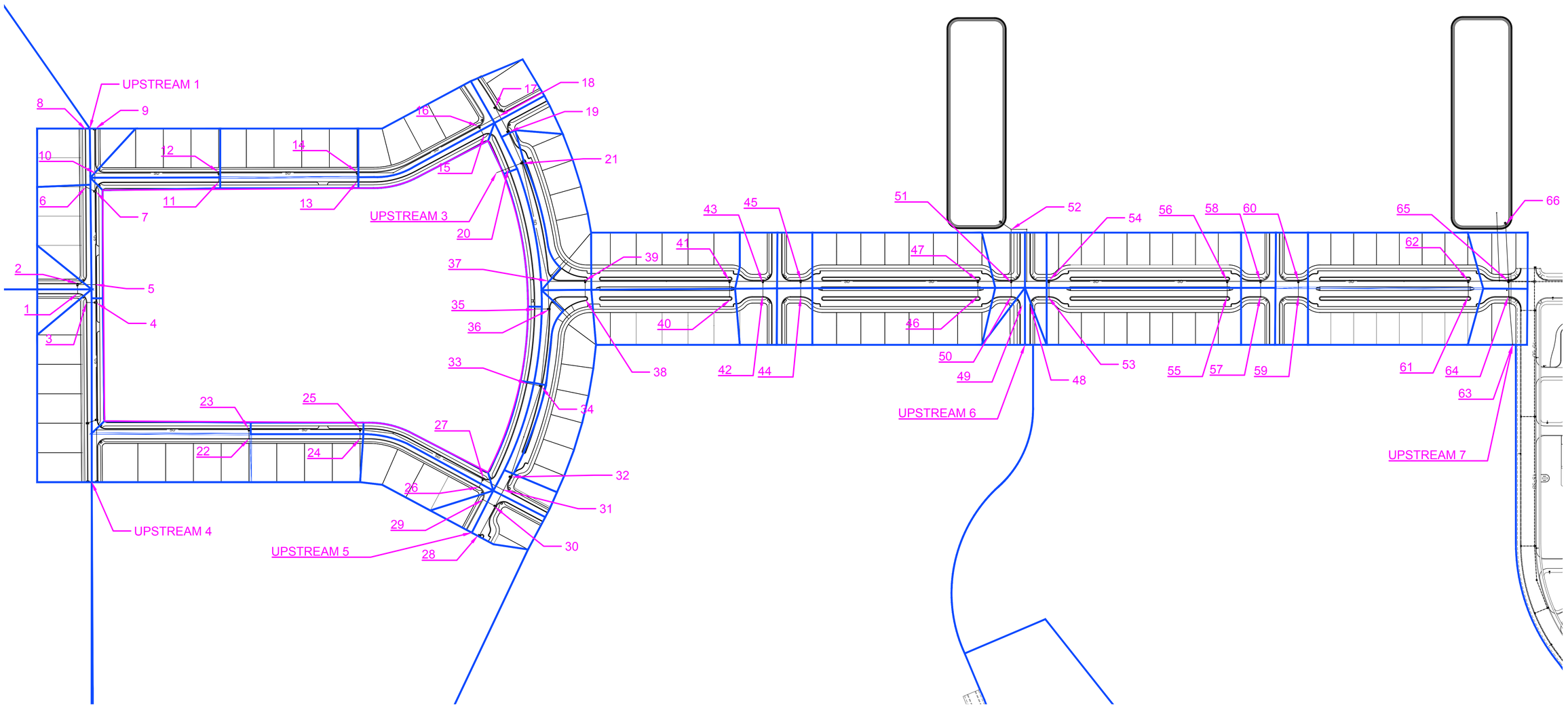
LEI PROJECT #: 2017-0069
DRAWN BY: DAF
DESIGNED BY: GDM
SCALE: 1"=200'
DATE: 12/5/2018

SHEET 1

Appendix B – Area and Time of Concentration Calculations

Village 1A											
Area	45.3	Acres	Road	9.06	Acres	20%	Upper Elevation	4638			
Lots	120	Units	Lot Imp.	5.51	Acres		Lower Elevation	4562		T_1	0.30 hr
Church	0	Acres	Church Imp.	0	Acres	75%	Total Length	3000	ft	T_2	0.01 hr
			Total Imp.	**14.57**	**Acres**		L_1	150	ft	T_3	0.11 hr
			Pervious	**30.73**	**Acres**		S	0.025	ft/ft	T_t	0.42 hr
							L_2	150	ft	T_t	**25.31 min**
							V_2	3.24	fps		
							L_3	2700	ft		
							V_3	7	fps		
Village 1B											

Appendix C – Pipe sizing calculations



SCALE: 1"=150'

150 75 0 150'

NORTH

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BEACON POINTE

SARATOGA SPRINGS, UTAH

FOUNDERS PLAT A

STORM DRAIN PIPE SIZING CONTRIBUTING AREAS

REVISIONS

1 -
2 -
3 -
4 -
5 -

LEI PROJECT #: 2017-0069

DRAWN BY: DAF

DESIGNED BY: GDM

SCALE: 1"=150'

DATE: 12/5/2018

SHEET 2

Beacon Pointe Village 1A

Area/ Inlet #	Inlet Time (min)	Upstream Pipe Distance (ft)	Pipe Velocity (ft/s)	Upstream Pipe Travel Time (min) [1]	Total Tc (min)	10 Year Intensity (in/hr)	Contributing Drainage Area (acres)	Weighted "C" Value	Area Discharge (cfs)	Additional Flow (cfs)	Total Discharge (cfs)	Minimum Slope %	Pipe Diameter (in)	Capacity (100% Full) (cfs)	Velocity Full Pipe (fps)	Minimum Velocity >3 fps	Capacity Check
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	15	0	5.3	0	15	1.96	0.27	0.31	0.17	0.00	0.17	1.00%	15	**6.46**	**5.26**	OK	OK
2	15	28	7.0	0	15	1.96	0.53	0.31	0.33	0.00	0.33	5.36%	15	**14.96**	**12.19**	OK	OK
3	15	0	7.0	0	15	1.96	2.03	0.31	1.26	0.00	1.26	8.10%	15	**18.38**	**14.98**	OK	OK
4	15	28	7.0	0	15	1.96	2.37	0.31	1.47	0.00	1.47	1.88%	15	**8.86**	**7.22**	OK	OK
5	15	84	7.0	0	15	1.95	2.90	0.31	1.80	0.00	1.80	1.88%	15	**8.86**	**7.22**	OK	OK
6	15	0	7.0	0	15	1.96	0.96	0.31	0.60	0.00	0.60	6.81%	15	**16.86**	**13.74**	OK	OK
7	15	372	7.0	1	16	1.92	4.16	0.31	2.53	0.00	2.53	8.11%	15	**18.40**	**14.99**	OK	OK
8	15	0	5.3	0	15	1.96	0.67	0.31	0.41	0.00	0.41	1.00%	15	**6.46**	**5.26**	OK	OK
Upstream 1	15	1394	4.1	6	21	1.72	20.41	0.31	11.12	0.00	11.12	0.33%	24	**13.00**	**4.14**	OK	OK
9	15	1394	4.3	5	20	1.73	21.32	0.31	11.67	0.00	11.67	0.35%	24	**13.38**	**4.26**	OK	OK
10	15	1531	7.0	4	19	1.80	25.48	0.31	14.57	0.00	14.57	1.25%	24	**25.29**	**8.05**	OK	OK
11	15	0	7.0	0	15	1.96	0.32	0.31	0.20	0.00	0.20	10.00%	15	**20.43**	**16.65**	OK	OK
12	15	1914	7.0	5	20	1.77	26.95	0.31	15.08	0.00	15.08	2.68%	24	**37.03**	**11.79**	OK	OK
13	15	0	7.0	0	15	1.96	0.33	0.31	0.20	0.00	0.20	10.00%	15	**20.43**	**16.65**	OK	OK
14	15	2341	7.0	6	21	1.72	28.75	0.31	15.69	0.00	15.69	1.90%	24	**31.18**	**9.93**	OK	OK
15	15	0	7.0	0	15	1.96	0.36	0.31	0.22	0.00	0.22	5.47%	15	**15.11**	**12.31**	OK	OK
16	15	2754	7.0	7	22	1.68	30.57	0.31	16.27	0.00	16.27	1.00%	24	**22.62**	**7.20**	OK	OK
17	15	0	7.0	0	15	1.96	0.56	0.31	0.35	0.00	0.35	5.42%	15	**15.04**	**12.25**	OK	OK
18	15	2826	4.6	10	25	1.52	31.12	0.31	15.03	0.00	15.03	0.35%	27	**18.32**	**4.61**	OK	OK
19	15	2881	4.6	10	25	1.52	31.45	0.31	15.10	0.00	15.10	0.35%	27	**18.32**	**4.61**	OK	OK
Upstream 3	15	1813	7.0	4	19	1.78	22.64	0.31	12.74	0.00	12.74	1.30%	21	**18.07**	**7.51**	OK	OK
20	15	1813	7.0	4	19	1.78	22.78	0.31	12.82	0.00	12.82	4.69%	18	**22.75**	**12.87**	OK	OK
21	15	2988	5.6	9	24	1.58	54.62	0.31	27.36	0.00	27.36	0.45%	30	**27.52**	**5.61**	OK	OK
Upstream 4	15	1269	5.0	4	19	1.78	15.51	0.31	8.75	5.00	13.75	0.36%	30	**24.61**	**5.01**	OK	OK
22	15	0	5.3	0	15	1.96	1.69	0.31	1.05	0.00	1.05	1.00%	15	**6.46**	**5.26**	OK	OK
23	15	1903	5.2	6	21	1.70	17.59	0.31	9.48	5.00	14.48	0.39%	30	**25.62**	**5.22**	OK	OK
24	15	0	7.0	0	15	1.96	1.17	0.31	0.73	0.00	0.73	4.77%	15	**14.11**	**11.50**	OK	OK
25	15	2246	5.4	7	22	1.66	19.04	0.31	10.03	5.00	15.03	0.41%	30	**26.26**	**5.35**	OK	OK
26	15	0	7.0	0	15	1.96	1.16	0.31	0.72	0.00	0.72	5.39%	15	**15.00**	**12.22**	OK	OK
27	15	2661	7.0	6	21	1.69	20.58	0.31	11.02	5.00	16.02	1.78%	30	**54.72**	**11.15**	OK	OK
Upstream 5		1700	6.2	5	5	2.40	23.02	0.31	17.54	0.00	17.54	0.55%	30	**30.42**	**6.20**	OK	OK
28	15	1700	7.0	4	19	1.79	23.02	0.31	13.04	0.00	13.04	1.00%	24	**22.62**	**7.20**	OK	OK
29	15	0	7.0	0	15	1.96	0.24	0.31	0.15	0.00	0.15	5.68%	15	**15.40**	**12.55**	OK	OK
30	15	1803	7.0	4	19	1.78	23.83	0.31	13.42	0.00	13.42	1.00%	30	**41.02**	**8.36**	OK	OK
31	15	2733	7.0	7	22	1.68	44.41	0.31	23.67	5.00	28.67	1.77%	30	**54.57**	**11.12**	OK	OK
32	15	2779	7.0	7	22	1.68	44.73	0.31	23.78	5.00	28.78	4.02%	30	**82.24**	**16.75**	OK	OK
33	15	0	7.0	0	15	1.96	0.31	0.31	0.19	0.00	0.19	6.29%	15	**16.20**	**13.20**	OK	OK
34	15	3077	7.0	7	22	1.65	45.26	0.31	23.63	5.00	28.63	5.46%	30	**95.84**	**19.53**	OK	OK
35	15	0	7.0	0	15	1.96	0.23	0.31	0.14	0.00	0.14	8.73%	15	**19.09**	**15.55**	OK	OK
36	15	3317	7.0	8	23	1.62	45.74	0.31	23.52	5.00	28.52	6.66%	30	**105.85**	**21.56**	OK	OK
37	15	3403	7.0	8	23	1.61	100.36	0.31	51.34	5.00	56.34	1.88%	36	**91.45**	**12.94**	OK	OK
38	15	0	7.0	0	15	1.96	1.91	0.31	1.18	0.00	1.18	9.58%	15	**19.99**	**16.29**	OK	OK
39	15	3518	7.0	8	23	1.60	103.81	0.31	52.72	5.00	57.72	1.44%	36	**80.04**	**11.32**	OK	OK
40	15	0	7.0	0	15	1.96	1.75	0.31	1.09	0.00	1.09	5.22%	15	**14.76**	**12.03**	OK	OK
41	15	3964	7.0	9	24	1.56	107.40	0.31	53.00	5.00	58.00	1.44%	36	**80.04**	**11.32**	OK	OK
42	15	0	7.0	0	15	1.96	0.49	0.31	0.30	0.00	0.30	5.08%	15	**14.56**	**11.86**	OK	OK
43	15	4067	7.0	10	25	1.55	108.36	0.31	53.11	5.00	58.11	1.44%	36	**80.04**	**11.32**	OK	OK
44	15	0	7.0	0	15	1.96	0.44	0.31	0.27	0.00	0.27	5.31%	15	**14.89**	**12.13**	OK	OK
45	15	4184	7.0	10	25	1.53	109.22	0.31	53.12	5.00	58.12	1.45%	36	**80.32**	**11.36**	OK	OK
46	15	0	7.0	0	15	1.96	2.20	0.31	1.36	0.00	1.36	4.20%	15	**13.24**	**10.79**	OK	OK
47	15	4731	7.0	11	26	1.48	113.56	0.31	53.23	5.00	58.23	1.47%	36	**80.87**	**11.44**	OK	OK
48	15	0	5.3	0	15	1.96	0.14	0.31	0.08	9.33	9.41	0.81%	18	**9.45**	**5.35**	OK	OK
Upstream 6	15	2800	7.0	7	22	1.68	44.53	0.31	23.64	0.00	23.64	0.85%	30	**37.82**	**7.70**	OK	OK
49	15	2800	7.0	7	22	1.68	44.93	0.31	23.86	18.66	42.52	0.93%	36	**64.32**	**9.10**	OK	OK
50	15	2850	7.0	7	22	1.67	45.12	0.31	23.88	22.26	46.14	1.11%	36	**70.27**	**9.94**	OK	OK
51	15	4834	7.0	12	27	1.47	159.12	0.31	74.06	30.86	104.92	2.86%	36	**112.80**	**15.96**	OK	OK
52	15	0	7.0	0	15	1.96	0.00	0.31	0.00	34.85	34.85	1.20%	30	**44.93**	**9.15**	OK	OK
53	15	0	7.0	0	15	1.96	0.14	0.31	0.08	0.00	0.08	6.40%	15	**16.34**	**13.32**	OK	OK
54	15	278	7.0	1	16	1.93	0.40	0.31	0.24	34.85	35.09	1.44%	30	**49.22**	**10.03**	OK	OK
55	15	0	7.0	0	15	1.96	2.43	0.31	1.51	0.00	1.51	6.17%	15	**16.05**	**13.08**	OK	OK
56	15	829	7.0	2	17	1.88	5.18	0.31	3.08	34.85	37.93	1.44%	30	**49.22**	**10.03**	OK	OK
57	15	0	7.0	0	15	1.96	0.43	0.31	0.27	0.00	0.27	6.03%	15	**15.86**	**12.93**	OK	OK
58	15	932	7.0	2	17	1.87	6.03	0.31	3.56	43.09	46.65	1.44%	30	**49.22**	**10.03**	OK	OK
59	15	0	7.0	0	15	1.96	0.41	0.31	0.25	0.00	0.25	5.88%	15	**15.66**	**12.76**	OK	OK
60	15	1049	7.0	2	17	1.85	6.83	0.31	4.01	43.09	47.10	1.44%	30	**49.22**	**10.03**	OK	OK
61	15	0	7.0	0	15	1.96	2.08	0.31	1.29	0.00	1.29	4.31%	15	**13.41**	**10.93**	OK	OK
62	15	1575	7.0	4	19	1.80	10.95	0.31	6.25	43.09	49.33	3.23%	30	**73.72**	**15.02**	OK	OK
Upstream 7	15	2631	7.0	6	21	1.69	51.81	0.31	27.79	0.00	27.79	1.20%	30	**44.93**	**9.15**	OK	OK
63	15	2631	7.0	6	21	1.69	51.81	0.31	27.79	16.45	44.24	1.00%	36	**66.70**	**9.44**	OK	OK
64	15	2681	7.0	6	21	1.69	52.23	0.31	27.93	21.78	49.71	1.28%	36	**75.46**	**10.68**	OK	OK
65	15	2709	7.0	6	21	1.68	63.82	0.31	34.07	70.20	104.27	1.08%	42	**104.56**	**10.87**	OK	OK
66	15	0	6.7	0	15	1.96	0.00	0.31	0.00	39.99	39.99	0.50%	36	**47.16**	**6.67**	OK	OK

Notes:

1. Upstream pipe distances and areas may change based on future conceptual layout.
2. C Value is based on conceptual layout and was calculated for each area based on proposed pervious and impervious areas.
3. See below for colum calculations/ explanation.
4. Pipe sizes and slopes will be verified with final construction drawings.

Column Explanation:

1. This is the area number that coresponds with the pipe exhibit.
2. This is the overland time it takes the rainfall to travel from the back of the lots to the nearest inlet.
3. This is the pipe distance from the current inlet upstream to where the runoff entered the system.
4. Pipe velocity. An assumed value of 4 feet per second was used.
5. This is the time it takes to travel the upstream pipe distance at 4 fps.
6. This is the total time of concentration, which is Column 2 plus Column 5.
7. This is the 10-year storm intensity that is interpolated from NOAA precipitation data.
8. This is the cumulative contributing area for each pipe segment.
9. This is a composite C-value that was calculated based on the ROW area, estimated building areas, and landscaped areas.
10. The area discharge is calculated based on the Rational Equation. Column 7 times Column 8 times Column 9.
11. This column is for any additional flows that will enter the system, such as discharges from upstream detention ponds.
12. Column 10 plus Column 11.
13. This is the design slope of the pipes acording to the latest plans.
14. This is the piep diameter.
15. The pipe capacity is based on Mannings equation assuming an n-value of 0.013 for RCP.
16. The pipe velocity is based on Mannings equation assuming an n-value of 0.013 for RCP.
17. This column verifies the velocity is greater than 3 fps.
18. This column verifies the capacity is greater than the total discharge.

Future Upstream Contributing Areas
Offsite inflows
100-Yr Overflow
Detention Basin Release

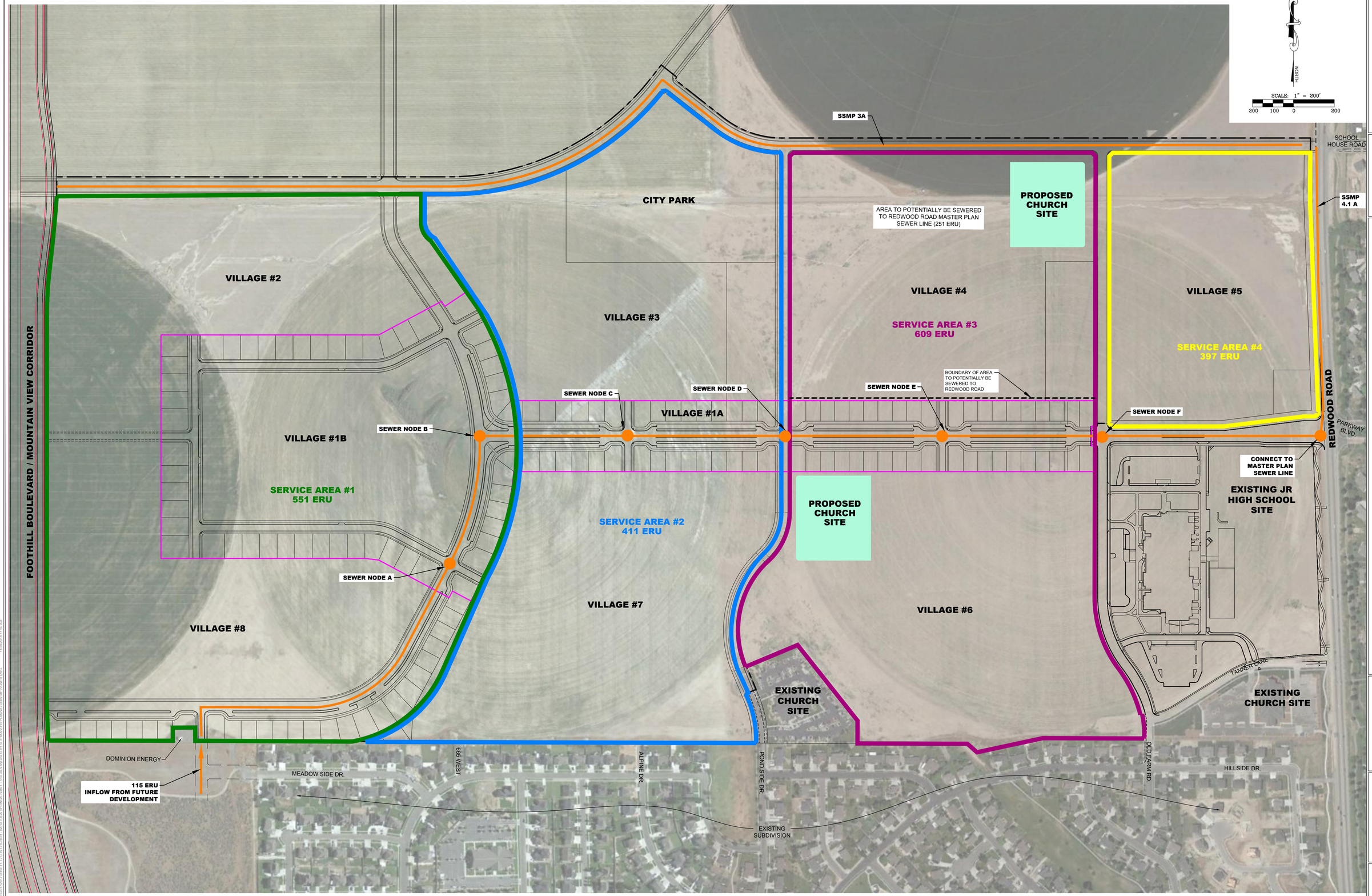
Composite C-value calculations

	Acres	C-value	C*A
ROW Impervious	9.06	0.86	7.79
House/Driveway	5.51	0.78	4.30
Open	30.73	0.07	2.15
total	45.30		14.24
Composite C-value		0.31	

Appendix D – Sewer sizing calculations and Exhibit

BEACON POINTE SEWER CAPCAITY CALCULATIONS

Node	Cumulative ERUs	GPD/ERU	Peaking Factor [1]	Peak Flow (GPD)	Peak Flow (GPM)	**Cumulative Flow (CFS)**	Pipe Diameter (IN)	Pipe Slope	Q_{FULL} (CFS)	**$q_{80\%}$ (CFS)**	Estimated Depth (IN)	Partial Full Velocity (FPS)	Capacity Check
Rushton	115	255	2.5	73,313	50.9	**0.11**	8	1.00%	1.21	**0.97**	1.6	2.16	OK
A	391	255	2.5	249,263	173.1	**0.39**	8	3.00%	2.09	**1.67**	2.3	4.60	OK
B	668	255	2.5	425,850	295.7	**0.66**	8	1.50%	1.48	**1.18**	3.8	4.13	OK
C	874	255	2.5	557,175	386.9	**0.86**	8	1.50%	1.48	**1.18**	4.4	4.41	OK
D	1086	255	2.5	692,325	480.8	**1.07**	10	1.50%	2.68	**2.15**	4.4	4.65	OK
E	1386	255	2.5	883,575	613.6	**1.37**	10	0.80%	1.96	**1.57**	6.1	3.89	OK
F	1630	255	2.5	1,039,125	721.6	**1.61**	12	0.32%	2.02	**1.61**	8.1	2.86	OK



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9/27/18
REGISTERED PROFESSIONAL ENGINEER

SUBURBAN LAND RESERVE

SARATOGA SPRINGS, UTAH

MASTER SEWER PLAN

REVISIONS
1 -
2 -
3 -
4 -
5 -

LEI PROJECT #:	2017-0069
DRAWN BY:	TJP
DESIGNED BY:	GDM
SCALE:	1" = 200'
DATE:	11/29/2018
SHEET	1