APPLICATION FOR PLANNED RESIDENTIAL DISTRICT DEVELOPMENT TEXT IN THE CITY OF POWELL

CARPENTER'S MILL
PULTE HOMES OF OHIO LLC

12-21-2016

1. Name, address, and phone number of applicant.

Matt Callahan
Div. VP Land Acquisition
PULTE Homes of Ohio, LLC
Matthew.Callahan@Pulte.com
4900 Tuttle Crossing Blvd.
Dublin Ohio, 43016
o. 614-376-1000

2. Name, address, and phone number of registered surveyor, registered engineer and/or urban planner assisting in the preparation of the preliminary development plan.

Landscape Architect
Gregory S. Chillog, RLA, Principal
EDGE
Greg Chillog <gchillog@edgela.com>
330 West Spring Street, Suite 350
Columbus, Ohio 43215
Desk: 614.487.3004
Mobile: 614.832.1156

Civil Engineer
Michael C. Reeves, PE, CFM, LEED AP / Project Manager
Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road, Suite 250 • Worthington, OH 43085
Toll-Free: 888-598-6808 • Fax: 614-540-6638
Mobile: 317-407-2352 • http://www.cecinc.com

Attorney
Thomas L. Hart, Esq.
Isaac Wiles Burkholder & Teetor, LLC
Two Miranova Place, Suite 700
Columbus, Ohio 43215
(614) 340-7415
thart@isaacwiles.com

3. A list containing the names and mailing addresses of all owners of property contiguous to, directly across the street from and within 250 feet of the property in question.

See Exhibit A for Adjacent Property Owners

4. Legal description of the property.

See Exhibit B for Legal Description

5. A description of present use(s) on and of the land.

The property is currently located in Liberty Township, is farmed, or undeveloped and includes single family and agricultural structures under the Liberty Township Zoning Resolution.

6. Draft of proposed Ordinance, prepared with the advice and counsel of the Director of Law, establishing this specific Development Plan as an additional effective zoning control over the land in question, consistent with the continuing authorities of the current Planned District zoning in these areas provided for elsewhere in this Zoning Ordinance.

Will be submitted by City of Powell.

7. A vicinity map at a scale approved by the Zoning Inspector showing all property lines, existing streets and alleys, approved future streets and land uses on adjacent Planned District areas, transportation and land use elements of the Municipality's adopted Comprehensive Plan, current zoning classifications and boundaries, and current land uses on the site of the proposed Planned District development and in the surrounding areas to the physical extend deemed necessary by the Zoning Inspector, but no less than 250 feet beyond the limits of the proposed Planned District Development Plan.

See Exhibit C-000 for Vicinity Map.

8. A preliminary development plan at a scale approved by the Zoning Administrator illustrating:

See Exhibit C-000 for Preliminary Development Plan

A. The property line definition and dimensions of the perimeter of the site;

See Exhibit C-000 for Preliminary Development Plan and annexation exhibit of 10-21-2016.

B. Right-of-ways and paving widths of all existing, currently platted, and previously approved Planned District streets and alleys adjacent to, on, or abutting the site;

See Exhibits C-000, C-200, C-201, C-300, C-301 for Preliminary Development Plan.
As shown on the Plan, two Common Access Drives (CADs) are proposed to be created and approved with this PRD zoning. One CAD is to be serviced from the existing curb cut and driveway serving the existing Shelly residence from Steitz Road. The current Shelly driveway will be extended to serve lots 71 and 72. A second CAD is created to serve lots 35, 36 and 37 with access from the public street connection at the southwest corner of the site running between lots 34 and 38. Both CADs shall be based on the CAD standards in the Delaware County Subdivision Regulations and as approved by the City of Powell Engineer.

C. The area of the site and its subareas in acres;

Total site is +/- 108.85 acres, 183 total units, 1.68 gross du/ac

111 Traditional Single Family homes
67 Active Adult Patio homes
5 Estate Lot homes
Open space +/- 27.02 ac (25%)

Smith Property 111 total units, 70.34+/- acres, gross 1.58 du/ac , Open space +/- 19.38

Subarea A-1 Manors +/- 17.93 ac, 26 homes – 100' x 140' lots
1.44 du/ac
Subarea A-2 Moors +/- 25,76 ac, 36 homes - 90' x 130' lots
1.40 du/ac
Subarea A-3 Landings +/- 26.65 ac, 49 homes – 85' x 130' lots
1.84 du/ac
(All units, Traditional Single Family homes)

Shelly Property 72 total units, 38.51+/- acres, 1.85 gross du/ac

Subarea B "Retreat" +/- 28.73 ac, 67 homes – 70' x 120' lots (Active Adult Patio Homes) Open space +/- 7.22 ac, 2.33 du/ac

Subarea C "Woods" +/- 9.79 ac, 5 Estate Lots and Homes (1.33 to 3.15 acres) Open Space +/- .67 ac, .51 du/ac

Minimum Square Footages Per Sub-Area and Product Type

A-1	Manors	2,300	2,700

A-2	Moors	2,200	2,400
A-3	Landings		
B	Retreat	1,800	2,100
C	Woods	2,200	

D. The topography of the site and abutting areas at no more than five (5) foot contour intervals;

See Exhibit Sheets C 300 and C-301 for existing index and intermediate contours.

E. Existing surface drainage ways and surface sheet flow patterns;

See Preliminary Storm Water and Drainage Exhibits C-300 and C-301.

F. Flood plan areas, ravine-bottom areas, and areas of ground slope in excess of six (6) percent;

See Exhibit Sheets C-300 and C-301.

G. Existing vegetation on the site with the specific tree spots for all trees six (6) inches in diameter or greater, measured twenty-four (24) inches from the ground;

Existing vegetation that will remain will be located during the Final Development Plan and shown on that submittal. See attached Tree Survey Exhibit from CEC.

H. Existing easements on the site with notations as to their type, extent, and nature;

See Exhibit Sheets C-300 and C-301. There is an existing 30 foot electric easement on the east side of Steitz Road that is adjacent and contiguous to the existing right-of-way or any future right-of-way in the event of roadway realignment.

I. The location and dimensions of existing utilities on and adjacent to the site, including the nearest sanitary sewer, with manhole invert elevations;

See Preliminary Development Plan Exhibit C-300 and C-301, Grading and Utility Plans,.See also utility service letters.

J. Calculation of the maximum residential units permitted on the site under the terms of the Zoning Ordinance, including delineation of the subdistricts of the site upon which these calculations have been made;

The proposed residential density is 1.68 du/gross acre for the overall site, including both the Smith and Shelly properties combined. This is slightly lower than recommended density of 1.7 du/gross acre and includes 67 patio homes designed for mainly first floor living with flexible second floor spaces. This subarea will involve less intense use and less impactful traffic patterns as compared to equivalent traditional single family development. The lower impact of empty nester property owners in terms of traffic trips, schools, daily living, and activities is well documented and will mitigate any perceived higher density proposed for this subarea. The traditional single family homes on the Smith property are proposed at a lower gross density than the city code and, neighboring city developments, at 1.44, 1.40 and 1.84 du/ac respectively, per subarea and 1.58 du/ac overall. The traditional single family density at 1.58 du/ac overall is also lower than the recently approved City of Powell development in the immediate area, the Reserve at Scioto Glen, which was approved at 1.70 du/ac.

K. A preliminary plan for the first, or next, phase of the development illustrating:

1. New street centerlines, rights-of-ways, and street classification types;

See Exhibit C-200 and C-201 for Preliminary Development Plan.

2. Names of existing and proposed streets;

To be determined and submitted with Final Development Plan.

3. Generalized lot and block layouts, indicating and illustrating property lines, minimum lot areas, minimum building setbacks and yards, location and extent of major off-street parking areas, etc.;

See Exhibit C-000 through C-301 of Preliminary Development Plan.

4. Subareas of the site to be developed, by land use type, housing types, and housing densities, including subarea statistics;

See Section 8(C) above.

5. All proposed structures shall be located showing square footage, tenant or user types, and expected entranceways and service or loading areas;

See Landscape Plan exhibits for community structures and entry features.

Minimum Square Footages Per Sub-Area and Product Type

<table>
<tr><th>Sub-Area</th><th>Sub-Area Name</th><th>Ranch / One-Story</th><th>1-1/2 & Two-Story</th></tr>
<tr><td>A-1</td><td>Manors</td><td>2,300</td><td>2,700</td></tr>
<tr><td>A-2</td><td>Moors</td><td rowspan="2">2,300</td><td rowspan="2">2,400</td></tr>
<tr><td>A-3</td><td>Landings</td></tr>
<tr><td>B</td><td>Retreat</td><td>1,800</td><td>2,100</td></tr>
<tr><td>C</td><td>Woods</td><td colspan="2">2,200</td></tr>
</table>

6. Common open areas, public lands, and natural scenic easements, including the area of each;

Open spaces are identified on the Preliminary Development Plan and with related landscape plan and detail exhibits. A key strategy of the proposed open space plan is to preserve the existing tree rows and mature forest areas as open space and connect these areas with multi-use paths. Saving tree rows will frame subareas, as well as buffer development on the property from neighboring subdivisions. The resulting connected “green belts” traverse the Smith property both north to south and east to west. Nearly 18 acres of wooded areas or tree rows are to remain on site. The Shelly property is designed with more of a perimeter buffer strategy with wooded areas on all four borders as well as a central open space. The Smith property includes substantial open space, wetlands and pond placement along Steitz Road at the entry point to help maintain the existing rural character, open views to the site and forested

areas in keeping with the Powell Comprehensive Plan. The entry feature itself will include a structure and water feature mimicking a historic mill in keeping with the theme of the community. The same building character is used again for a shelter structure in the central open space in Reserve K, along with a playground. Split rail fences further define and frame open space features where appropriate. Setbacks from the road will exceed the neighboring Liberty Village development. The entry to the Shelly property is designed to retain existing woods, provide a green viewshed into the community and buffer the site from the road and adjacent neighborhoods. The entry feature includes a low key post-column sign, low shrubs, and split rail fences on the leading edges of mounds with tree plantings. On lots 66 through 70, homes face Steitz Road in order to emphasize the front facades and replicate the historical and rural character of homes in the area that typically faced rural roads.

The regional multi-use path system, both along Steitz Road and through the community and connecting to Wildflower Drive in the Golf Village subdivision at the northeast corner and Wolf Path Drive at the northwest corner of the Shelly property at Liberty Village, incorporates and connects preserved tree rows and wooded reserves throughout the site. Off-site path connection details are provided in the Landscape Plans. The substantial wetlands area that is mostly preserved on the Smith property and the large forested green spaces round out the natural features. Users of the multi-use path will parallel green space and trees for the majority of their trek on the east side and as they travel through open spaces on the west. Overall, approximately 27.27+/- acres of open space are provided, (25%) with 17.70 acres of forested area and 1.84 acres of wetlands.

7. Proposed landscape treatment of the site;

See Landscape Plan, attached and description above.

8. Proposed utility patterns and provisions, including sanitary sewer, individual waste disposal systems, storm sewer, trash collection systems, outdoor lighting, and water supply, including relevant easements and engineering feasibility studies or other evidences of reasonableness;

See Utility Service Letters, as well as Utility Plans attached at Exhibit Sheets C-300 and C-301.

9. Provisions for accommodating surface drainage runoff;

See Exhibit Sheets C-300 and C-301attached as part of the Preliminary Development Plan.

10. Proposed architectural design criteria;

Primary siding materials shall be masonry, (stone, synthetic stone, stucco, brick or fiber cement exterior siding) and/or wood. Gutters, soffits and fascia may be man-made material. All sides of structures shall be articulated in a manner as to represent a similar character on all facades. Façade colors shall not be of excessively high chroma or intensity. Major roof elements shall have a minimum 6:12 pitch. Secondary or accent roofs may have 3:12 pitch. Roof materials shall be of a medium or dark color. Garage doors shall be paneled, and of one color and material (windows shall be allowed if consistent with architectural character and theme).

Architectural elevations are attached hereto.

11. Proposed pedestrian/jogging/bicycle pathways and equestrian paths, including locations, dimensions, landscape and construction, including relationships of such pathways to existing and proposed future pathways on surrounding property;

See item 6 above, Preliminary Development Plan exhibits showing multi-use paths and Landscape Plan Exhibit depicting paths and connections and future connections to regional system.

12. Overall site development statistics comparing this plan for development with requirements of this Zoning Ordinance and with the comprehensive plan and indicating that all requirements of this Zoning Ordinance and the comprehensive plan have been met in this preliminary plan and will be met in final development.

As discussed and reviewed with the City staff, the strategy for this plan was to maintain existing tree rows and wooded areas, connecting open spaces with the multi-use path and keeping an open viewshed at the entry points to the community with the placement of detention ponds and green space on the Smith property and maintaining existing woods on the Shelly property. By maintaining the existing tree rows, a “sense of place” is intended to be created by further dividing the subareas and enclosing small pods with a “green frame.” Significant wooded areas throughout the site, and the majority of the existing wetlands on the site, are also maintained. Common open spaces are depicted on the Preliminary Development Plan and are equal to approximately 27.27 acres or 25%. Mixing housing types was also emphasized by staff and thus added to the plan.

Sub-Area	**Sub-Area Name**	**Min. Lot Width (feet)**	**Min. Lot Depth**	**Min. Front Setback**	**Min. Side Yard One Side***	**Min. Side Yard Total Setback**	**Min. Distance between buildings**	**Min. Pavement Setback to Side Yard**	**Min. Rear Yard ****
A-1	Manors	100’	140’	25 feet	8 feet 5 feet*	16 feet	16 feet	3’	25 feet
A-2	Moors	90’	130’	25 feet	8 feet 5 feet*	16 feet	16 feet	3’	25 feet
A-3	Landings	85’	130’	25 feet	6 feet 5 feet*	12 feet	12 feet	3’	25 feet
B	Retreat	70’	120’	20 feet	6 feet	12 feet	12 feet	3’	20 feet
C	Woods	1.3 Ac.		30 feet	15 feet	35 feet	35 feet	35 feet	30 feet

* Side yard setback in Sub-Areas A-1, A-2 and A-3 may be reduced to 5 feet (on one side) when a side load garage entry is utilized on homes in these sub-areas, provided that the minimum distance between buildings shall not be less than as established herein for each such sub-area.

** Decks and patios may encroach the rear setback in Sub-Areas A-1, A-2, A-3 and B, provided that no such structures shall be permitted to be located closer to the rear lot line than 15 feet.

<table>
<tr><th>Sub-Area</th><th>Sub-Area Name</th><th>Ranch / One-Story</th><th>1-1/2 & Two-Story</th></tr>
<tr><td>A-1</td><td>Manors</td><td>2,300</td><td>2,700</td></tr>
<tr><td>A-2</td><td>Moors</td><td rowspan="2">2,300</td><td rowspan="2">2,400</td></tr>
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<tr><td>C</td><td>Woods</td><td colspan="2">2,200</td></tr>
</table>

Decks and patios may encroach into rear yard setbacks, but not closer than 15 feet from lot line for single family and 10 feet for patio lots.

Lot Coverage

Single family homes, 27% lot coverage and patio homes, 40% lot coverage.

Lot Frontage

Lot frontage for single family homes are 85, 90 and 100ft
Lot frontage for patio homes lots is 70ft
Lot frontages for estate lots are varied with a minimum 1.33 acre lot size.

Lot Sizes

Single family lots sizes range from 11,050 sq. ft. to 14,000 sq. ft.
Patio home lots are 8,400 sq. ft. minimum
The overall average lot size for the entire community is .34 acres.

House Size & Materials:

All houses in this development will conform to the following standards:

a) All homes shall include four-sided architectural designs and be articulated to carry out a similar design on all facades. The same home with same elevation will not be repeated on adjacent lots or those across the street.
b) High quality brick, stone, wood, and cementitious fiber materials are utilized, with attention paid to installation and specifications.
c) All homes shall have attached garages
d) Single family homes shall not be less than 2,100 sq. ft. Patio homes shall not be less than 1,800 sq. ft. (excluding porches, basements and garages).

The anticipated ranges for square footage of the homes shall be as follows:

<table>
<tr><th>Sub-Area</th><th>Sub-Area Name</th><th>Ranch / One-Story</th><th>1-1/2 & Two-Story</th></tr>
<tr><td>A-1</td><td>Manors</td><td>2,300</td><td>2,700</td></tr>
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</table>

Maximum building height shall not exceed 35 feet for principle buildings and 18 feet for accessory structures.

The maximum gross density is 1.68 dwelling units per acre. This is slightly less than the maximum code density of 1.7 dwelling units per acre. Consideration is also requested based on code's formula for determining density at 1143.13 (b) and site design features such as the multi-use path for public use, connection to the regional path system, and the setting aside of wooded open spaces and maintenance of tree rows inside the site and on the perimeter of the site. In addition, with the incorporation of active adult patio homes at the site, the intensity of land use for the western area (Shelly property) is lessened based on the lower peak traffic impact, utility use, school use, and actual residents per acre when active adult/empty nester housing is compared to equivalent traditional single-family impact.

In terms of compliance with the Powell Comprehensive Plan, this property is designated as single-family residential on the Future Land Use Map. (p. 29) The site is within the Strategic Annexation Policy zone identified on page 26 of the Plan. The site development would geographically fill out the area with similar single-family that exists on the eastern and northern property boundary and allow Powell to control its own destiny in the area.

This would be considered "in-fill" development under the terms of the Comprehensive Plan that would continue the community's character with a consistent development pattern as expressed in the Plan (page 27). Including upscale active adult patio homes, as well as estate housing, along with traditional single family homes supports the goal of diversifying housing options, which is a key theme throughout the Comprehensive Plan. The proposed development plan integrates the property with the adjacent, existing single-family sites, while adding the mixed residential land use offering as an alternative housing type to accommodate changing market preferences (pages 38-39). This diversification also helps prevent over-saturation of one housing type, and helps preserve and enhance the value of existing housing stock, while at the same time offering newer and upgraded housing options to existing residents (page 42).

With regard to the single-family design aspects of this development plan the following Comprehensive Plan Development Guidelines are met, as outlined on page 42 of the Plan:

- New single-family streets are connected to existing neighborhoods where existing stub-connections are provided or stubbed for future connections.
- Cul-de-sac use is limited and is only used in two locations based on the attempt to protect natural features, maximize open spaces and/or conform to road access standards. Within the active adult-patio home community, one cul-de-sac is provided based on the buyers' preferences for safety, security and privacy.
- The shared multi-use path offers the opportunity to connect the community to a greater public path system, allowing for recreational travel without cars. Sidewalks are also provided on all streets.
- Homes that back up to streets are limited and where placed are either substantially screened from roads and/or appropriately set back.
- Homes include four-sided architectural designs and are articulated to carry out a similar design on all facades. The same home with same elevation will not be repeated on adjacent lots or those across the street.
- High quality brick, stone, wood, and cementitious fiber materials are utilized, with attention paid to installation and specifications.

Divergence noted:

1143.13 Minimum street frontage for single-family detached homes @1.7 density is 90 feet. Minimum street frontages of 85 feet are hereby requested to be diverged for forty-nine lots in the single family subareas and divergence is also requested for sixty-seven, 70 foot lots in Active Adult Patio Homes subarea B.

1143.13 Side yard setback minimum for single-family detached homes @1.7 density is 8 feet where the building on adjacent lot is known. Minimum distance between buildings @1.7 density is 24 feet.

Divergences are hereby requested to allow the side yard setback and the minimum distance between buildings to be established as set forth in the table below (and in Section 12 above), including the provision for the reduced side yard setback when a side-loaded garage entry is utilized.

Sub-Area	Sub-Area Name	Min. Side Yard One Side*	Min. Side Yard Total Setback	Min. Distance between structures
A-1	Manors	8 feet 5 feet*	16 feet	16 feet
A-2	Moors	8 feet 5 feet*	16 feet	16 feet
A-3	Landings	6 feet 5 feet*	12 feet	12 feet
B	Retreat	6 feet	12 feet	12 feet
C	Woods	15 feet	35 feet	35 feet

* Side yard setback in Sub-Areas A-1, A-2 and A-3 may be reduced to 5 feet (on one side) when a side load garage entry is utilized on homes in these sub-areas, provided that the minimum distance between buildings shall not be less than as established herein for each such sub-area.

Lot Coverage: Divergences are requested for both single family and patio home lot coverage at 27% and 40% respectively.

Rationale: Divergences to allow a mix of lots sizes, shorter side yard setbacks and the allowance for additional lot coverage on some lots all support the preservation of greater open space and outstanding natural areas on this site.

Livestock fences are to be utilized on the Shelly property.

L. Projected development schedule and phasing.

See phasing plan Exhibit Sheet C-100 and narrative of development schedule below.

M. Overall Traffic Scheme.

See attached Exhibits for traffic and parking for this site. Refer to the Traffic Exhibit from Smart Services, Inc. for the Traffic Study for the development as initialed by the Delaware County Engineer's office November 7, 2016.

N. Detailed phasing plans.

Phasing shall be per the attached Exhibit Sheet C-100. The site will be developed based upon the market driven factors. The phasing and timing of the development of the property will be dependent on economic and general housing market conditions, sales rates and absorption of homes and other factors. Phasing of the site may be adjusted accordingly based on market conditions.

9. Evidences of the ability of the applicant to carry forth its plan by control of the land and the engineering feasibility of the plan, and that the applicant has sufficient control over the land and financing to initiate the proposed development plan phase within two (2) years.

The Applicant has a contract with the property owners and has extensive experience in executing projects of this nature.

10. Evidence of the applicant's ability to post a bond if the plan is approved assuring completion of public service facilities to be constructed within the project area by the developer.

The Applicant shall provide evidence that it has the ability to post bond for the City of Powell Council prior to Final Development Plan approval**.**

11. Verification by the owner of the property that all the information in the application is true and correct to the best of his knowledge.

The Applicant has reviewed the included information in the Preliminary Development Plan submittal and believes it to be true and correct to the best of its knowledge.

12. A statement of the character and nature of the development including the cost range or rent levels for housing in residential development and the general types of business or industrial and commercial developments.

The development plan is intended to be in keeping with the recommendations of the Powell Comprehensive Plan as well as harmonious to existing and surrounding neighborhoods and land uses. The traditional single family homes will be consistent with homes to the north and east in Golf Village as well as those immediately to the north in Windsong and to the northwest (west of Steitz Rd.) in the Liberty Village subdivision. The community is proposed to be developed by Pulte Homes and includes consumer inspired innovative house plans with unique features such as its "Owners Entry" and "Planning Center" designed for the way people and families live their everyday lives. The selling prices of single family homes for community may begin in the mid-$400,000s but are expected to range into the low-mid $600,000s depending upon consumer choices for many of the design and finish features of the homes.

Consistent with Powell's Comprehensive Plan, this mixed-use development also provides an alternate housing choice for those seeking ranch or first floor owner's suite style homes and a low maintenance lifestyle. These homes are designed for the growing active adult or empty nester homebuyer segment, but do not exclude any buyers. This segment of the community provides a housing alternative for those seeking such lifestyle and housing choices but still the privacy of an individual, detached residence at an upscale price with significant square footage. Price points for these homes are expected to start in the mid - $400,000s and range into the low $500,000s.

Estate lots will have significantly higher home prices and offer upscale housing options consistent with area estate homes.

13. A statement of the general impact the development will have on the infrastructure, municipality and schools including projected demographics, a

traffic impact study and a fiscal impact analysis may be required by the Planning and Zoning Commission.

In light of the surrounding single-family developments, both in Powell and Liberty Township, the proposed development is very compatible and amounts to an "infill" site as defined in Powell's Comprehensive Plan. The homes will have architectural characteristics that meet or exceed existing developments. Site open space and multi-use path amenities provide existing communities with connectivity and the preservation of wooded areas. School impact should result in approximately one-hundred students from this community using standard district yield assumptions, however the market prices for the homes and assessed property values are expected to cover the cost to educate the additional students in terms of real property tax collections. The active adult patio homes do not restrict student population but the homes are designed for mainly first floor living and are expected to attract mainly empty nester or active adult buyers

A traffic impact study is completed and has been submitted to the City. The study is based on the terms of an executed Traffic Memorandum of Understanding, and under City and County traffic engineering standards as applicable. The Applicant shall comply with the outcome of the study, including installing any required improvements identified therein.

14. A fee as established by ordinance.

The fee has been submitted with this application.

3673354.1 : 01731 00023

EXPEDITED TYPE II PETITION FOR ANNEXATION (SECTION 709.023) TO THE CITY OF POWELLOF 108.851+/- ACRES, MORE OR LESS, FROM LIBERTY TOWNSHIP

TO THE BOARD OF COUNTY COMMISSIONERS
OF DELAWARE COUNTY, OHIO

The undersigned, petitioners in the premises, and being THE SOLE OWNERS OF REAL ESTATE in the territory described, consisting of 108.851 acres, more or less, with a total length of the annexation perimeter of 10,772 feet, more or less, in the Township of Liberty, which area is contiguous along 2,629 feet, or 24.4% is contiguous to the City of Powell, do hereby pray that said territory be annexed to the City of Powell, according to the statutes of the State of Ohio and that no island of unincorporated area will be created by this annexation.

A full and accurate description and a plat of said territory so prayed to be annexed are attached hereto as Exhibit "A" and "B" and made part hereof.

In support of said Petition, the petitioners state that there are within the territory so prayed to be annexed THREE (3) OWNERS OF REAL ESTATE.

Thomas L. Hart, whose address is Isaac Wiles Burkholder & Teetor LLC, Two Miranova Place, Ste. 700, Columbus, Ohio 43215, is hereby appointed agent for the undersigned Petitioners, as required by Section 709.02 of the Revised Code of Ohio. Said agent is hereby authorized to make any amendment and/or deletion which in his absolute and complete discretion is necessary or proper under the circumstances then existing, and in particular to make such amendment in order to correct any discrepancy or mistake noted by the DELAWARE County Engineer in his examination of an amended plat and description to the Board of Commissioners on, before, or after the date set for hearing on this Petition.

"WHOEVER SIGNS THIS PETITION EXPRESSLY WAIVES THEIR RIGHT TO APPEAL IN LAW OR EQUITY FROM THE BOARD OF COUNTY COMMISSIONERS' ENTRY OF ANY RESOLUTION PERTAINING TO THIS SPECIAL ANNEXATION PROCEDURE, ALTHOUGH A WRIT OF MANDAMUS MAY BE SOUGHT TO COMPEL THE BOARD TO PERFORM ITS DUTIES REQUIRED BY LAW FOR THIS SPECIAL ANNEXATION PROCEDURE."

Delaware County Commissioners
101 N Sandusky St.
Delaware, OH 43015-1732

JMW
12-9-16
9:42 AM

NAME	***ADDRESS***	***DATE***
Jerry L. Smith	27270 Claibourne Rd. Richwood, OH 43344	12·6·2016
Robert L. Smith	8126 Shannon Glen Blvd. Dublin, OH 43016	12·6·2016
Timothy K. Shelly	8260 Steitz Road Powell, OH 43065	12·6·2016

EXHIBITS

Exhibit A= Legal Description

Exhibit B= Plat Map

Exhibit C= Adjacent Parcel Owner List

3570383.1 : 01731 00023

Exhibit A

DESCRIPTION OF PROPOSED ANNEXATION OF
108.851 ACRE TRACT
FROM LIBERTY TOWNSHIP TO CITY OF POWELL
DELAWARE COUNTY, OHIO

Situated in the State of Ohio, County of Delaware, Township of Liberty, located in Farm Lots 5, 8, and 10, Section 2, Township 3, Range 19, United States Military Lands, and part of 32.794 acres and 5.001 acres, as described in deed to Jerry L. Smith and Robert L. Smith, of record in Official Record Volume 1352, Page 700, and part of that 32.807 acres as described in deed to Jerry L. Smith and Robert L. Smith, of record in Official Record Volume 1352, Page 703, and part of that 44.9 acres described in deed to Timothy K. Shelly, of record in Deed Volume 547, Page 238, all being of record in the Recorder's Office, Delaware County, Ohio and being more particularly described as follows:

BEGINNING at a common corner of said 32.794 acre tract and the Golf Village Subdivision, Section 5 Phase B of record Plat Cabinet 3, Slide 597 and southerly line of Golf Village Section 7 Phase A of record in Plat Cabinet 3, Slide 3 and, said corner being an angle point in the existing City of Powell Corporation Line as established by Ordinance Number 2002-30 and of record in Cabinet 2, Slide 790;

Thence, South 03°06'16" West along the said corporation line and common line of said Golf Village Subdivision, Section 5 Phase B and Golf Village Section 5 Phase A of record in Plat Cabinet 3, Slide 387, a distance of 1316.47 feet to a common corner of said 32.807 acre tract and of a 23.11 acre tract conveyed to Glenna E. Miller in Deed Book 323, Page 74, and Deed Book 578, Page 972;

Thence North 86°16'16" West, along the common line of said 32.807 acre tract, 23.11 acre tract, and a 1.89 acre tract as conveyed to Glenna E Miller of record in Deed Volume 978, Page 972, and the proposed corporation line, a distance of 2298.54 feet to the East right of way line of Township Road 125 (Steitz Road);

Thence North 03°00'00" East, along said East right of way, and along the proposed corporation line, a distance of 150.34 feet a point;

Thence, North 86°33'10" West, leaving said East right of way and with the northerly line of a 5.001 acre tract, as described in deed to Timothy K. Shelly, of record in Deed Volume 781, Page 2874, and along the proposed corporation line, a distance of 560.00 feet to a point;

Thence, with said 5.001 acres, and along the proposed corporation line, the following courses:

North 03°54'35" East, a distance of 55.00 feet, to a point;

North 86°33'10" West, a distance of 479.53 feet, to a point;

South 03°54'35" West, a distance of 303.00 feet, to a point in the southerly line of said Farm Lot 10 and said 44.9 acres, and also being on a line common to said 5.001 acres, and Lot 3631, as shown in Double N Subdivision No. 1, of record in Plat Cabinet 2, Slide 563, and described in deed to Lawrence R. Alldritt, of record in Deed Volume 873, Page 2579;

Thence, South 90°00'00" West, with a line common to said 44.9 acres, and in part with said Lot 3631, and in part with a 5.001 acre tract described in deed to Gary M. Clark, of record in Deed Volume 1135, Page 2770, and along said farm lot line, and along the proposed corporation line, a distance of 425.97 feet, to a point;

Thence, North 03°30'00" East, along a line common to said 44.9 acres, and an original 20.527 acre tract as described in deed to Terry R. Imar, of record in Deed Volume 591, Page 15 to, a distance of 1367.85 feet, to a point at a corner common to said 44.9 acres, said 20.527 acres, and Lot 4730 as shown in Liberty Village, of record in Plat Cabinet 3, Slide 639, and also being on a line common to said Farm Lot 10, and said Farm Lot 11;

Thence, South 89°39'00" East, in part with said common lines, and along the proposed corporation line, a distance of 1465.50 feet, to a point in the East right-of-way of said Township Road 125 (Steitz Road);

File Name: 152-227-108.851 ACRES.docx

250 Old Wilson Bridge Road, Suite 250 | Worthington, Ohio 43085 | p: 614-540-6633 f: 614-540-6638 | www.cecinc.com

Thence, North 03°00'00" East, with said east right of way of Township Road 125 (Steitz Road) and along the proposed corporation line, a distance of 62.99 feet, to a point on a common line to said 32.794 acres and a 1.138 acre tract described in Official Record Volume 591, Page 15 and conveyed to Gregory K. Ackers;

Thence South 86°05'23" East, along the common line of said 32.794 acres, said 1.138 acres, Windsong Subdivision of record in Plat Cabinet 3, Slide 574, and said Golf Village Section 7 Phase A, and passing the angle point of the existing City of Powell Corporation Line at a distance of 990.39 feet, a total distance of 2301.04 feet to the **TRUE POINT OF BEGINNING**, containing 108.851 acres more or less.

There being approximately 50.31 acres in said Farm Lot 8 and approximately 20.15 acres in said Farm Lot 5, and 38.39 acres in said Farm Lot 10.

2629 lineal feet of the 10,772 lineal feet herein described (24.4%), is contiguous with the existing City of Powell corporation line.

STATE OF OHIO
MARK
ALAN
SMITH
S-8232
REGISTERED
PROFESSIONAL SURVEYOR

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

10/12/2016

Mark Alan Smith P.S. Date
Registered Surveyor No. 8232

County Engineer
Delaware County, Ohio

I hereby certify the within to be a true copy of the document that is on file in the Map Department.

CHRIS E. BAUSERMAN, P.E., P.S.
County Engineer

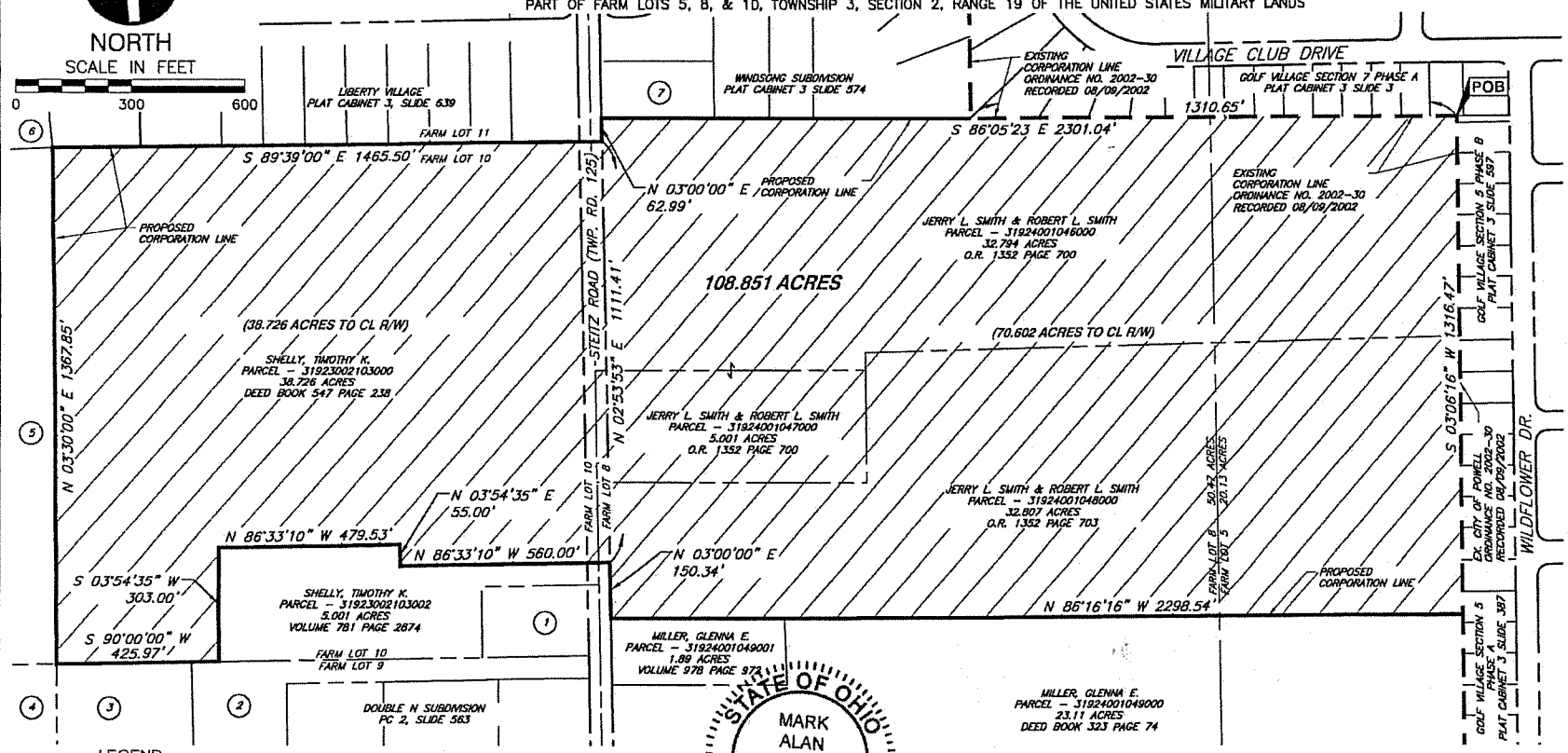
By _____, Date 10-17-16

Exhibit

B

MAP OF TERRITORY TO BE ANNEXED FROM LIBERTY TOWNSHIP TO CITY OF POWELL

SITUATED IN THE STATE OF OHIO, COUNTY OF DELAWARE, TOWNSHIP OF LIBERTY
PART OF FARM LOTS 5, 8, & 10, TOWNSHIP 3, SECTION 2, RANGE 19 OF THE UNITED STATES MILITARY LANDS



County Engineer
Delaware County, Ohio
I hereby certify the within to be a true copy of the document that is on file in the Map Department.
CHRIS E. BAUSERMAN, P.E., P.S.
County Engineer
By _____, Date 10-17-16

LEGEND

- EXISTING CORPORATION LINE
- PROPOSED CORPORATION LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED CORPORATION AREA

STATE OF OHIO
MARK ALAN SMITH
S-8232
REGISTERED
PROFESSIONAL SURVEYOR

SURVEYOR'S NOTE:

ALL BEARINGS AND DISTANCES SHOWN ON THIS SURVEY ARE PER DEED OF RECORD AND NOT THE RESULT OF AN ACTUAL BOUNDARY SURVEY.

CONTIGUITY CALCULATION

2629 LINEAL FEET OF PERIMETER IS CONTIGUOUS WITH THE EXISTING CORPORATION LINE OF THE CITY OF POWELL.

A TOTAL OF 10,772 LINEAL FEET OF ANNEXED PERIMETER.

24.4% OF THE PERIMETER OF THE ANNEXED AREA IS CONTIGUOUS TO THE EXISTING CITY OF POWELL CORPORATION LINE.

NO ISLAND OF UNICORPORATED AREA IS BEING CREATED WITH THIS ANNEXATION.

THIS ANNEXATION PLAT IS A GENERAL DESCRIPTION OF THE LOCATION OF PROPERTY TO BE ANNEXED AND IS NOT A BOUNDARY SURVEY AS DEFINED IN THE O.A.C. CHAPTER 4733-37.

10/12/2016

MARK ALAN SMITH, P.S.
PROFESSIONAL SURVEYOR 8232

CEC
Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE GROUP
STEITZ ROAD
LIBERTY TOWNSHIP
DELAWARE COUNTY, OHIO

ANNEXATION PLAT

DRAWN BY:	JEC	CHECKED BY:	JWC	APPROVED BY:	MAS	DRAWING NO.:	1 OF 1
DATE:	OCTOBER 2016	DWG SCALE:	1"=300'	PROJECT NO:	152-227		

P:\2015\152-227\-Survey\Dwg\152227-SY03-ANNEX.dwg\LAYOUT1 LS:(10/12/2016 - jcoffin) - LP: 10/12/2016 11:36 AM

Exhibit C - Annexation Petition 108.853 ac

3522559v1

Exhibit
C

Petition Parcel Owners

31924001046000	Smith, Robert & Smith, Jerry	Steitz Road, Powell, OH 43065
31924001047000	Smith, Robert & Smith, Jerry	8213 Steitz Road, Powell, OH 43065
31924001048000	Smith, Robert & Smith, Jerry	Steitz Road, Powell, OH 43065
31923002103000	Shelly, Timothy K.	Steitz Road, Powell, OH 43065

Adjacent Parcel Owners

Parcel No.	Owner	Address
31924001045001	Ackers, Gregory & Annamaria Bory-Ackers	8059 Steitz Road, Powell OH 43065
31923002099003	Aldritt, Lawrence & Bethany	8304 Steitz Road, Powell, OH 43065
31923023002000	Badiga, Vijaya & Madhuri Mushunuri	4388 Hunters Bend, Powell, OH 43065
31923002106562	Baynton, Fay	8095 Farm Crossing Cir, Powell, OH 43065
31923002106561	Brubaker, A. Steele	8091 Farm Crossing Cir, Powell, OH 43065
31923002089000	Clark, Gary & Tamara Osborn-Clark	4730 Rutherford Road, Powell, OH 43065
31923002106560	Fazio, Christopher	8099 Farm Crossing Cir., Powell, OH 43065
31923021009000	Fredell, Jeremy & Samantha	8090 Wolf Path Dr., Powell, OH 43065
31923023004000	Fuller-Napier, Stormi	4422 Hunters Bend, Powell, OH 43065
31923002086000	Imar, Terry & Pati, Alexis	4808 Rutherford Road, Powell, OH 43065
31923002085000	Imar, Terry & Pati, Alexis	4808 Rutherford Road, Powell, OH 43065
31923023006000	Lewis, Joseph & Andrea	4460 Hunters Bend, Powell, OH 43065
31923023009000	Loeper, Sandra & Cox, Virginia	4514 Hunters Bend, Powell, OH 43065
31923002106557	Mancinotti, Paul & Rebecca	8121 Farm Crossing Cir., Powell, OH 43065
31923002106563	Mort, Jane	8083 Farm Crossing Cir., Powell, OH 43065
31923002106559	Winner, Jaclyn & Stephen	4364 Hunters Bend, Powell, OH 43065
31923002106559	Ross, James	8103 Farm Crossing Cir., Powell, OH 43065
31923023008000	Sapp, Andrew & Tara	4498 Hunters Bend, Powell, OH 43065
31923002106558	Schwenk, Marlynn, Trustee	8125 Farm Crossing Cir., Powell, OH 43065
31923002103002	Shelly, Timothy K	8260 Steitz Road, Powell, OH 43065
31923002103001	Shelly, Timothy K	8296 Steitz Road, Powell, OH 43065
31923002103000	Shelly, Timothy K	Steitz Road, Powell, OH 43065
31924001046000	Smith, Robert & Smith, Jerry	Steitz Road, Powell, OH 43065
31924001048000	Smith, Robert & Smith, Jerry	Steitz Road, Powell, OH 43065
31924001047000	Smith, Robert & Smith, Jerry	8213 Steitz Road, Powell, OH 43065

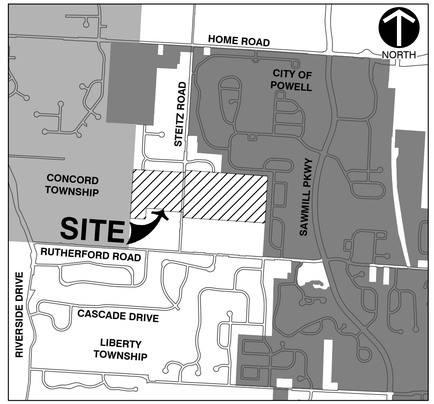
31923002106564	Summerhill, Eileen, Trustee	8079 Farm Crossing Cir., Powell, OH 43065
31923023005000	Sybert, Curtis & Robin	4442 Hunters Bend, Powell, OH 43065
31923023007000	Walker, John & Kellie	4480 Hunters Bend, Powell, OH 43065
31923023003000	Yaeger, Darren Trustee & Renee Yaeger, Tr	4406 Hunters Bend, Powell, OH 43065
31924021009000	Barcus, Todd & Amy	8276 Wildflower Dr., Powell, OH 43065
31924021013000	Bryant, Gregory & Lisa	8218 Wildflower Dr., Powell, OH 43065
31924011035000	Cady, Robert & Lisa	8134 Wildflower Dr., Powell, OH 43065
31924011037000	Dewitt, Jason & Pritz, Jennifer	8160 Wildflower Dr., Powell, OH 43065
31924011038000	Flaugher, Ryan & Melissa	8174 Wildflower Dr., Powell, OH 43065
31924011034000	Kelly, Kenneth & Megan	8120 Wildflower Dr., Powell, OH 43065
31924021014000	Magistrale, Nicholas & Amy	8204 Wildflower Dr., Powell, OH 43065
31924001049000	Miller, Glenna	8349 Steitz Road, Powell, OH 43065
31924001049001	Miller, Glenna	3299 Steitz Road, Powell, OH 43065
31924011033000	Paruchuri, Trivenkata & Madalapu, Ashalatha	8106 Wildflower Dr., Powell, OH 43065
31924021012000	Schumick, Margery & Anton	8232 Wildflower Dr., Powell, OH 43065
31924021010000	Shear, Kathleen & Christopher	8262 Wildflower Dr., Powell, OH 43065
31924021011000	Taylor, Christopher & Monique	8248 Wildflower Dr., Powell, OH 43065
31924011036000	Wilson, Joshua & Kacey	8146 Wildflower Dr., Powell, OH 43065
31924011039000	Woerth, Brian & Elizabeth	8186 Wildflower Dr., Powell, OH 43065
31924026008000	Bosma, Karen & Cordell	4194 Village Club Dr., Powell, OH 43065
31924011031000	Chu Ping-Lang & Ching-Yi	8078 Wildflowedr Dr., Powell, OH 43065
31924011023000	Churchill, Donald & Michelle, Trustees	4364 Village Club Dr., Powell, OH 43065
31924027002000	Dozer, Timothy & Laura	4273 Hunters Bend, Powell, OH 43065
31924011014000	Fogle, Rachael	4238 Village Club Dr., Powell OH 43065
31924011027000	Golf Village Property Owners Association	c/o Real Property Mgnt, 9054 Cotter St., Lewis Center, OH 43035
31924011025000	Green, John & Heather	4394 Village Club Dr., Powell, OH 43065
31924011020000	Jennings, Brian & Gosnell, Amy	4320 Village Club Dr., Powell, OH 43065
31924011029000	Johnson, Jean	8050 Wildflower Dr., Powell, OH 43065
31924011016000	Johnson, Stuart & Patricia	4162 Village Club Dr., Powell, OH 43065
31924011015000	Kominiarek, Jeffrey & McDougall, Jennifer	4248 Village Club Dr., Powell, OH 43065
31924026007000	Kuhns, Ross & Suzanne	4120 Hunters Bend, Powell, OH 43065
31924011011000	McKee, Stephen & Susan	4198 Village Club Dr., Powell, OH 43065
31924011019000	Mesewicz, Mark	4306 Village Club Dr., Powell, OH 43065
31924011022000	Meyer, James & Rebecca	4349 Village Club Dr., Powell, OH 43065
31924027004000	Miller, Christopher & Tracy	4215 Hunters Bend, Powell, OH 43065
31924011024000	Osborne, Derric & Mary	4380 Village Club Dr., Powell, OH 43065

31924011028000	Pechinak, Michael & Maureen	8038 Wildflower Dr., Powell, OH 43065
31924011013000	Penn, Nelson & Robyn	4224 Village Club Dr., Powell, OH 43065
31924011032000	Ramakkagari, Chenna & Duttala, Neelima	8092 Wildflower Dr., Powell, OH 43065
31924011021000	Regits, Willie, Trustee	4334 Village Club Dr., Powell, OH 43065
31924027003000	Repasky, Jennifer	4251 Hunters Bend, Powell, OH 43065
31924011018000	Smith, Andrew & Carlyn	4290 Village Club Dr., Powell, OH 43065
31924011030000	Tebeau, William & Jodi	8064 Wildflower Dr., Powell, OH 43065
31924011012000	Tordoff, William & Shari	4212 Village Club Dr., Powell, OH 43065
31924027001000	Windsong Homeowners' Association	c/o Kevin Yates, 4210 Hunters Bend, Powell, OH 43065

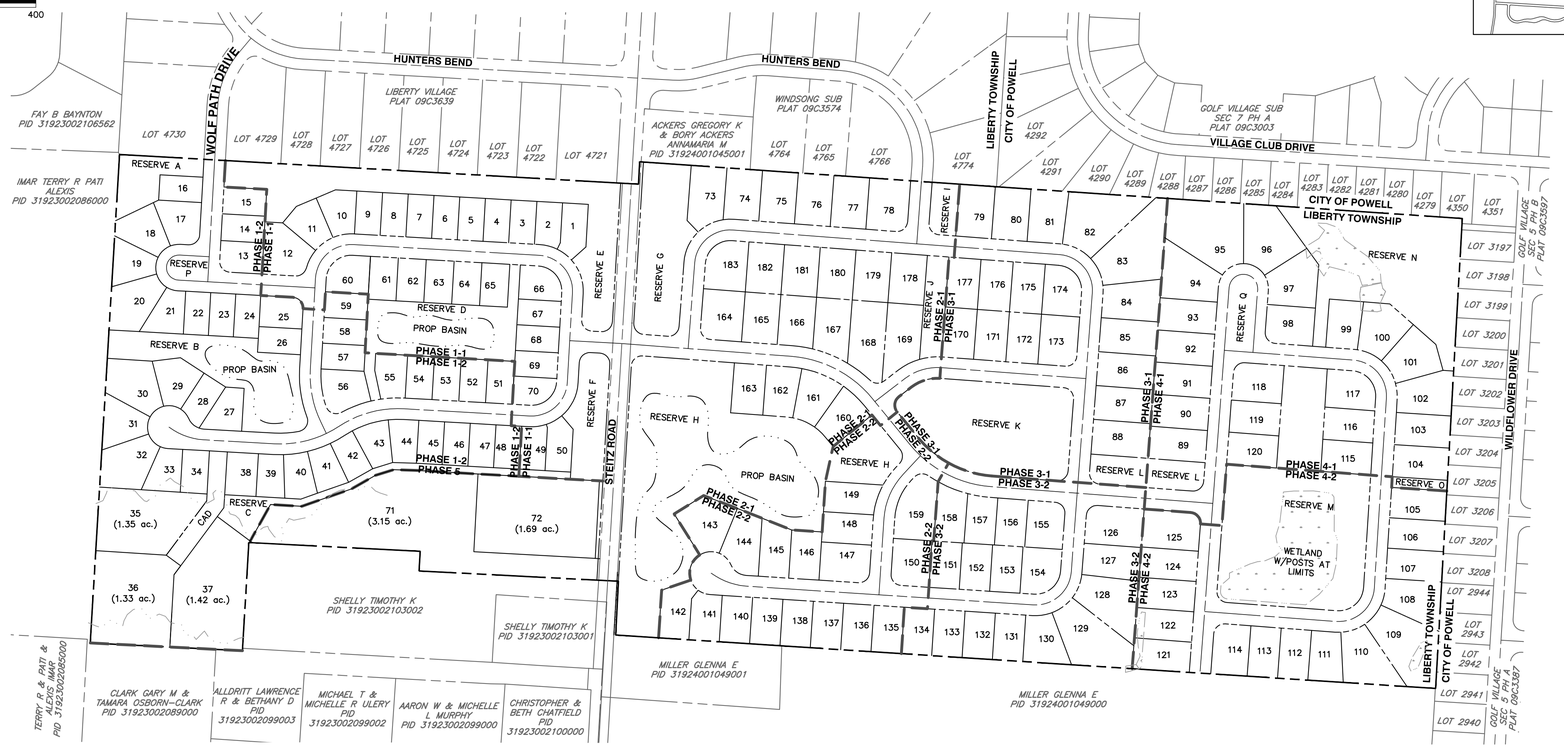
PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
2016

LOTS 8 & 5, SECTION 2, TOWNSHIP 3, RANGE 19
UNITED STATES MILITARY LANDS
CITY OF POWELL, COUNTY OF DELAWARE, STATE OF OHIO

NORTH
SCALE IN FEET
0 200 400



VICINITY MAP
NOT TO SCALE



INDEX MAP
SCALE: 1"=200'

DRAWING INDEX		
NUMBER	DESC	SHEET TITLE
1	C000	COVER SHEET
2	C100	PHASING PLAN
3	C200	SITE PLAN
4	C201	SITE PLAN
5	C300	GRADING & UTILITY PLAN
6	C301	GRADING & UTILITY PLAN
7	L1.01	LANDSCAPING PLAN
8	L1.02	LANDSCAPING PLAN
9	L1.03	LANDSCAPING PLAN
10	L1.04	LANDSCAPING PLAN
11	L1.05	LANDSCAPING PLAN
12	L2.01	LANDSCAPING PLAN
13	L2.02	LANDSCAPING PLAN
14	L2.03	LANDSCAPING PLAN
15	L3.01	LANDSCAPING PLAN
16	L4.01	LANDSCAPING PLAN

SITE STATISTICS

TOTAL ACREAGE:	±108.85 AC
NUMBER OF DWELLING UNITS	183 DWELLING UNITS
GROSS DENSITY	1.68 DWELLING UNITS/AC
OPEN SPACE (PROVIDED)	27.27 AC (25.0%)
SUB AREA A-1:	±17.93 AC
NUMBER OF DWELLING UNITS	26 DWELLING UNITS
GROSS DENSITY	1.44 DWELLING UNITS/AC
RESERVE G	1.46 AC
RESERVE I	0.25 AC
RESERVE J	0.40 AC
OPEN SPACE PROVIDED:	2.11 AC (11.8%)
SUB AREA A-2:	±25.76 AC
NUMBER OF DWELLING UNITS	36 DWELLING UNITS
GROSS DENSITY	1.40 DWELLING UNITS/AC
RESERVE K	2.55 AC
RESERVE L	0.59 AC
RESERVE M	4.37 AC
RESERVE N	2.98 AC
RESERVE O	0.11 AC
RESERVE Q	0.21 AC
OPEN SPACE PROVIDED:	10.81 AC (42%)
SUB AREA A-3:	±26.65 AC
NUMBER OF DWELLING UNITS	49 DWELLING UNITS
GROSS DENSITY	1.84 DWELLING UNITS/AC
RESERVE H	6.46 AC
OPEN SPACE PROVIDED:	6.46 AC (24.3%)
SUB AREA B:	±28.72 AC
NUMBER OF DWELLING UNITS	67 DWELLING UNITS
GROSS DENSITY	2.33 DWELLING UNITS/AC
RESERVE A	0.55 AC
RESERVE B	1.70 AC
RESERVE D	1.61 AC
RESERVE E	2.56 AC
RESERVE F	0.72 AC
RESERVE P	0.08 AC
OPEN SPACE PROVIDED:	7.22 AC (25.7%)
SUB AREA C:	±9.79 AC
NUMBER OF DWELLING UNITS	5 DWELLING UNITS
GROSS DENSITY	0.51 DWELLING UNITS/AC
RESERVE C	0.67 AC
OPEN SPACE PROVIDED:	0.27 AC (6.8%)

OWNER
TIMOTHY K SHELLY
8260 STEITZ RD. POWELL,
OHIO 43065

OWNER
ROBERT L & JERRY L SMITH
8213 STEITZ RD.
POWELL, OHIO 43065

DEVELOPER
PULTE HOMES, INC.
4900 TUTTLE CROSSING BLVD.
DUBLIN, OHIO 43016
PHONE: (614) 376-1000
CONTACT: MATT CALLAHAN
EMAIL: MATTHEW.CALLAHAN@PULTE.COM

ENGINEER/SURVEYOR
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
250 OLD WILSON BRIDGE ROAD,
SUITE 250
WORTHINGTON, OHIO 43085
PHONE: (614) 540-6633
CONTACT: MIKE REEVES
EMAIL: MREEVES@CECINC.COM

REFERENCE

1. EXISTING TOPOGRAPHY IS PER LIDAR PROVIDED BY OHIO GEOGRAPHICALLY REFERENCE INFORMATION PROGRAM. ACCESSED 7/8/16.
2. PARCEL INFORMATION PROVIDED BY DELAWARE COUNTY AUDITOR, ACCESSED 7/8/2016

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES
CARPENTER'S MILL
CITY OF POWELL
DELAWARE COUNTY, OHIO

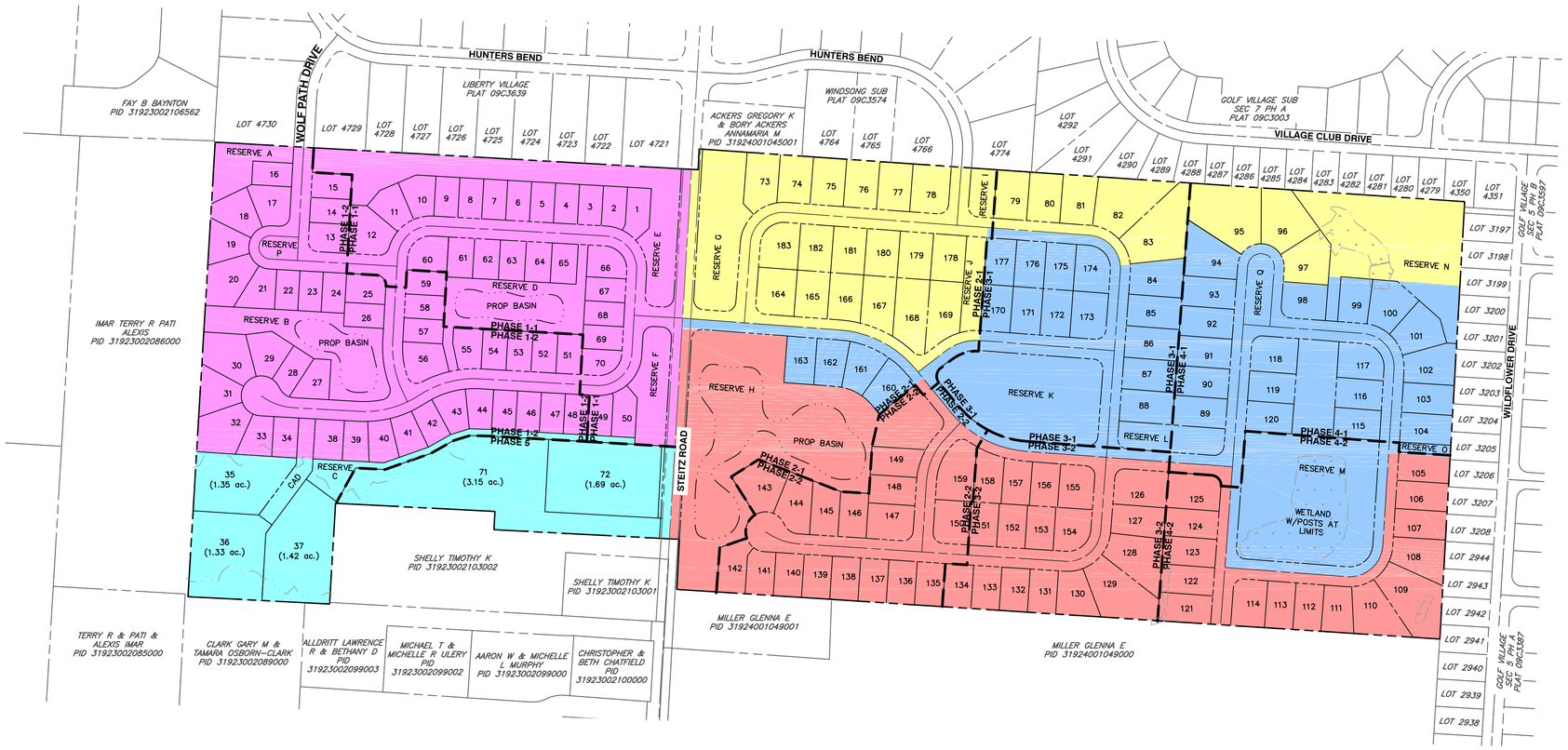
PRELIMINARY DEVELOPMENT PLAN
COVER SHEET

DATE:	DECEMBER 2016	DRAWN BY:	NSS
DWG SCALE:	AS NOTED	CHECKED BY:	MCR
PROJECT NO:			152-227
APPROVED BY:			DRAFT

DRAWING NO.:
C000
SHEET 1 OF 16

P:\2015\152-227\-CADD\dwg\C002 - Preliminary Development Plan\152227 - C002 - Cover Sheet.dwg\COVER SHEET\ LS:(12/21/2016 - mreeves) - LP: 12/21/2016 8:12 PM

NORTH
SCALE IN FEET
0 200 400



LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING STREAM
- PROPOSED PROPERTY LINE
- PROPOSED CENTER LINE
- PROPOSED RIGHT OF WAY
- PROPOSED FACE OF CURB
- PROPOSED BASIN
- PROPOSED PHASE LINE
- SUBAREA A-1 (100x140)
- SUBAREA A-2 (90x130)
- SUBAREA A-3 (85x130)
- SUBAREA B (70x120)
- SUBAREA C

NOTE

1. THE SITE WILL BE DEVELOPED BASED UPON THE MARKET DRIVEN FACTORS. THE PHASING AND TIMING OF THE DEVELOPMENT OF THE PROPERTY WILL BE DEPENDENT ON ECONOMIC AND GENERAL HOUSING MARKET CONDITIONS, SALES RATES AND ABSORPTION OF HOMES AND OTHER FACTORS. PHASING OF THE SITE MAY BE ADJUSTED ACCORDINGLY BASED ON MARKET CONDITIONS.

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES
CARPENTER'S MILL
CITY OF POWELL
DELAWARE COUNTY, OHIO

PRELIMINARY DEVELOPMENT PLAN
PHASING PLAN

DATE:	DECEMBER 2016
DRAWN BY:	NSS
DWG SCALE:	1"=200'
CHECKED BY:	MCR
PROJECT NO:	152-227
APPROVED BY:	DRAFT

DRAWING NO.:
C100
SHEET 2 OF 16

P:\2015\152-227\-CADD\Dwg\C102 - Preliminary Development Plan\152227-C102-Subarea Plan.dwg[LAYOUT2] LS:(12/21/2016 - mmeeks) - LP: 12/21/2016 6:12 PM

LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING STREAM
- PROPOSED PROPERTY LINE
- PROPOSED CENTER LINE
- PROPOSED RIGHT OF WAY
- PROPOSED SETBACK
- PROPOSED FACE OF CURB
- PROPOSED PHASE LINE

NOTE

1. SIDEWALK WILL BE PROVIDE ON BOTH SIDES OF THE STREET THROUGH OUT THE SITE, WITH THE EXCEPTION AROUND RESERVE P, RESERVE Q, AND RESERVE K WHERE ASPHALT PATH SHALL FORM A LOOP TRAIL AS SHOWN ON SHEET L1.04.

CENTERLINE CURVE TABLE

CURVE #	RADIUS	DELTA	ARC	CHORD	CHORD BEARING
C1	35.00	90°00'00"	54.978	49.50	S 41°45'11.08" E
C2	100.00	90°02'18"	157.147	141.47	N 48°15'58.25" E
C3	100.00	90°00'00"	157.080	141.42	S 41°42'52.60" E
C4	100.00	90°00'00"	157.080	141.42	S 48°17'07.40" W
C5	300.00	36°39'15"	191.921	188.66	S 74°57'29.94" W
C6	300.00	36°36'56"	191.719	188.47	S 74°56'20.70" W
C7	180.85	32°55'31"	103.925	102.50	N 69°42'40.40" W
C8	300.00	28°47'42"	150.771	149.19	N 11°09'02.07" W

CENTERLINE TANGENT TABLE

LINE	BEARING	DISTANCE
L1	S3°14'49"W	341.06'
L2	N86°45'11"W	82.62'
L3	S86°45'11"E	382.62'
L4	S86°42'53"E	519.47'
L5	S3°17'07"W	250.00'
L6	N86°42'53"W	350.91'
L7	N86°45'11"W	197.48'
L8	N25°32'53"W	36.68'
L9	N3°14'49"E	254.78'
L10	N86°45'11"W	145.44'

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

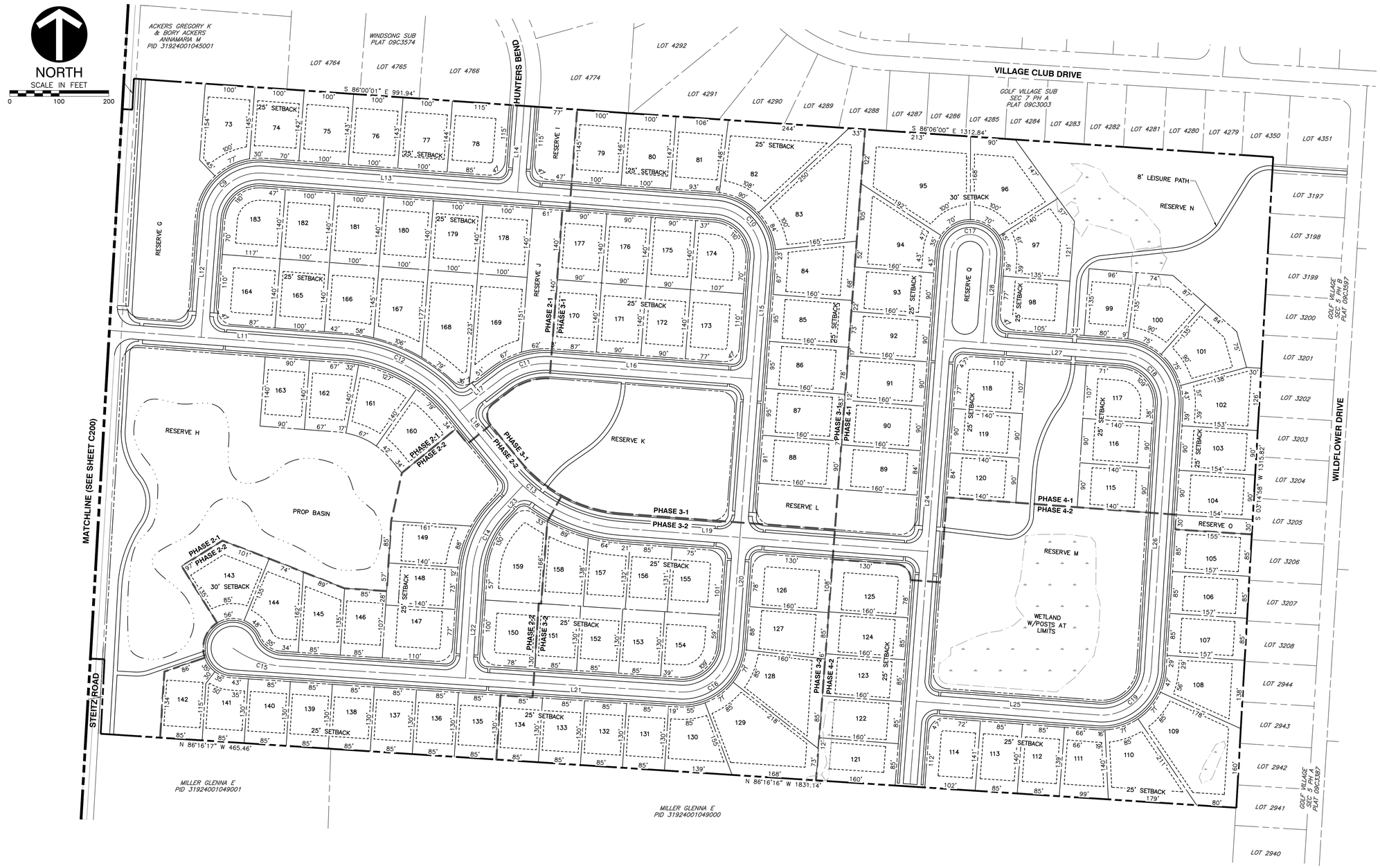
PULTE HOMES
CARPENTER'S MILL
CITY OF POWELL
DELAWARE COUNTY, OHIO

PRELIMINARY DEVELOPMENT PLAN
SITE PLAN

DATE:	DECEMBER 2016
DRAWN BY:	NSS
DWG SCALE:	1"=100'
CHECKED BY:	MCR
PROJECT NO:	152-227
APPROVED BY:	DRAFT

DRAWING NO.:
C200
SHEET 3 OF 16

P:\2015\152-227\-CADD\Dwg\C402 - Preliminary Development Plan\152227-C402-Site Plan.dwg[SITE PLAN] LS:(12/21/2016 - mnewell) - LP: 12/21/2016 6:12 PM



LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING STREAM
- PROPOSED PROPERTY LINE
- PROPOSED CENTER LINE
- PROPOSED RIGHT OF WAY
- PROPOSED SETBACK
- PROPOSED FACE OF CURB
- PROPOSED PHASE LINE

NOTE

1. SIDEWALK WILL BE PROVIDE ON BOTH SIDES OF THE STREET THROUGH OUT THE SITE, WITH THE EXCEPTION AROUND RESERVE P AND RESERVE Q.

CENTERLINE CURVE TABLE

CURVE #	RADIUS	DELTA	ARC	CHORD	CHORD BEARING
C9	100.00	90°00'00"	157.080	141.42	N 49°18'39.70" E
C10	100.00	90°00'00"	157.080	141.42	S 40°41'20.30" E
C11	150.00	41°45'07"	109.306	106.90	N 73°26'06.29" E
C12	325.00	46°27'34"	263.533	256.37	S 62°27'33.20" E
C13	325.00	46°27'34"	263.533	256.37	S 62°27'33.20" E
C14	200.00	39°16'29"	137.095	134.43	S 23°21'58.62" W
C15	192.25	30°54'44"	103.723	102.47	N 69°14'50.09" W
C16	100.00	89°25'04"	156.064	140.70	S 49°01'11.85" W
C17	40.00	180°00'00"	125.664	80.00	S 85°40'44.65" E
C18	100.00	89°18'30"	155.873	140.57	N 41°01'29.45" W
C19	100.00	90°40'54"	158.269	142.26	N 48°58'12.73" E

CENTERLINE TANGENT TABLE

LINE	BEARING	DISTANCE
L11	S85°41'20"E	475.15'
L12	N4°18'40"E	240.00'
L13	S85°41'20"E	514.91'
L14	N4°18'40"E	174.76'
L15	S4°18'40"W	561.27'
L16	S85°41'20"E	404.48'
L17	N52°33'33"E	105.69'
L18	S39°13'46"E	164.21'
L19	S85°41'20"E	621.49'
L20	S4°18'40"W	220.61'
L21	N86°16'16"W	471.28'
L22	S3°43'44"W	213.46'
L23	S43°00'13"W	71.51'
L24	N4°19'15"E	1075.89'
L25	S85°41'20"E	367.96'
L26	N3°37'46"E	532.19'
L27	N85°40'45"W	361.52'
L28	S4°19'15"W	176.03'

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES CARPENTER'S MILL CITY OF POWELL DELAWARE COUNTY, OHIO

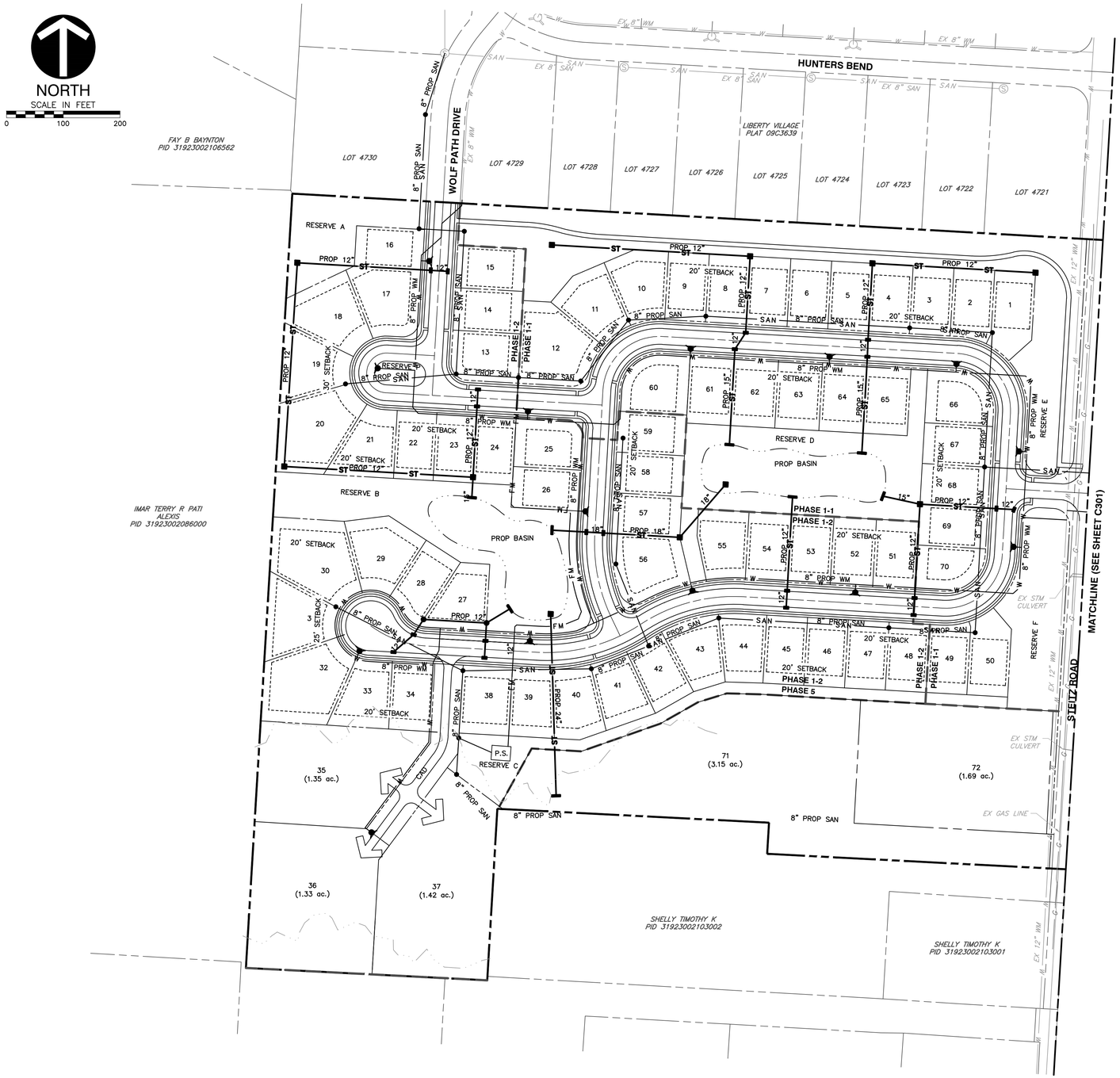
PRELIMINARY DEVELOPMENT PLAN SITE PLAN

DATE: DECEMBER 2016 | DRAWN BY: NSS
DWG SCALE: 1"=100' | CHECKED BY: MCR
PROJECT NO: 152-227
APPROVED BY: DRAFT

DRAWING NO.: C201

SHEET 4 OF 16

P:\2015\152-227\-CADD\Dwg\C102 - Preliminary Development Plan\152227-C102-Site Plan.dwg[LAYOUT1] LS(12/21/2016 - mreeves) - LP: 12/21/2016 6:12 PM



LEGEND

- EXISTING PROPERTY BOUNDARY
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING TREE LINE
- EXISTING STREAM
- 950 EXISTING INDEX CONTOUR
- 949 EXISTING INTERMEDIATE CONTOUR
- W EXISTING WATER MAIN
- SAN EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- PROPOSED PHASE LINE
- PROPOSED SUBAREA LINE
- PROPOSED PROPERTY LINE
- PROPOSED CENTER LINE
- PROPOSED RIGHT OF WAY
- PROPOSED PAVEMENT
- ST PROPOSED STORM SEWER
- W PROPOSED WATER MAIN
- SAN PROPOSED SANITARY SEWER
- PROPOSED STORM MANHOLE
- PROPOSED STORM CURB INLET
- PROPOSED STORM CATCH BASIN
- PROPOSED STORM HEADWALL
- PROPOSED FIRE HYDRANT
- PROPOSED SANITARY MANHOLE

REVISION RECORD

NO	DATE	DESCRIPTION

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PULTE HOMES
CARPENTER'S MILL
CITY OF POWELL
DELAWARE COUNTY, OHIO

PRELIMINARY DEVELOPMENT PLAN
GRADING & UTILITY PLAN

DATE:	DECEMBER 2016
DRAWN BY:	NSS
DWG SCALE:	1"=100'
CHECKED BY:	MCR
PROJECT NO:	152-227
APPROVED BY:	DRAFT

DRAWING NO.:
C300
SHEET 5 OF 16

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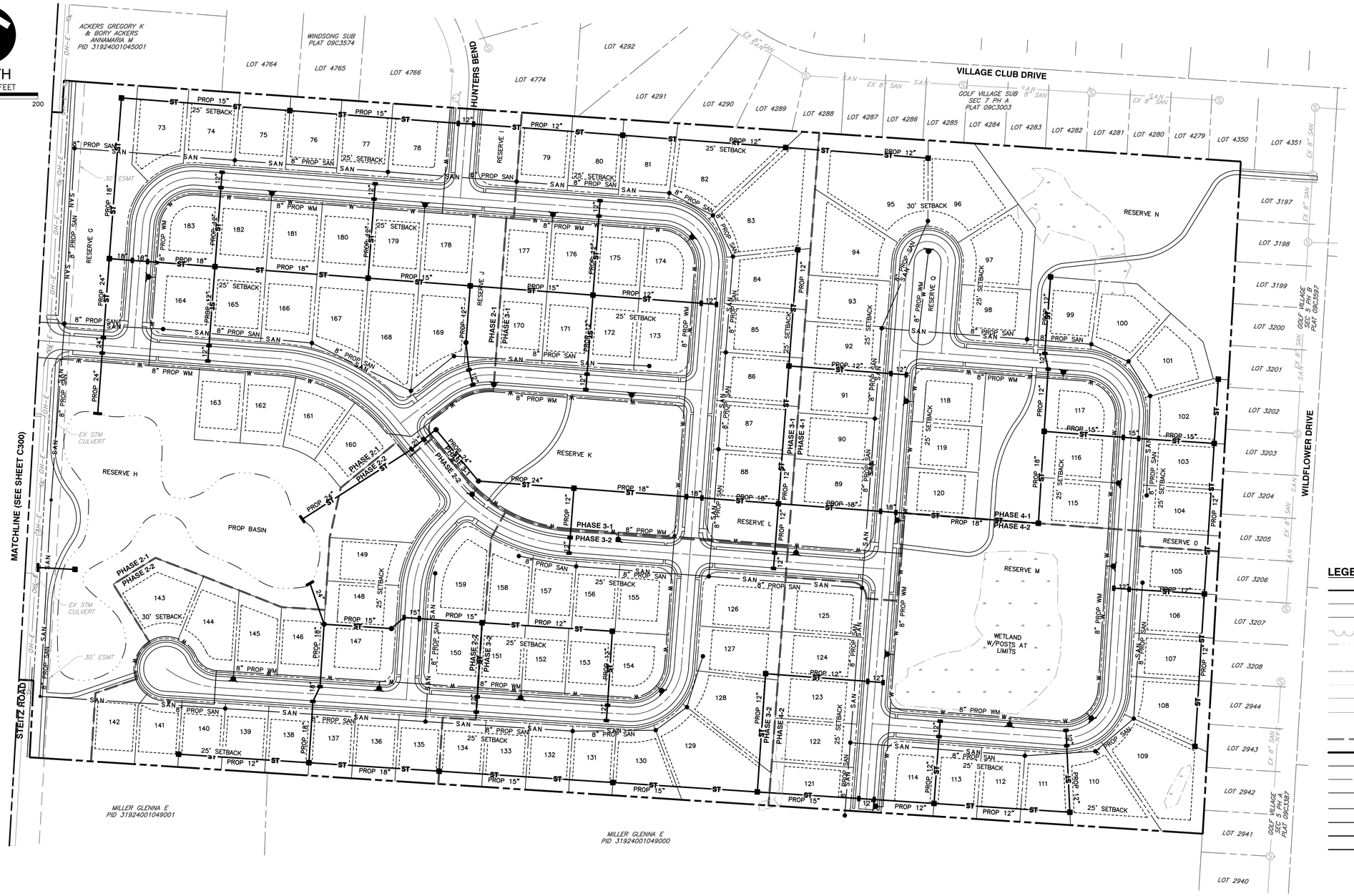

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REVISION RECORD

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PULTE HOMES
CARPENTER'S MILL
CITY OF POWELL
DELAWARE COUNTY, OHIO

PRELIMINARY DEVELOPMENT PLAN
GRADING & UTILITY PLAN

DATE:	DECEMBER 2016	DRAWN BY:	NSS
DWG SCALE:	1"=100'	CHECKED BY:	MCR
PROJECT NO:			152-227
APPROVED BY:			DRAFT

DRAWING NO.: C301

SHEET 6 OF 16

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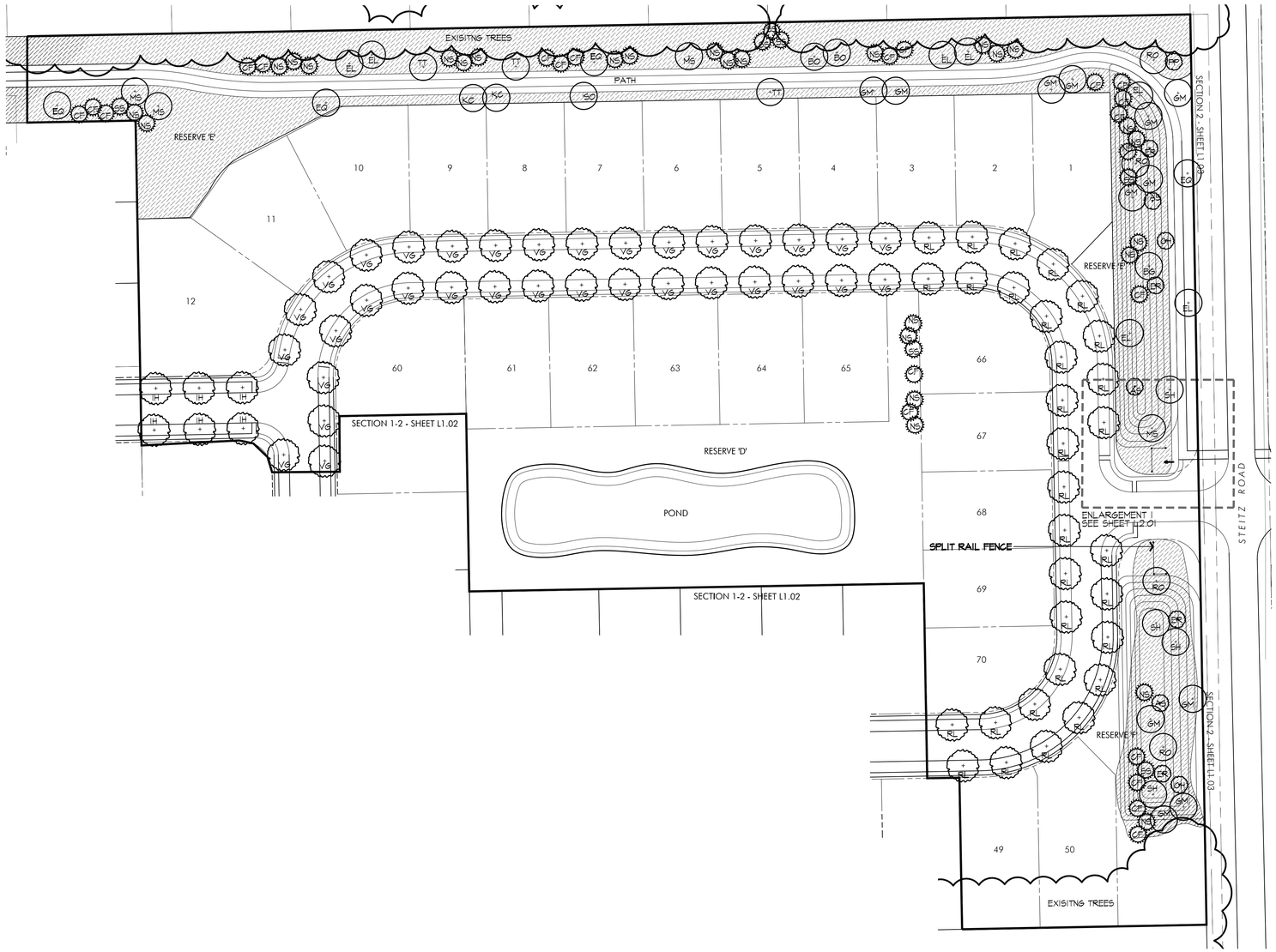

LANDSCAPE PLAN - SECTION 1-1

0' 30' 60' 120'

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PLANT KEY

AB	AUTUMN BLAZE MAPLE (S)	MS	MORAINE SWEETGUM (S)
AS	AUTUMN BRILLIANCE SERVICEBERRY	MV	MOHAWK VIBURNUM
AY	AMERICAN YELLOWWOOD	NS	NORWAY SPRUCE
BC	BALD CYPRESS (S)	OH	OAKLEAF HYDRANGEA
BG	BLACKGUM	PC	PRAIRIFIRE CRABAPPLE
BL	BLOODGOOD LONDON PLANETREE (S)	PP	PURPLE PRINCE CRABAPPLE
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* SEE SHEET L3.01 FOR A COMPLETE PLANT LIST AND PLANTING DETAILS.

LEGEND

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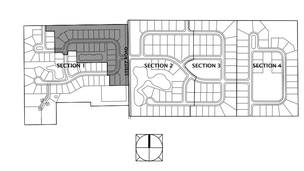

KEY MAP
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330 WEST SPRING STREET, SUITE 350
COLUMBUS, OH 43215
P. 614.460.2343
www.edgella.com

PulteGroup

PRELIMINARY DEVELOPMENT PLAN

CARPENTER'S MILL
POWELL, OHIO

LANDSCAPE PLAN
SECTION 1-1

REVISIONS		
MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

SHEET
L
1.01

LANDSCAPE PLAN - SECTION 1-2

0' 30' 60' 120'

NORTH

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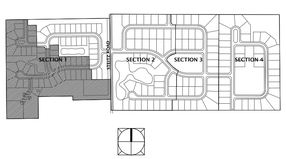

KEY MAP
NOT TO SCALE

EDGE PLANNING LANDSCAPE ARCHITECTURE URBAN DESIGN
330 WEST SPRING STREET, SUITE 350
COLUMBUS, OH 43215
P. 614.460.2543
www.edgella.com

PulteGroup

PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

LANDSCAPE PLAN
SECTION 1-2

REVISIONS

MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

SHEET
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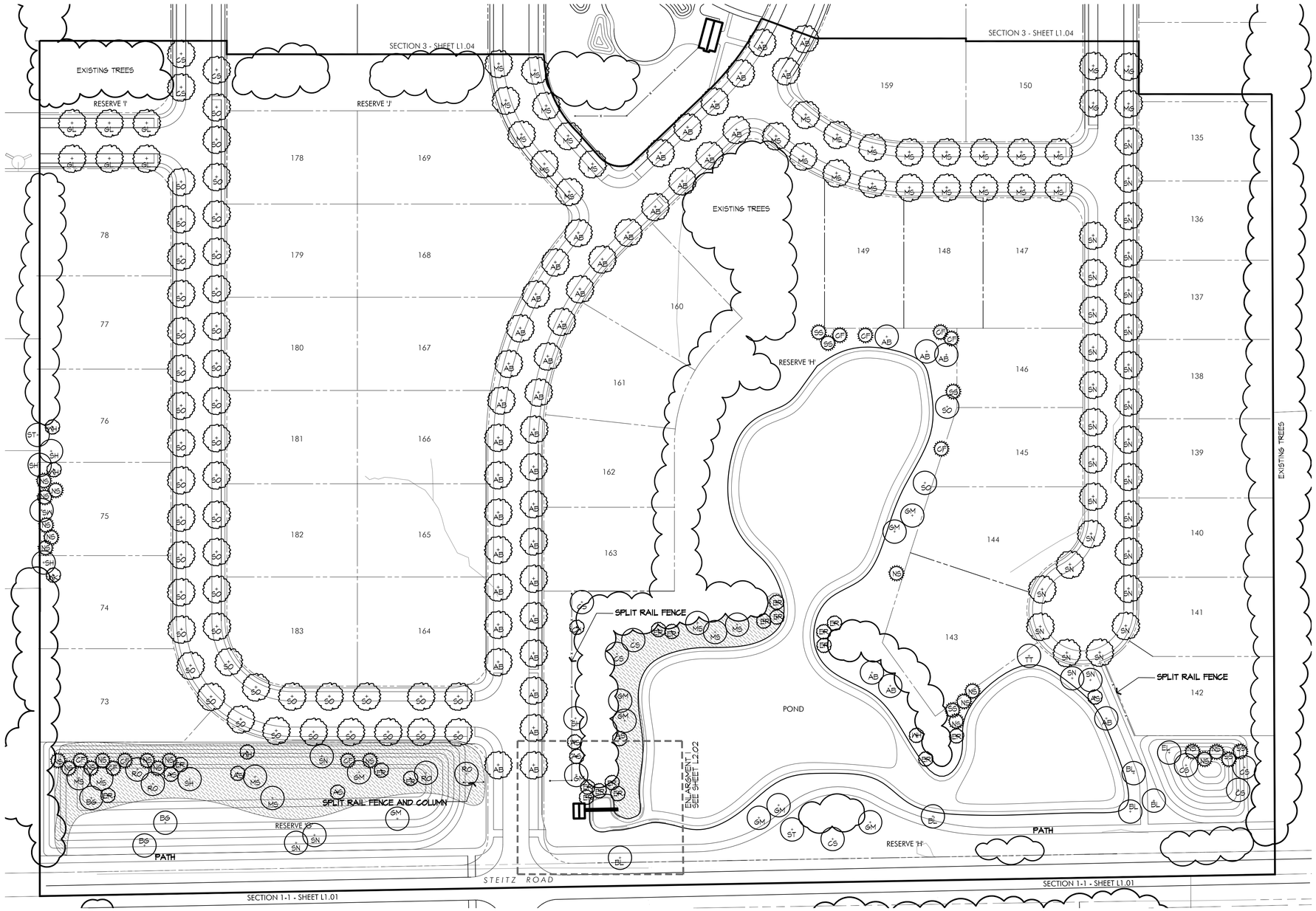
1.02



LANDSCAPE PLAN - SECTION 2

0' 30' 60' 120'

NORTH

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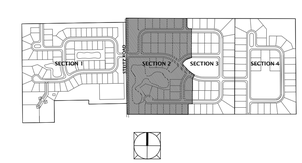

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PulteGroup

PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

LANDSCAPE PLAN
SECTION 2

REVISIONS

MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

SHEET
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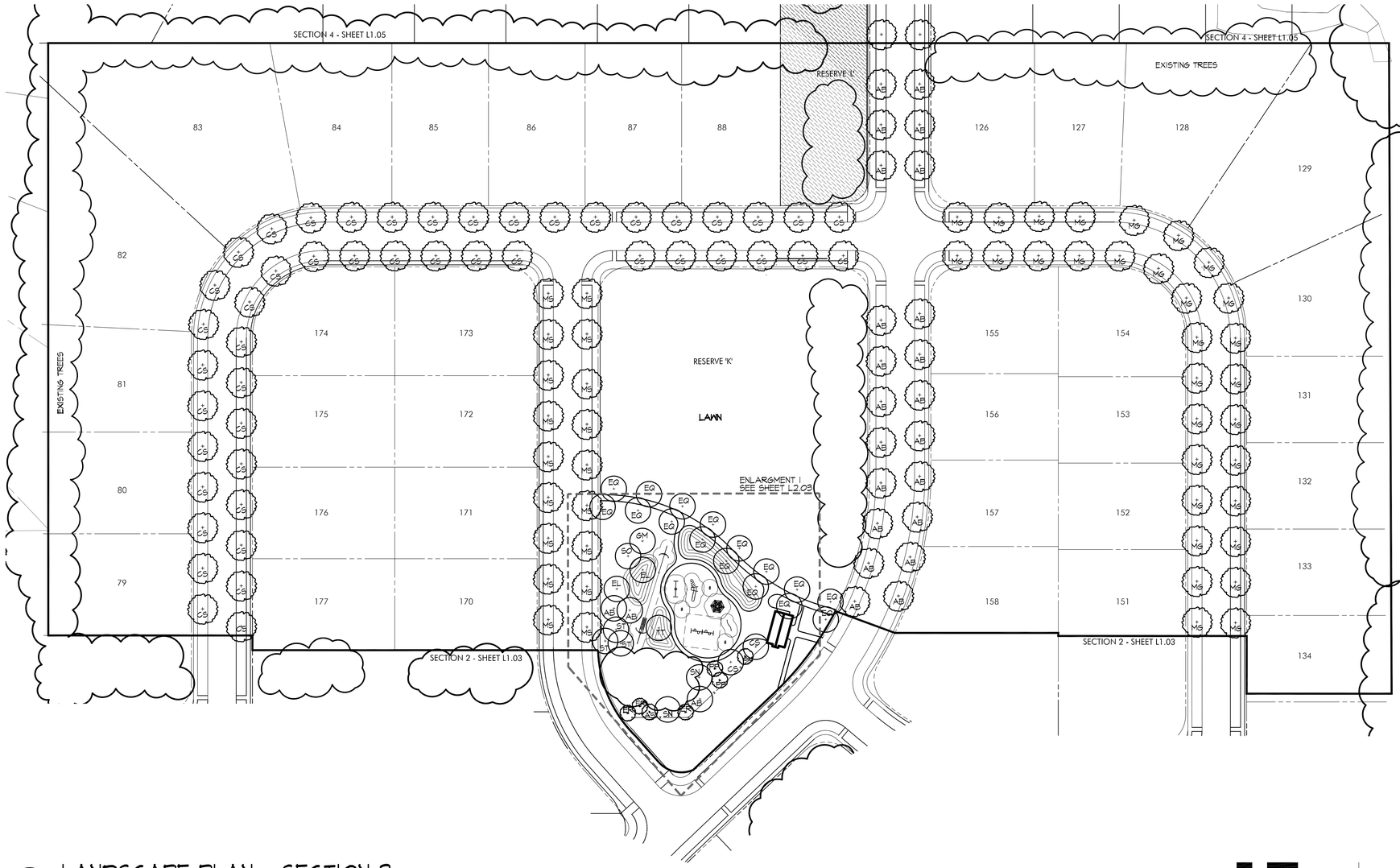
1.03



LANDSCAPE PLAN - SECTION 3

0' 30' 60' 120'

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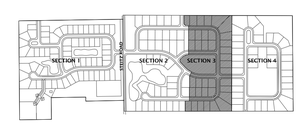

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PulteGroup

PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

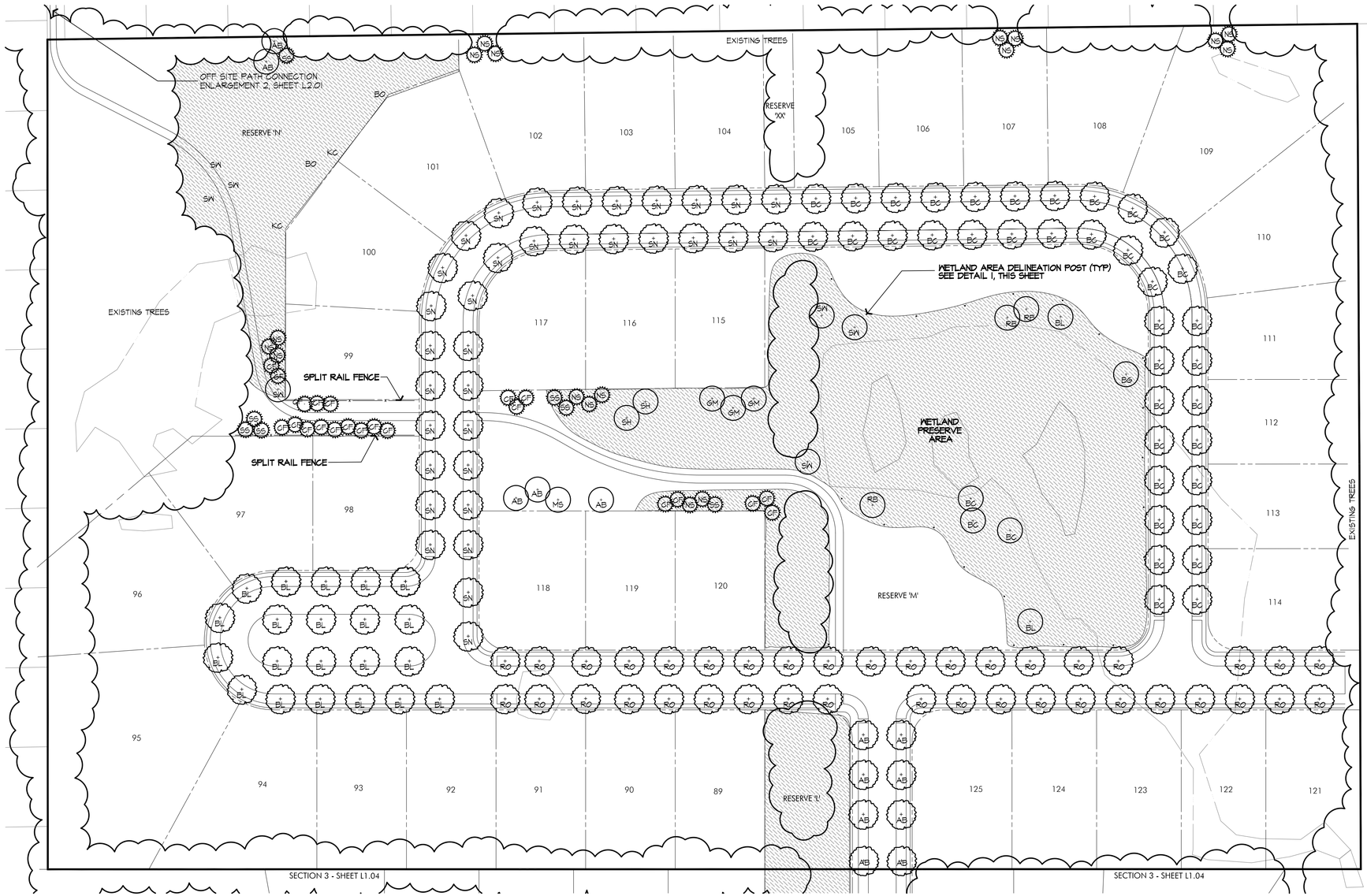
LANDSCAPE PLAN
SECTION 3

REVISIONS

MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

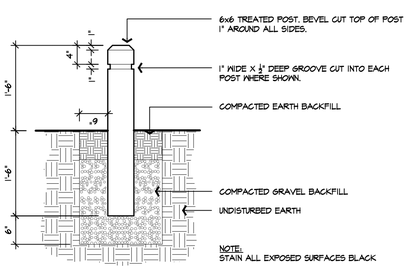
SHEET
L
1.04



LANDSCAPE PLAN - SECTION 4

0' 30' 60' 120'

NORTH



1 WETLAND AREA DELINEATION POST

NTS

GENERAL NOTES

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2. EXAMINE FINISH SURFACE, GRADES, TOPSOIL QUALITY AND DEPTH. DO NOT START ANY WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. VERIFY LIMITS OF WORK BEFORE STARTING.
3. CONTRACTOR RESPONSIBLE FOR COST OF REPAIRS TO EXISTING SITE CONDITIONS WHEN DAMAGED BY CONTRACTOR. REPAIR TO THE SATISFACTION OF THE OWNER.
4. ALL PLANT MASSES TO BE CONTAINED WITHIN 3" DEEP HARDWOOD BARK MULCH BED.
5. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN LAWN AREAS.
6. FINE GRADE LAWN AREAS TO PROVIDE A SMOOTH AND CONTINUAL GRADE FREE OF IRREGULARITIES OR DEPRESSIONS.
7. CONTRACTOR SHALL SEED OR SOD ALL AREAS DISTURBED DURING CONSTRUCTION, SEE PLAN.
8. ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET IN THE U.S.A. STANDARD FOR NURSERY STOCK.
9. ALL PLANTING OPERATIONS SHALL ADHERE TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS.

PLANT KEY

AB	AUTUMN BLAZE MAPLE (S)	MS	MORAINE SWEETGUM (S)
AS	AUTUMN BRILLIANCE SERVICEBERRY	MV	MOHAWK VIBURNUM
AY	AMERICAN YELLOWWOOD	NS	NORWAY SPRUCE
BC	BALD CYPRESS (S)	OH	OAKLEAF HYDRANGEA
BG	BLACKGUM	PC	PRAIRIFIRE CRABAPPLE
BL	BLOODGOOD LONDON PLANETREE (S)	PP	PURPLE PRINCE CRABAPPLE
BO	BUR OAK	RB	RIVER BIRCH
CC	CONCOLOUR FIR	RL	REDMOND LINDEN (S)
CH	CRUSADER HAWTHORN	RO	RED OAK (S)
CS	COMMEMORATION SUGAR MAPLE (S)	SC	SUGAR TYME CRABAPPLE
EL	EMERALD LUSTRE MAPLE	SH	SHINGLE OAK
EQ	EMERALD QUEEN MAPLE (S)	SN	SUPERFORM NORWAY MAPLE (S)
ER	EASTERN REDBUD	SO	SHUMARD OAK (S)
GL	GREENSPIRE LITTLELEAF LINDEN (S)	SS	SERBIAN SPRUCE
GM	GREEN MOUNTAIN SUGAR MAPLE	ST	SAWTOOTH OAK
HM	HEDGE MAPLE	SW	SWAMP WHITE OAK
IH	IMPERIAL HONEYLOCUST (S)	TT	TULIP TREE
KC	KENTUCKY COFFEETREE	VG	VILLAGE GREEN ZELKOVA (S)
KP	KALLAY PFITZER JUNIPER	WH	WINTER KING HAWTHORN
MG	MAGYAR GINKGO (S)	WS	WHITESPIRE BIRCH

* SEE SHEET L3.01 FOR A COMPLETE PLANT LIST AND PLANTING DETAILS.

LEGEND

- STREET TREE
- DECIDUOUS SHADE TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- NATURALIZED / NO-MOW AREA

KEY MAP
NOT TO SCALE

EDGE PLANNING LANDSCAPE ARCHITECTURE URBAN DESIGN
330 WEST SPRING STREET, SUITE 350
COLUMBUS, OH 43215
P. 614.460.2543
www.edgella.com

PulteGroup

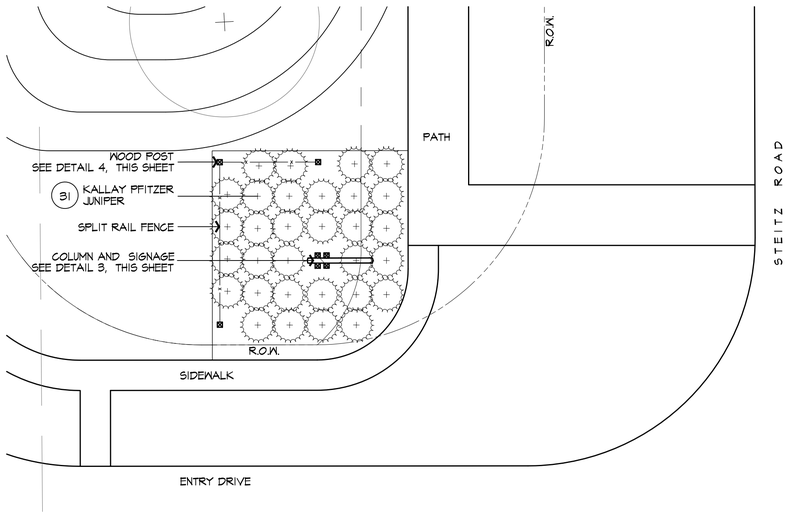
PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

LANDSCAPE PLAN
SECTION 4

REVISIONS		
MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

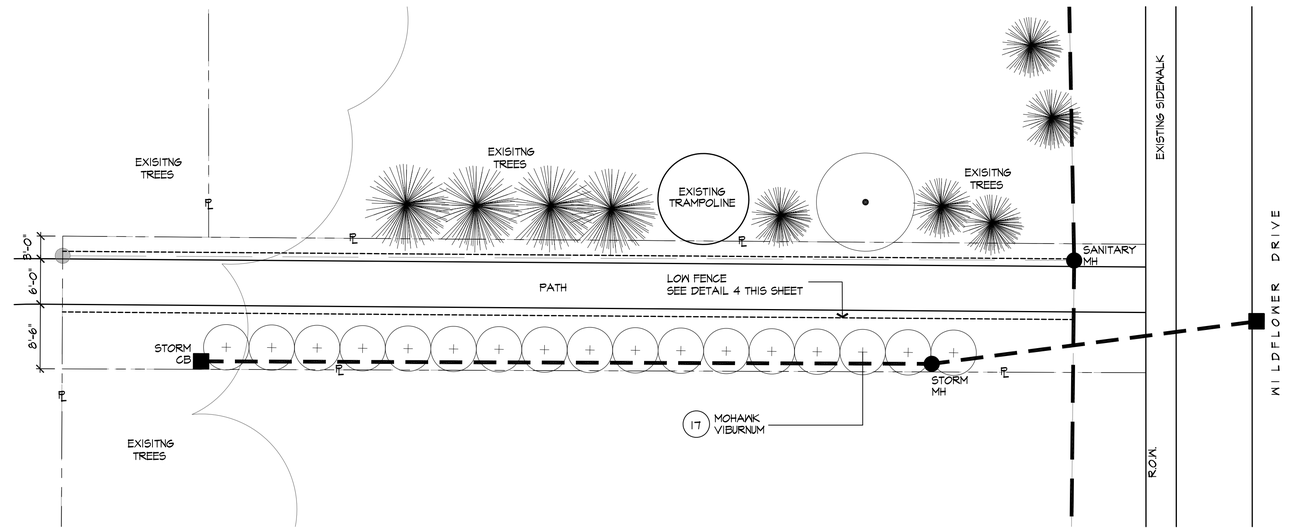
SHEET
L
1.05



1 ENLARGEMENT - ENTRY FEATURE

0' 5' 10' 20'

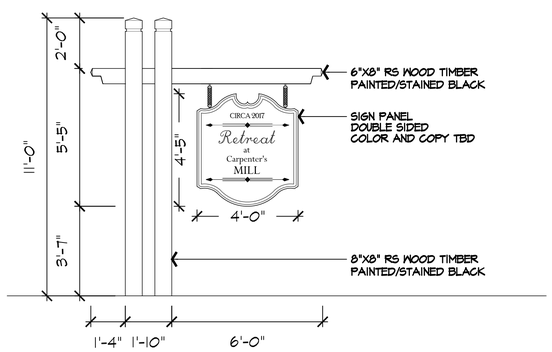
NORTH



2 ENLARGEMENT - OFF-SITE PATH CONNECTION

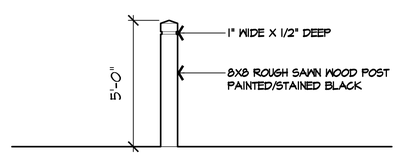
0' 5' 10' 20'

NORTH



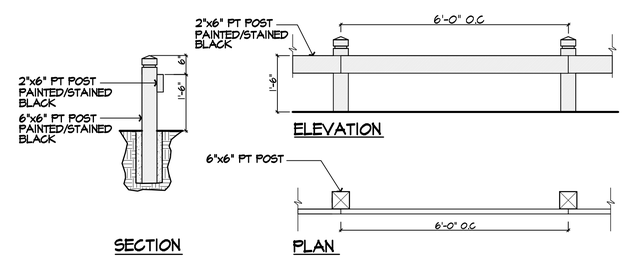
3 COLUMN AND SIGNAGE

NTS



4 WOOD POST

NTS



5 LOW FENCE

NTS

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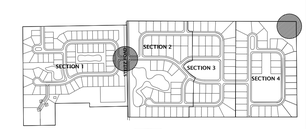

KEY MAP
NOT TO SCALE

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330 WEST SPRING STREET, SUITE 350
COLUMBUS, OH 43215
P. 614.460.2343
www.edgella.com

PulteGroup

PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

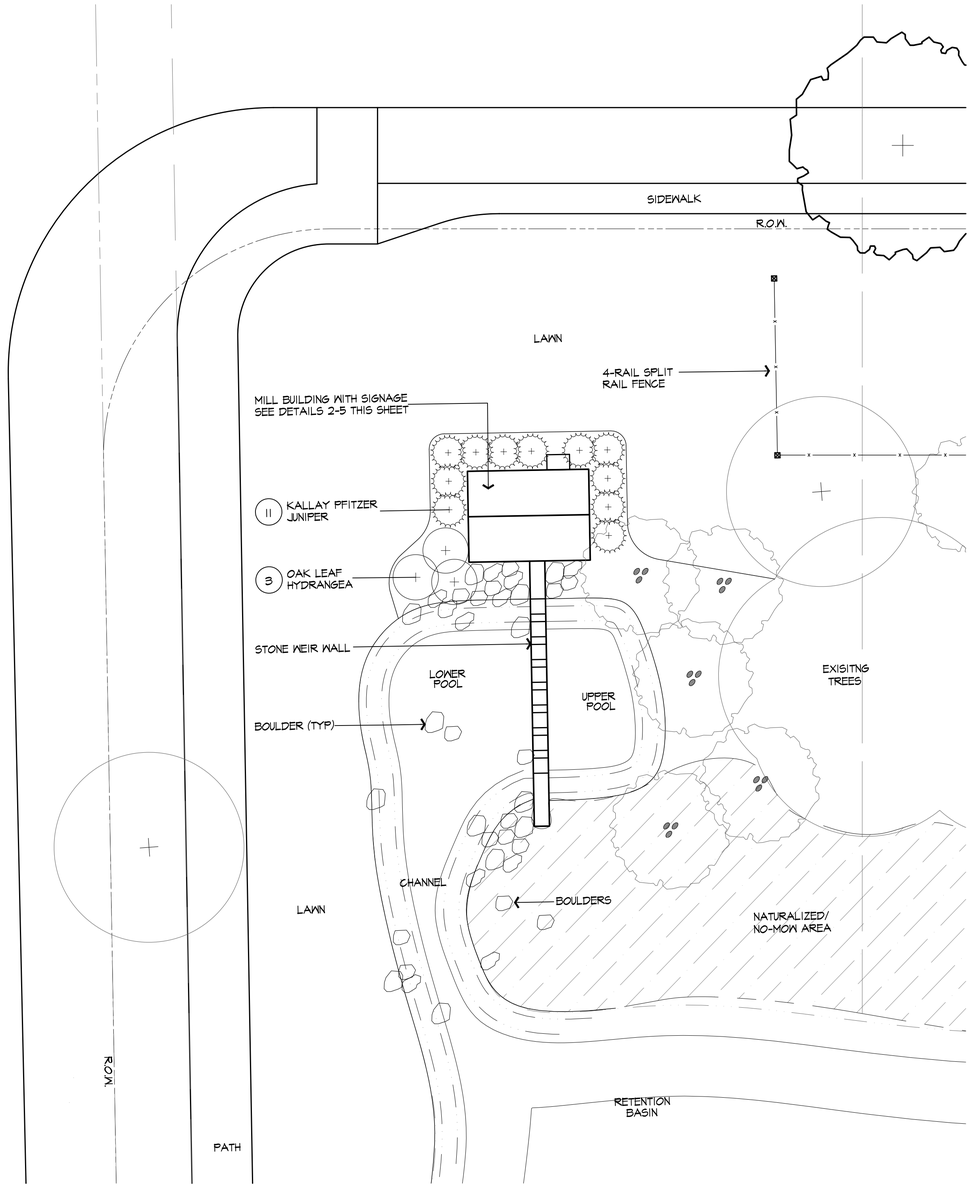
ENTRY ENLARGMENT
SECTION 1

REVISIONS

MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

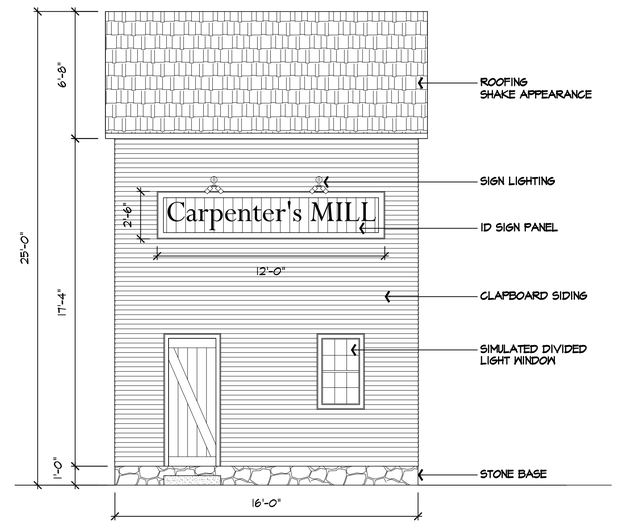
SHEET
L
2.01



1 ENTRY FEATURE ENLARGEMENT

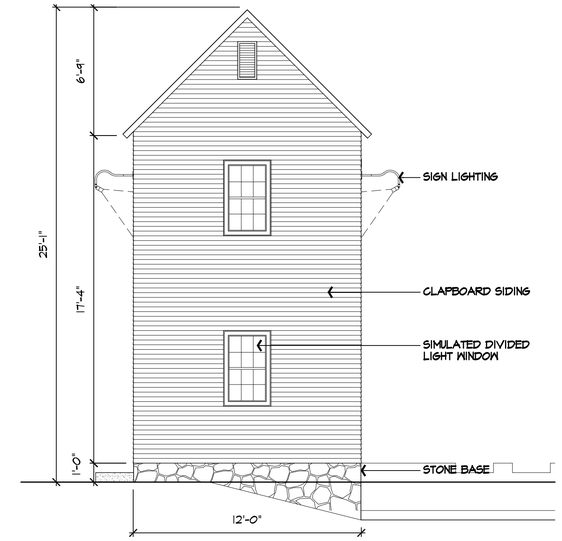
0' 5' 10' 20'

NORTH



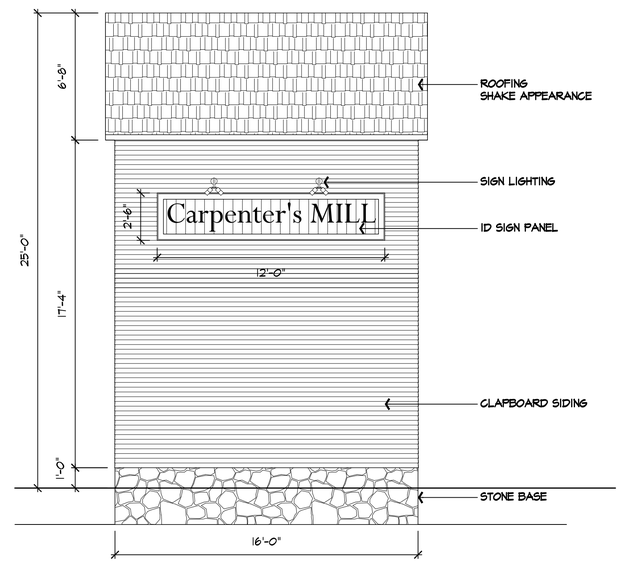
2 MILL BUILDING - NORTH ELEVATION

NTS



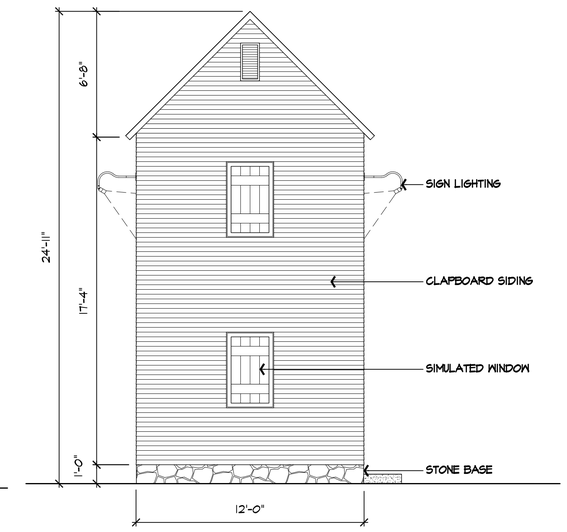
3 MILL BUILDING - EAST ELEVATION

NTS



4 MILL BUILDING - SOUTH ELEVATION

NTS



5 MILL BUILDING - WEST ELEVATION

NTS

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PLANT KEY

STREET TREES
AS ALLEGHENEY SERVICEBERRY
DR DAWN REDWOOD
ST SAWTOOTH OAK
BC BALD CYPRESS

REPLACEMENT TREES
AB AUTUMN BLAZE MAPLE
BL BLOODGOOD LONDON PLANE TREE
GS COMMEMORATION SUGAR MAPLE
GB GINKO
RO RED OAK
TL JAPANESE TREE LILAC

EVERGREEN TREES
NS NORWAY SPRUCE

LEGEND

STREET TREE
DECIDUOUS SHADE TREE
ORNAMENTAL TREE
EVERGREEN TREE
NATURALIZED / NO-MOW AREA

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PulteGroup

PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

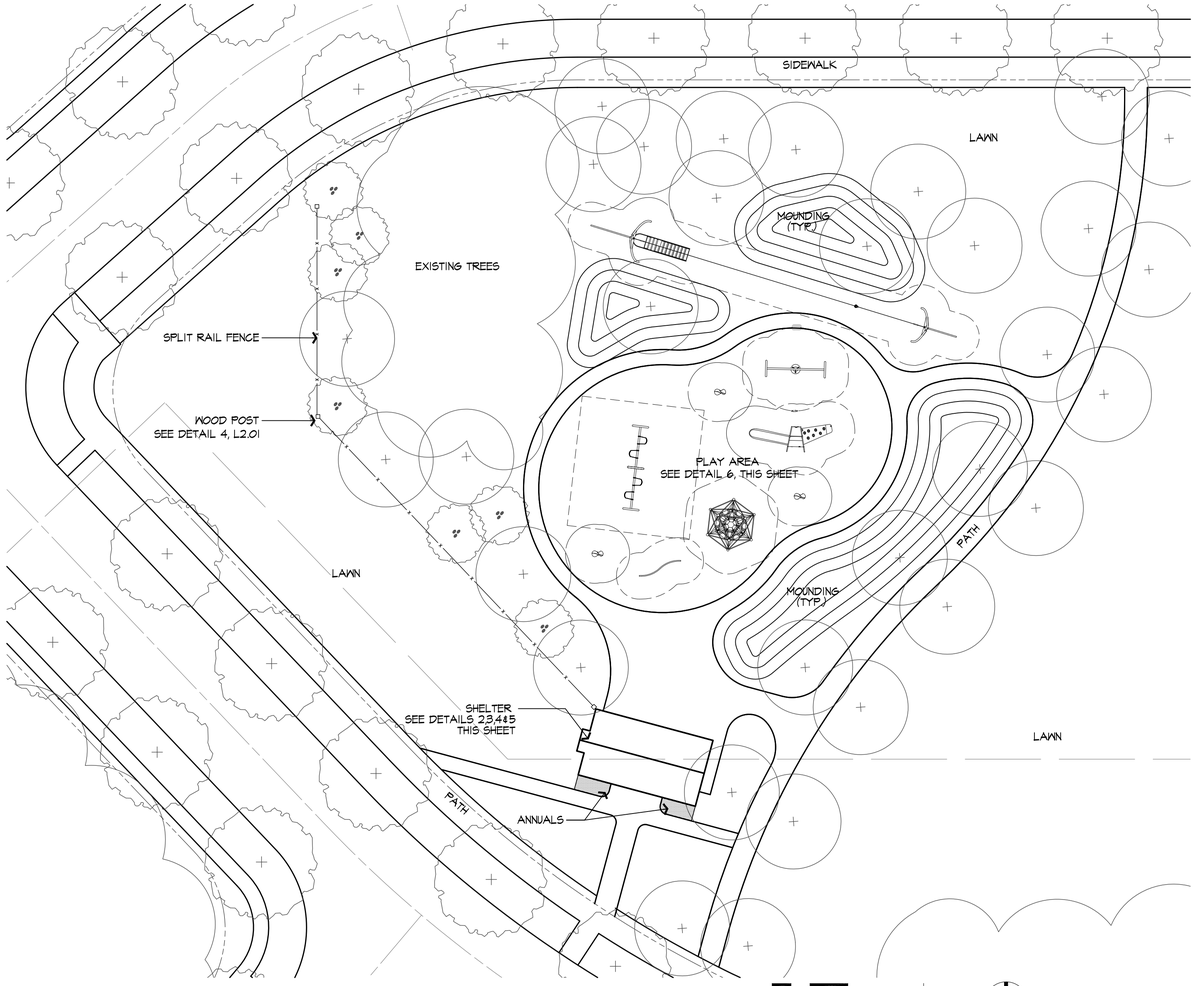
ENTRY ENLARGMENT
SECTION 2

REVISIONS

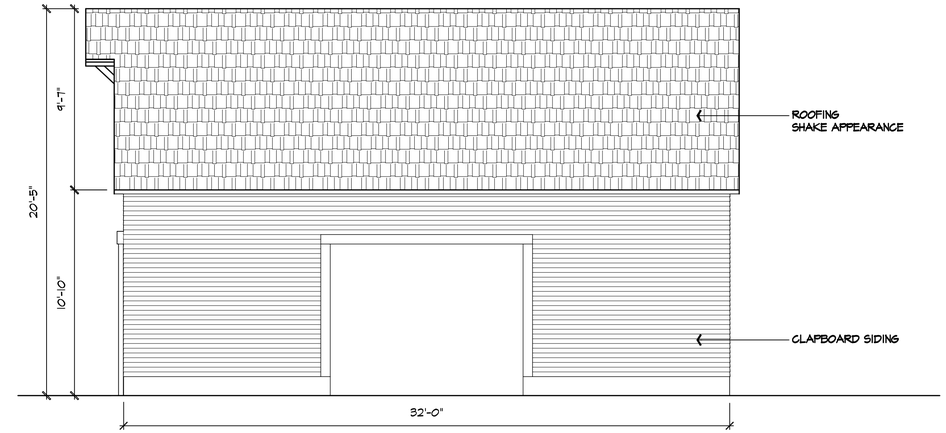
MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

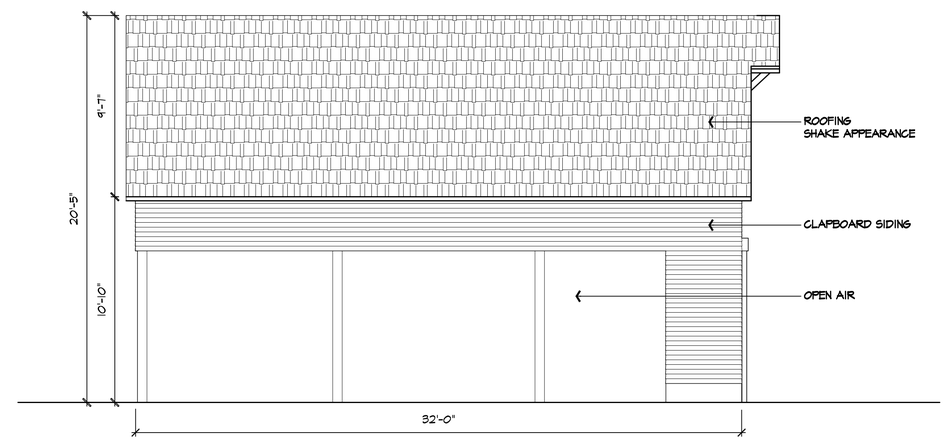
SHEET L
2.02



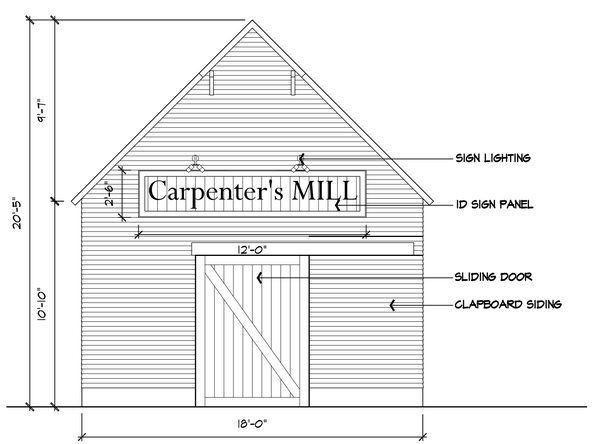
1 PLAY AREA ENLARGEMENT



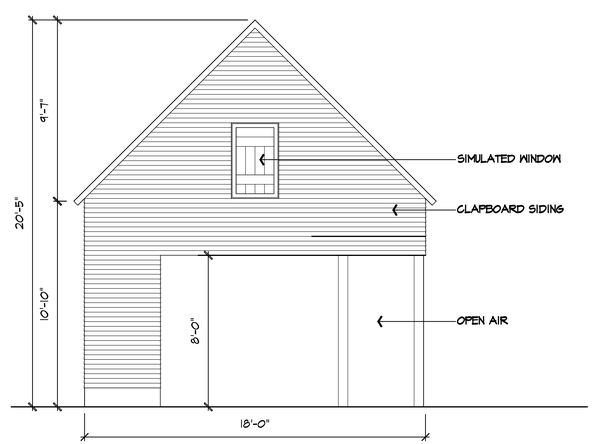
2 SHELTER - S/W ELEVATION
NTS



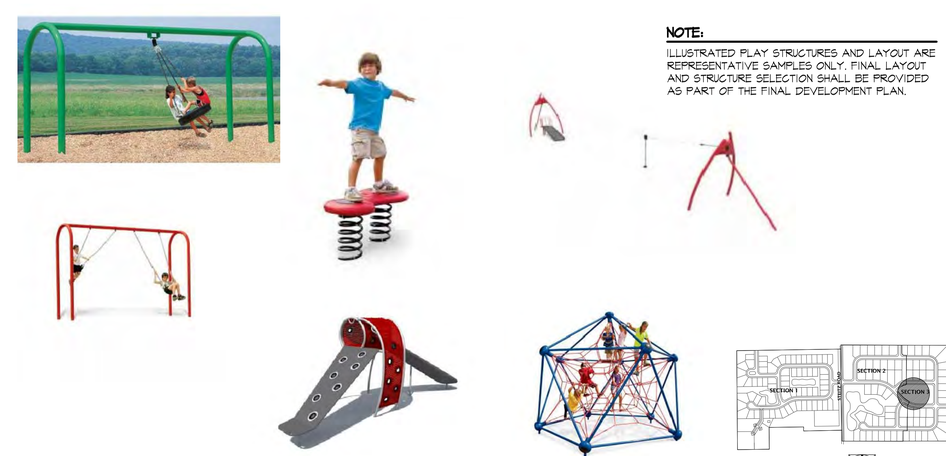
3 SHELTER - N/E ELEVATION
NTS



4 SHELTER - N/W ELEVATION
NTS

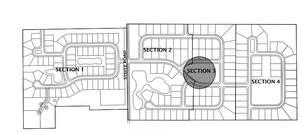


5 SHELTER - S/E ELEVATION
NTS



NOTE:
ILLUSTRATED PLAY STRUCTURES AND LAYOUT ARE REPRESENTATIVE SAMPLES ONLY. FINAL LAYOUT AND STRUCTURE SELECTION SHALL BE PROVIDED AS PART OF THE FINAL DEVELOPMENT PLAN.

6 SAMPLE PLAY EVENTS
NTS



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PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

PLAY AREA ENLARGEMENT AND DETAILS

REVISIONS

MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

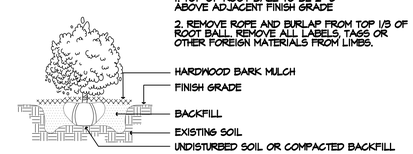
SHEET L
2.03

PLANT MATERIALS LIST

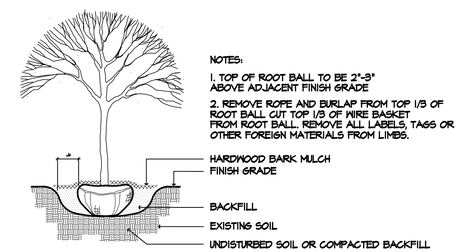
QTY.	SYM.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	L1.01	L1.02	L1.03	L1.04	L1.05	L2.01	L2.02	NOTES
STREET TREES													
71	AB	AUTUMN BLAZE MAPLE	Acer x freemanii 'Jeffers Red'	2 1/2" Cal.	B&B	-	-	41	22	8	-	-	
37	BC	BALD CYPRESS	Taxodium distichum	2 1/2" Cal.	B&B	-	-	-	-	37	-	-	
21	BL	BLOODGOOD LONDON PLANETREE	Platanus x acerifolia	2 1/2" Cal.	B&B	-	-	-	-	21	-	-	
50	CS	COMMEMORATION SUGAR MAPLE	Acer saccharum 'Commemoration'	2 1/2" Cal.	B&B	-	-	3	47	-	-	-	
X	EQ	EMERALD QUEEN MAPLE	Acer platanoides 'Emerald Queen'	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
44	MS	MORAINE SWEETGUM	Liquidambar styraciflua 'Moraine'	2 1/2" Cal.	B&B	-	-	26	18	-	-	-	
57	GL	GREENSPIRE LITTLELEAF LINDEN	Tilia cordata 'Greenspire'	2 1/2" Cal.	B&B	-	51	6	-	-	-	-	
38	IH	IMPERIAL HONEYLOCUST	Gleditsia triacanthos inermis 'Imperial'	2 1/2" Cal.	B&B	6	31	-	-	-	-	-	
35	MG	MAGYAR GINKGO	Ginkgo biloba 'Magyar'	2 1/2" Cal.	B&B	-	-	4	31	-	-	-	
31	RL	REDMOND LINDEN	Tilia americana 'Redmond'	2 1/2" Cal.	B&B	31	-	-	-	-	-	-	
39	RO	RED OAK	Quercus rubra	2 1/2" Cal.	B&B	-	-	-	-	39	-	-	
62	SN	SUPERFORM NORWAY MAPLE	Acer platanoides 'Superform'	2 1/2" Cal.	B&B	-	-	28	-	34	-	-	
44	SO	SHUMARD OAK	Quercus shumardii	2 1/2" Cal.	B&B	-	-	44	-	-	-	-	
49	VG	VILLAGE GREEN ZELKOVA	Zelkova serrata 'Village Green'	2 1/2" Cal.	B&B	34	15	-	-	-	-	-	
DECIDUOUS TREES													
14	AB	AUTUMN BLAZE MAPLE	Acer x freemanii 'Jeffers Red'	2 1/2" Cal.	B&B	-	-	6	3	5	-	-	
11	AS	AUTUMN BRILLIANCE SERVICEBERRY	Amelanchier x grandiflora 'Autumn Brilliance'	2 1/2" Cal.	B&B	3	-	7	1	-	-	-	
-	AY	AMERICAN YELLOWWOOD	Cladrastis lutea	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
3	BC	BALD CYPRESS	Taxodium distichum	2 1/2" Cal.	B&B	-	-	-	-	3	-	-	
5	BG	BLACKGUM	Nyssa sylvatica	2 1/2" Cal.	B&B	1	-	3	-	1	-	-	
7	BL	BLOODGOOD LONDON PLANETREE	Platanus x acerifolia	2 1/2" Cal.	B&B	-	-	5	-	2	-	-	
2	BO	BUR OAK	Quercus macrocarpa	2 1/2" Cal.	B&B	1	1	-	-	-	-	-	
3	CH	CRUSADER HAWTHORN	Crataegus crus-galli 'Cruzam'	2 1/2" Cal.	B&B	2	-	1	-	-	-	-	
9	CS	COMMEMORATION SUGAR MAPLE	Acer saccharum 'Commemoration'	2 1/2" Cal.	B&B	-	-	7	2	-	-	-	
10	EL	EMERALD LUSTRE MAPLE	Acer platanoides 'Emerald Lustre'	2 1/2" Cal.	B&B	7	-	1	2	-	-	-	
20	EQ	EMERALD QUEEN MAPLE	Acer platanoides 'Emerald Queen'	2 1/2" Cal.	B&B	4	-	-	16	-	-	-	
26	ER	EASTERN REDBUD	Cercis canadensis	2 1/2" Cal.	B&B	4	-	19	3	-	-	-	THE CITY LANDSCAPE INSPECTOR HAS PERFORMED A SITE INSPECTION FOR THIS SECTION AND HAS REVIEWED AND APPROVED THE TREE REMOVAL AND REPLACEMENT PLAN.
-	GL	GREENSPIRE LITTLELEAF LINDEN	Tilia cordata 'Greenspire'	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
27	GM	GREEN MOUNTAIN SUGAR MAPLE	Acer saccharum 'Green Mountain'	2 1/2" Cal.	B&B	12	-	10	2	3	-	-	
-	HM	HEDGE MAPLE	Acer campestre	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
-	IH	IMPERIAL HONEYLOCUST	Gleditsia triacanthos inermis 'Imperial'	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	74 TREES ARE REQURIED TO MEET THE REPLACEMENT REQUIREMENT.
2	KC	KENTUCKY COFFEETREE	Gymnocladus dioicus	2 1/2" Cal.	B&B	2	-	-	-	-	-	-	
-	MG	MAGYAR GINKGO	Ginkgo biloba 'Magyar'	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
13	MS	MORAINE SWEETGUM	Liquidambar styraciflua 'Moraine'	2 1/2" Cal.	B&B	4	-	7	-	1	-	-	
1	PC	PRAIRIFIRE CRABAPPLE	Malus 'Prairifire'	2 1/2" Cal.	B&B	-	1	-	-	-	-	-	
4	PP	PURPLE PRINCE CRABAPPLE	Malus 'Purple Prince'	2 1/2" Cal.	B&B	1	-	-	3	-	-	-	MULTI-STEM / 3-4 STEMS
3	RB	RIVER BIRCH	Betula nigra	2 1/2" Cal.	B&B	-	-	-	-	3	-	-	TREE FORM (TREE LAWNS & BLVDS.)
-	RL	REDMOND LINDEN	Tilia americana 'Redmond'	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	MULTI-STEM / 3-4 STEMS
8	RO	RED OAK	Quercus rubra	2 1/2" Cal.	B&B	4	-	4	-	-	-	-	
-	SC	SUGAR TYME CRABAPPLE	Malus 'Sutyzam' SUGAR TYME	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
11	SH	SHINGLE OAK	Quercus imbricaria	2 1/2" Cal.	B&B	4	-	5	-	2	-	-	MULTI-STEM / 3-4 STEMS
7	SN	SUPERFORM NORWAY MAPLE	Acer platanoides 'Superform'	2 1/2" Cal.	B&B	-	-	5	2	-	-	-	
5	SO	SHUMARD OAK	Quercus shumardii	2 1/2" Cal.	B&B	1	-	2	1	-	-	-	
5	ST	SAWTOOTH OAK	Quercus accutissima	2 1/2" Cal.	B&B	-	-	2	3	-	-	-	
7	SW	SWAMP WHITE OAK	Quercus bicolor	2 1/2" Cal.	B&B	-	2	1	-	4	-	-	
4	TT	TULIP TREE	Liriodendron tulipifera	2 1/2" Cal.	B&B	3	-	1	-	-	-	-	
-	VG	VILLAGE GREEN ZELKOVA	Zelkova serrata 'Village Green'	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
6	WH	WINTER KING HAWTHORN	Crataegus viridis 'Winter King'	2 1/2" Cal.	B&B	-	1	5	-	-	-	-	
-	WS	WHITESPIRE BIRCH	Betula papyrifera	2 1/2" Cal.	B&B	-	-	-	-	-	-	-	
EVERGREEN TREES													
69	NS	NORWAY SPRUCE	Picea abies	8-10' Hgt.	B&B	26	5	21	-	17	-	-	
67	CF	CONCOLOR FIR	Abies concolor	7-8' Hgt.	B&B	23	7	15	-	22	-	-	
14	SS	SERBIAN SPRUCE	Picea omorika	8-10' Hgt.	B&B	7	-	-	-	7	-	-	
SHRUBS													
19	BV	MOHAWK VIBURNUM	Viburnum x burknoodii 'Mohawk'	24 - 30" Hgt.	B&B	-	-	-	-	-	19	-	
40	KP	KALLAY PFITZER JUNIPER	Juniperus chinensis 'Pfitzeriana Kallay'	24 - 30" Hgt.	B&B	-	-	-	-	-	29	11	
3	OH	OAKLEAF HYDRANGEA	Hydrangea quercifolia	24 - 30" Hgt.	B&B	-	-	-	-	-	-	3	

TURF MIXES

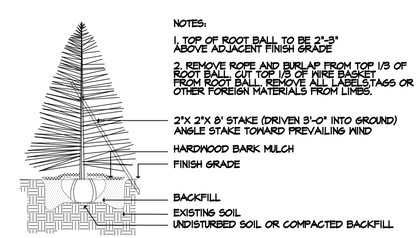
QTY	COMPONENTS	SEEDING RATE	PLANTING DATES	SOURCE
-	LAWN MIXTURE			
	60% Perennial Ryegrass - 3 equal parts Applaud, IG2 and Integra 40% Kentucky Bluegrass - 2 equal parts Royale and Mallard	200 lbs./acre	March 15 - June 1 August 15 - October 15	Pennington Seed Incorporated P.O. Box 290 Madison, GA 30650 Summer Stress Mix 1-800-285-SEED
-	NATIVE ROUGH GRASS MIXTURE			
	60% Hard Fescue 20% Little Blue Stem 10% Chewing Fescue 10% Blue Fescue	100 lbs./acre	March 15 - June 1 August 15 - October 15 Dormant Seeding	Pennington Seed Incorporated P.O. Box 290 Madison, GA 30650 Reclaim Native Rough Mixture 1-800-285-SEED
-	NATIVE GRASS AND MEADOW MIX			
	30% Blue Fescue 20% Side Oats Grama 20% Litle Bluestem 8% Indian Blanket 5% Lance-leaved Coreopsis 4% Purple Coneflower 4% Gayfeather 3% Chickory 2% Goldenrod 1% Joe Pyeneed 1% Evening Primrose 1% New England Aster 1% Black-Eyed Susan	40 lbs./acre	April 1 - June 15 August 15 - October 15 Dormant Seeding	Pennington Seed Incorporated P.O. Box 290 Madison, GA 30650 Reclaim Songbird Native Grass/Wildflower Mixture 1-800-285-SEED



1 SHRUB PLANTING
NTS



3 TREE PLANTING
NTS



2 EVERGREEN TREE PLANTING
NTS

EDGE PLANNING LANDSCAPE ARCHITECTURE URBAN DESIGN
330 WEST SPRING STREET, SUITE 350
COLUMBUS, OH 43215
P. 614.486.2343
www.edgela.com

PulteGroup

PRELIMINARY DEVELOPMENT PLAN
CARPENTER'S MILL
POWELL, OHIO

PLANT SCHEDULE/ DETAILS

REVISIONS

MARK	DATE	DESCRIPTION

Date 12.22.2016
Job No. 15088

SHEET
L
3.01

ALTA/NSPS LAND TITLE SURVEY

STATE OF OHIO, TOWNSHIP OF LIBERTY, COUNTY OF DELAWARE,
PART OF FARM LOT 10, SECTION 2, TOWNSHIP 3, RANGE 19,
UNITED STATES MILITARY LANDS

LEGAL DESCRIPTION:

TRACT I

REAL ESTATE SITUATED IN THE TOWNSHIP OF LIBERTY, COUNTY OF DELAWARE AND STATE OF OHIO BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT A STONE ON A POST IN THE CENTER OF THE ROAD AT THE SOUTHEAST CORNER OF LOT 10, RANGE 19, TOWNSHIP 3, SECTION 2;

THENCE N. 0° 30' EAST 82.27 POLES TO THE NORTHEAST CORNER OF LOT 10 TO "B" STONE ON A POST;

THENCE N. 89° 39' WEST 87 POLES ON THE LOT LINE TO "C" STONE ON A POST;

THENCE S. 0° 30' WEST 82.9 POLES ON TOWNSHIP LINE TO "E" STONE ON A POST AND LOT LINE; THENCE EAST 87 POLES TO THE PLACE OF BEGINNING.

CONTAINING 44.9 ACRES OF LAND, MORE OR LESS

EXCEPTING THEREFROM:

SITUATED IN THE STATE OF OHIO, COUNTY OF DELAWARE, TOWNSHIP OF LIBERTY, LOCATED IN PART OF FARM LOT 10, SECTION 2, TOWNSHIP 3 NORTH, RANGE 19 WEST, AND BEING PART OF AN ORIGINAL 44.9 ACRE TRACT CONVEYED TO TIMOTHY K. AND JODI L. SHELLY IN DEED BOOK 547, PAGE 238, AS RECORDED IN THE DELAWARE COUNTY RECORDER'S OFFICE, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING, FOR REFERENCE, AT A RAILROAD SPIKE FOUND IN THE CENTERLINE OF STEITZ ROAD (CO. ROAD 125) MARKING THE SOUTHEAST COMER OF A 1.173 ACRE TRACT CONVEYED TO TIMOTHY K. AND JODI L. SHELLY IN DEED BOOK 600, PAGE 207 AND THE SOUTHEAST CORNER OF FARM LOT 10 AND NORTHEAST CORNER OF FARM LOT 9;

THENCE NORTH 03° 54' 35" EAST 188.00 FEET, ALONG THE CENTERLINE OF STEITZ ROAD, TO A RAILROAD SPIKE FOUND MARKING THE NORTHEAST CORNER OF SAID 1.173 ACRE TRACT AND BEING THE PRINCIPAL PLACE OF BEGINNING OF THE HEREIN DESCRIBED TRACT;

THENCE NORTH 86° 33 10" WEST 313.25 FEET, ALONG THE NORTH LINE OF SAID 1.173 ACRE TRACT, TO AN IRON PIN FOUND MARKING THE NORTHWEST CORNER OF SAID 1.173 ACRE TRACT;

THENCE SOUTH 03° 54 35" WEST 188.00 FEET, ALONG THE WEST LINE OF SAID 1.173 ACRE TRACT, TO AN IRON PIN FOUND IN THE NORTH LINE OF FARM LOT 9 AND THE SOUTH LINE OF FARM LOT 10, MARKING THE SOUTHWEST CORNER OF SAID 1.173 ACRE TRACT;

THENCE NORTH 86° 33' 10 " WEST 696.28, ALONG THE SOUTH LINE OF SAID FARM LOT 10 AND THE NORTH LINES OF FARM LOT 9 AND SAID ORIGINAL 44.9 ACRE TRACT, TO AN IRON PIN SET;

THENCE NORTH 03° 54' 35" EAST 303.00 FEET, ACROSS SAID ORIGINAL 44.9 ACRE TRACT, PARALLEL WITH STEITZ ROAD, TO AN IRON PIN SET;

THENCE SOUTH 86° 33' 10" EAST 479.53 FEET, ACROSS SAID ORIGINAL 44.9 ACRE TRACT, PARALLEL TO THE SOUTH LINE OF SAID LOT 10, TO AN IRON PIN SET;

THENCE SOUTH 03° 54' 35" WEST 55.00 FEET, ACROSS SAID ORIGINAL 44.9 ACRE TRACT, PARALLEL WITH STEITZ ROAD, TO AN IRON PIN SET;

THENCE SOUTH 86° 33' 10" EAST 530.00 FEET, ACROSS SAID ORIGINAL 44.9 ACRE TRACT, PARALLEL TO THE SOUTH LINE OF SAID LOT 10, TO A RAILROAD SPIKE SET IN THE CENTERLINE OF STEITZ ROAD;

THENCE SOUTH 03° 54' 35" WEST 60.00 FEET, ALONG THE CENTERLINE OF STEITZ ROAD TO THE PRINCIPAL PLACE OF BEGINNING CONTAINING 5.001 ACRES, MORE OR LESS. SUBJECT TO ALL EASEMENTS, RIGHTS-OF-WAY AND RESTRICTIONS OF RECORD.

ALSO THE RIGHT TO USE AN EXISTING EASEMENT OVER THE EXISTING DRIVEWAY AS SHOWN ON THE ATTACHED PLAT AND RECORDED IN DEED BOOK 643, PAGE IS.

BASIS OF BEARINGS FROM DEED BOOK 376, PAGE 643, BASED ON CENTERLINE OF STEITZ ROAD BEING SOUTH 03° 54' 35" WEST. ALL REFERENCE PLATS ON FILE AT DELAWARE COUNTY RECORDER'S OFFICE, DELAWARE, OHIO. A SURVEY OF THE ABOVE DESCRIBED PREMISES WAS DONE BY R.T. PARTRIDGE P.S. 4338, IN JANUARY 1999. ALL IRON PINS SET ARE CAPPED PARTRIDGE SURVEYING.

ALSO EXCEPTING THEREFROM:

SITUATED IN THE STATE OF OHIO, COUNTY OF DELAWARE, TOWNSHIP OF LIBERTY, LOCATED IN LOT 10, RANGE 19, NORTH TOWNSHIP 3, SECTION 2, AND BEING PART OF AN ORIGINAL 44.9 ACRE TRACT CONVEYED TO TIMOTHY K. AND JODI L. SHELLY (DEED BOOK 547, PAGE 238), AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A RAILROAD SPIKE SET IN THE CENTERLINE OF STEITZ ROAD (COUNTY ROAD 125) AT THE SOUTHEAST CORNER OF SAID LOT TEN ALSO BEING AT THE SOUTHEAST CORNER OF SAID 44.9 ACRE TRACT AND THE NORTHEAST CORNER OF A 0.192 ACRE TRACT CONVEYED TO MARY E. BODINE IN DEED BOOK 376, PAGE 643;

THENCE NORTH 86° 33' 10" WEST 311.72 FEET, IN THE SOUTH LINE OF SAID LOT 10, AND 44.9 ACRE TRACT, THE NORTH LINE OF SAID 0.192 ACRE TRACT, AND THE NORTH LINE OF A 4.81 ACRE TRACT CONVEYED TO MARY E. BODINE IN DEED BOOK 376, PAGE 643, TO AN IRON PIN SET; (PASSING AN IRON PIN SET AT 40.00 FEET AND AN IRON PIPE FOUND AT 140.00 FEET);

THENCE THE FOLLOWING THREE COURSES ACROSS SAID 44.9 ACRE TRACT;

THENCE NORTH 03° 54' 35" EAST 188.00 FEET, PARALLEL WITH THE EAST LINE OF SAID LOT 10, THE EAST LINE OF SAID 44.9 ACRE TRACT, TO AN IRON PIN SET;

THENCE SOUTH 86° 33' 10" EAST 311.72 FEET, PARALLEL WITH THE SOUTH LINE OF SAID LOT 10, THE SOUTH LINE OF SAID 44.9 ACRE TRACT, TO AN IRON PIN SET IN THE EAST LINE OF LOT 10, IN THE CENTERLINE OF STEITZ ROAD;

THENCE SOUTH 03° 54' 35" WEST 188.00 FEET, IN THE EAST LINE OF SAID LOT 10, IN THE CENTERLINE OF STEITZ ROAD TO THE PLACE OF BEGINNING, CONTAINING 1.173 ACRES MORE OR LESS, OF WHICH 0.173 ACRES ARE IN THE RIGHT-OF-WAY IN STEITZ ROAD. SUBJECT TO ALL EASEMENTS, RESTRICTIONS, AND RIGHTS-OF-WAY OF RECORD.

BASIS OF BEARINGS FROM DEED BOOK 376, PAGE 643, BASED ON THE CENTERLINE OF STEITZ ROAD (SOUTH 03° 54' 35" WEST). ALL REFERENCE DEEDS ON FILE AT DELAWARE COUNTY RECORDER'S OFFICE, DELAWARE, OHIO. A SURVEY OF THE ABOVE DESCRIBED PREMISES WAS DONE BY PARTRIDGE AND ASSOCIATES IN JANUARY 1996 BY ROBERT T. PARTRIDGE JR. P.S. #7462. ALL IRON PINS SET ARE CAPPED PARTRIDGE SURVEYING.

PARCEL II

SITUATED IN THE STATE OF OHIO, COUNTY OF DELAWARE, TOWNSHIP OF LIBERTY, LOCATED IN LOT 10, RANGE 19, NORTH TOWNSHIP 3, SECTION 2, AND BEING PART OF AN ORIGINAL 44.9 ACRE TRACT CONVEYED TO TIMOTHY K. AND JODI L. SHELLY (DEED BOOK 547, PAGE 238), AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A RAILROAD SPIKE SET IN THE CENTERLINE OF STEITZ ROAD (COUNTY ROAD 125) AT THE SOUTHEAST CORNER OF SAID LOT TEN ALSO BEING AT THE SOUTHEAST CORNER OF SAID 44.9 ACRE TRACT AND THE NORTHEAST CORNER OF A 0.192 ACRE TRACT CONVEYED TO MARY E. BODINE IN DEED BOOK 376, PAGE 643;

THENCE NORTH 86° 33' 10" WEST 311.72 FEET, IN THE SOUTH LINE OF SAID LOT 10, AND 44.9 ACRE TRACT, THE NORTH LINE OF SAID 0.192 ACRE TRACT, AND THE NORTH LINE OF A 4.81 ACRE TRACT CONVEYED TO MARY E. BODINE IN DEED BOOK 376, PAGE 643, TO AN IRON PIN SET; (PASSING AN IRON PIN SET AT 40.00 FEET AND AN IRON PIPE FOUND AT 140.00 FEET);

THENCE THE FOLLOWING THREE COURSES ACROSS SAID 44.9 ACRE TRACT;

THENCE NORTH 03° 54' 35" EAST 188.00 FEET, PARALLEL WITH THE EAST LINE OF SAID LOT 10, THE EAST LINE OF SAID 44.9 ACRE TRACT, TO AN IRON PIN SET;

THENCE SOUTH 86° 33' 10" EAST 311.72 FEET, PARALLEL WITH THE SOUTH LINE OF SAID LOT 10, THE SOUTH LINE OF SAID 44.9 ACRE TRACT, TO AN IRON PIN SET IN THE EAST LINE OF LOT 10, IN THE CENTERLINE OF STEITZ ROAD;

THENCE SOUTH 03° 54' 35" WEST 188.00 FEET, IN THE EAST LINE OF SAID LOT 10, IN THE CENTERLINE OF STEITZ ROAD TO THE PLACE OF BEGINNING, CONTAINING 1.173 ACRES MORE OR LESS, OF WHICH 0.173 ACRES ARE IN THE RIGHT-OF-WAY IN STEITZ ROAD. SUBJECT TO ALL EASEMENTS, RESTRICTIONS, AND RIGHTS-OF-WAY OF RECORD.

BASIS OF BEARINGS FROM DEED BOOK 376, PAGE 643, BASED ON THE CENTERLINE OF STEITZ ROAD (SOUTH 03° 54' 35" WEST). ALL REFERENCE DEEDS ON FILE AT DELAWARE COUNTY RECORDER'S OFFICE, DELAWARE, OHIO. A SURVEY OF THE ABOVE DESCRIBED PREMISES WAS DONE BY PARTRIDGE AND ASSOCIATES IN JANUARY 1996 BY ROBERT T. PARTRIDGE JR. P.S. #7462. ALL IRON PINS SET ARE CAPPED PARTRIDGE SURVEYING.

SURVEYOR'S NOTES:

1) FIELD WORK PERFORMED ON NOVEMBER 16, 2016.

2) THIS SURVEY REPRESENTS THE SAME PARCEL AS DESCRIBED IN TITLE COMMITMENT SHOWN ON THIS SURVEY.

3) THERE WAS NO OBSERVED EVIDENCE OF EARTH MOVING ACTIVITIES ON THE SUBJECT PARCEL.

4) THERE IS NO OBSERVED EVIDENCE OF WETLAND MARKERS ON SITE.

5) THERE IS NO EVIDENCE OF PROPOSED CHANGES IN THE RIGHT-OF-WAY LINES.

6) THE SUBJECT PARCEL HAS DIRECT PHYSICAL ACCESS TO STEITZ ROAD, A PUBLICLY DEDICATED ROADWAY.

7) THE SUBJECT PARCEL IS CONTIGUOUS ALONG IT'S COMMON LINES WITHOUT STRIPS, GAPS, GORES, OR OVERLAPS.

UTILITY NOTE

THE UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES LOCATED HERE ON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES LOCATED ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

ZONING INFORMATION

NOT PROVIDED BY CLIENT.

BASIS OF BEARINGS

THE BEARINGS SHOWN ON THIS SURVEY ARE BASED ON THE CENTERLINE OF STEITZ ROAD (TOWNSHIP ROAD 125) AS DESCRIBED IN D.B. 1352, PAGES 700-702 AND BEING NORTH 03°00'00" EAST.

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, THE PROPERTY IS IN ZONE "X" OF THE FLOOD INSURANCE RATE MAPS, COMMUNITY PANEL NO. 39041C0236K, WHICH BEARS AN EFFECTIVE DATE OF APRL 16, 2009.

IRON PINS

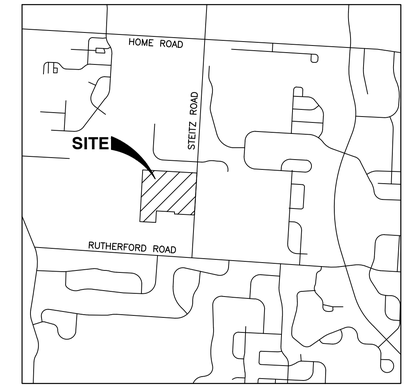
WHERE INDICATED HEREON, UNLESS OTHERWISE NOTED, ARE TO BE SET AND ARE 5/8" SOLID REBAR, THIRTY INCHES LONG WITH YELLOW PLASTIC CAP BEARING THE INITIALS "CEC."

SCHEDULE B - SECTION II:

BASED UPON TITLE COMMITMENT FILE NO: 16-08-03 ATA, OHIO BAR TITLE INSURANCE COMPANY, EFFECTIVE DATE: AUGUST 3, 2016 AT 7:00AM

ITEMS 1-12 ARE NOT SURVEY RELATED.

13) OIL AND GAS LEASE TO B.M.HASTINGS AS DESCRIBED IN LEASE VOLUME 20 PAGE 339, DATED 12/10/1963, DELAWARE COUNTY, OHIO RECORDER'S OFFICE. "AFFIDAVIT OF FORFEITURE OF OIL AND GAS LEASE AS DESCRIBED IN LEASE VOLUME 46 PAGE 178, FILED FOR RECORD 9/20/1989, DELAWARE COUNTY, OHIO RECORDER'S OFFICE. "SEE SCHEDULE BI REGARDING REQUIREMENTS NECESSARY TO DELETE THIS EXCEPTION."
LOCATED ON SUBJECT PARCEL, BLANKET IN NATURE.



VICINITY MAP
SCALE:1"=2,000'

THE UNDERSIGNED, BEING A REGISTERED SURVEYOR IN THE STATE OF OHIO CERTIFIES TO (i) OHIO BAR TITLE INSURANCE COMPANY (ii) PULTE HOMES OF OHIO LLC (iii)

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 11(a), 13, 16, 17, AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON: NOVEMBER 16, 2016

DATE

MARK ALAN SMITH
OHIO REGISTRATION/LICENSE NO. S-8232

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES
STEITZ ROAD
LIBERTY TOWNSHIP

ALTA/NSPS
LAND TITLE SURVEY

DATE:	DECEMBER 2016
DRAWN BY:	ALB
DWG SCALE:	N/A
CHECKED BY:	JWC
PROJECT NO:	152-227
APPROVED BY:	MAS

DRAWING NO.:
ALTA

SHEET 1 OF 2

P:\2015\152-227\-Survey\Dwg\152227-SV01-ALTA.dwg[LAYOUT1] LS(12/8/2016 - dbenson) - LP: 12/8/2016 3:54 PM

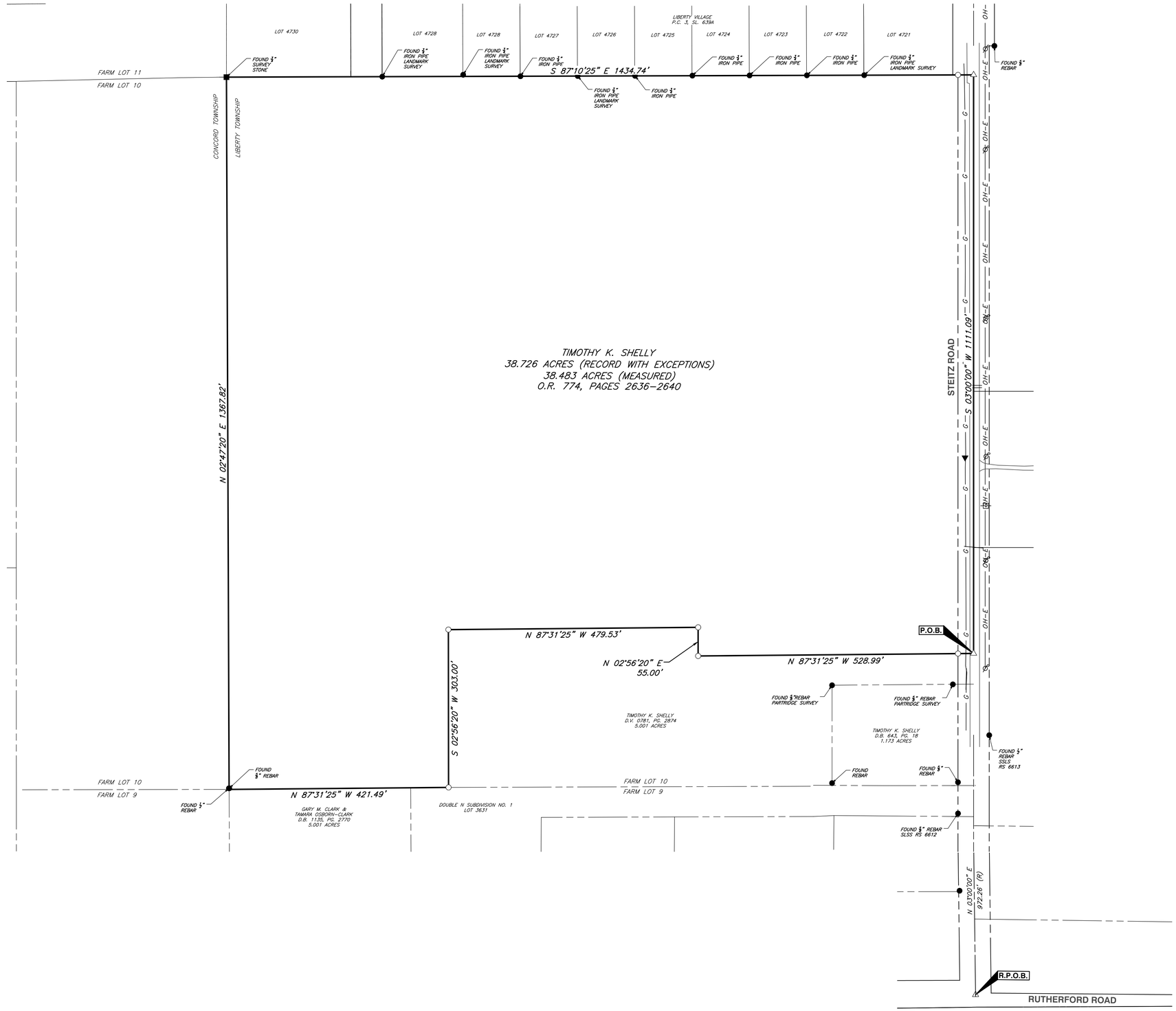
NORTH

SCALE IN FEET

0 100 200

EXISTING LEGEND:

- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING RIGHT-OF-WAY
- G — EXISTING GAS LINE
- OH-W — EXISTING OVERHEAD ELECTRIC
- IRON PIPE FD.
- REBAR FD.
- STONE FOUND
- MAG NAIL SET
- IRON PIN SET
- GAS LINE MARKER
- POWER POLE
- TELEPHONE PEDESTAL
- WATER WELL



REVISION RECORD		
NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES STEITZ ROAD LIBERTY TOWNSHIP

ALTA/NSPS LAND TITLE SURVEY

DATE:	DECEMBER 2016
DRAWN BY:	ALB
DWG SCALE:	1"=100'
CHECKED BY:	JWC
PROJECT NO:	152-227
APPROVED BY:	MAS

DRAWING NO.:

ALTA

SHEET 2 OF 2

P:\2015\152-227\-Survey\Dwg\152227-SV01-ALTA.dwg[LAYOUT2] LS:(12/8/2016 - dshroyer) - LP: 12/8/2016 3:54 PM

ALTA/NSPS LAND TITLE SURVEY

STATE OF OHIO, TOWNSHIP OF LIBERTY, COUNTY OF DELAWARE,
PART OF FARM LOTS 8 AND 5, SECTION 2, TOWNSHIP 3, RANGE 19,
UNITED STATES MILITARY LANDS

LEGAL DESCRIPTION:

70 ACRES +/- STEITZ RD, LIBERTY TOWNSHIP 31924001046000, 047000, 048000
TRACT 1: (PARCEL 31924001046000)

SITUATED IN THE TOWNSHIP OF LIBERTY, COUNTY OF DELAWARE, STATE OF OHIO, BEING PART OF FARM LOTS 8 AND 5 IN SECTION 2, TOWNSHIP 3, RANGE 19 OF THE UNITED STATES MILITARY LANDS AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A RAILROAD SPIKE FOUND AT THE INTERSECTION OF THE CENTERLINES OF TOWNSHIP ROAD 122 (RUTHERFORD ROAD) AND TOWNSHIP ROAD 125 (STEITZ ROAD);

THENCE NORTH 03° 00' 00" EAST, ALONG THE SAID CENTERLINE OF TOWNSHIP ROAD 125, A DISTANCE OF 1,632.26 FEET TO A P.K. NAIL SET, BEING THE TRUE POINT OF BEGINNING OF THE FOLLOWING DESCRIBED TRACT;

THENCE NORTH 03° 00' 00" EAST, CONTINUING ALONG THE SAID CENTERLINE OF TOWNSHIP ROAD 125, A DISTANCE OF 663.88 FEET TO A P.K. NAIL SET, BEING THE SOUTHWEST CORNER OF A 12.00 ACRE TRACT NOW OR FORMERLY OWNED BY EVALEE STRONG, AS DESCRIBED IN DEED BOOK 403, PAGE 275;

THENCE SOUTH 86° 05' 23" EAST, ALONG THE SOUTH LINE OF THE SAID 12.00 ACRE TRACT, AND ALONG THE SOUTH LINE OF A 43.4 ACRE TRACT NOW OR FORMERLY OWNED BY JOHN LANE, AS DESCRIBED AS TRACT ONE, PARCEL 3 IN DEED BOOK 323, PAGE 249, (PASSING AN IRON BAR SET AT 30.00 FEET) A TOTAL DISTANCE OF 2,331.04 FEET TO AN IRON PIPE FOUND, BEING THE SOUTHEAST CORNER OF THE SAID 43.4 ACRE TRACT, ALSO BEING ON THE WEST LINE OF A 51.244 ACRE TRACT NOW OR FORMERLY OWNED BY EDWARD COUGHLIN, AS DESCRIBED IN DEED BOOK 471, PAGE 620, ALL IRON BARS SET ARE SET WITH A PLASTIC CAP MARKED "SLSS RS 6612";

THENCE SOUTH 03° 06' 16" WEST, ALONG THE SAID WEST LINE OF THE 51.244 ACRE TRACT, A DISTANCE OF 579.88 FEET TO AN IRON BAR SET;

THENCE NORTH 87° 00' 00" WEST, A DISTANCE OF 1,603.49 FEET TO AN IRON BAR SET; THENCE SOUTH 3° 00' 00" WEST, A DISTANCE OF 46.97 FEET TO AN IRON BAR SET;

THENCE NORTH 87° 00'00" WEST (PASSING AN IRON BAR SET AT 696.20 FEET) A TOTAL DISTANCE OF 726.20 FEET TO THE TRUE POINT OF BEGINNNING;

CONTAINING 32.794 ACRES, MORE OR LESS BEING PART OF AN ORIGINAL 70 ACRE TRACT AS DESCRIBED IN DEED BOOK 213, PAGE 264;

THERE BEING APPROXIMATELY 23.823 ACRES IN SAID FARM LOT 8 AND APPROXIMATELY 8.971 ACRES IN SAID FARM LOT 5;

SUBJECT TO ALL EASEMENTS, RESTRICTIONS AND RIGHTS-OF-WAY, IF ANY, OF RECORD. SURVEYED BY FRANK CELIO, SURVEYOR, REGISTRATION NUMBER 6612 ON AUGUST 30, 1994. BASIS OF BEARINGS IS ASSUMED.

PRIOR DEED REFERENCE OFFICIAL RECORD VOLUME 1352 PAGE 700, DELAWARE COUNTY, OHIO RECORDER

TRACT 2: (PARCEL 31924001047000)

SITUATED IN THE TOWNSHIP OF LIBERTY, COUNTY OF DELAWARE, STATE OF OHIO, BEING PART OF FARM LOT 8 IN SECTION 2, TOWNSHIP 3, RANGE 19 OF THE UNITED STATES MILITARY LANDS AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A RAILROAD SPIKE FOUND AT THE INTERSECTION OF THE CENTERLINES OF TOWNSHIP ROAD 122 (RUTHERFORD ROAD) AND TOWNSHIP ROAD 125 (STEITZ ROAD);

THENCE NORTH 03° 00'00" EAST, ALONG THE SAID CENTERLINE OF TOWNSHIP ROAD 125, A DISTANCE OF 1,332.26 FEET TO A P.K. NAIL SET, BEING THE TRUE POINT OF BEGINNING OF THE FOLLOWING DESCRIBED TRACT;

THENCE NORTH 03° 00' 00" EAST, CONTINUING ALONG THE SAID CENTERLINE OF TOWNSHIP ROAD 125, A DISTANCE OF 300.00 FEET TO A P.K. NAIL SET;

THENCE SOUTH 87° 00' 00" EAST, (PASSING AN IRON BAR SET AT 30.00 FEET) A TOTAL DISTANCE OF 726.20 FEET TO AN IRON BAR SET, ALL IRON BARS SET ARE SET WITH A PLASTIC CAP MARKED "SLSS RS 6612"; THENCE SOUTH 03° 00' 00" WEST, A DISTANCE OF 300.00 FEET TO AN IRON BAR SET;
THENCE NORTH 87° 00' 00" WEST, (PASSING AN IRON BAR SET AT 696.20 FEET) A TOTAL DISTANCE OF 726.20 FEET TO THE TRUE POINT OF BEGINNING;

CONTAINING 5.001 ACRES, MORE OR LESS BEING PART OF AN ORIGINAL 70 ACRE TRACT AS DESCRIBED IN DEED BOOK 213, PAGE 264;

SUBJECT TO ALL EASEMENTS, RESTRICTIONS AND RIGHTS-OF-WAY, IF ANY, OF RECORD.

SURVEYED BY FRANK CELIO, SURVEYOR, REGISTRATION NUMBER 6612 ON AUGUST 30, 1994. BASIS OF BEARINGS IS ASSUMED.

PRIOR DEED REFERENCE OFFICIAL RECORD VOLUME 1352 PAGE 700, DELAWARE COUNTY, OHIO RECORDER

TRACT 3: (PARCEL 31924001048000)

SITUATED IN THE TOWNSHIP OF LIBERTY, COUNTY OF DELAWARE, STATE OF OHIO, BEING PART OF FARM LOTS 8 AND 5 IN SECTION 2, TOWNSHIP 3, RANGE 19 OF THE UNITED STATES MILITARY LANDS AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A RAILROAD SPIKE FOUND AT THE INTERSECTION OF THE CENTERLINES OF TOWNSHIP ROAD 122 (RUTHERFORD ROAD) AND TOWNSHIP ROAD 125 (STEITZ ROAD);

THENCE NORTH 03° 00' 00" EAST, ALONG THE SAID CENTERLINE OF TOWNSHIP ROAD 125, A DISTANCE OF 972.26 FEET TO A P.K. NAIL SET, BEING THE NORTHWEST CORNER OF A 25 ACRE TRACT NOW OR FORMERLY OWNED BY G.E. MILLER, AS DESCRIBED IN DEED BOOK 323, PAGE 74, ALSO BEING THE TRUE POINT OF BEGINNING OF THE FOLLOWING DESCRIBED TRACT;

THENCE NORTH 03° 00' 00" EAST, CONTINUING ALONG THE SAID CENTERLINE OF TOWNSHIP ROAD 125, A DISTANCE OF 360.00 FEET TO A P.K. NAIL SET;

THENCE SOUTH 87° 00' 00" EAST, (PASSING AN IRON BAR SET AT 30.00 FEET) A TOTAL DISTANCE OF 726.20 FEET TO AN IRON BAR SET, ALL IRON BAR SET ARE SET WITH A PLASTIC CAP MARKED "SLSS RS 6612";

THENCE NORTH 03° 00' 00" EAST, (PASSING AN IRON BAR SET AT 300.00 FEET) A TOTAL DISTANCE OF 346.97 FEET TO AN IRON BAR SET;

THENCE SOUTH 87° 00' 00" EAST, A DISTANCE OF 1603.49 FEET TO AN IRON BAR SET, BEING ON THE WEST LINE OF A 51.244 ACRE TRACT NOW OR FORMERLY OWNED BY EDWARD COUGHLIN, AS DESCRIBED IN DEED BOOK 471, PAGE 620;

THENCE SOUTH 03° 06' 16" WEST, ALONG THE SAID WEST LINE OF THE 51.244 ACRE TRACT, A DISTANCE OF 736.59 FEET TO A STONE FOUND, BEING THE NORTHEAST CORNER OF THE SAID 25 ACRE TRACT;

THENCE NORTH 86° 16' 16" WEST, ALONG THE NORTH LINE OF THE SAID 25 ACRE TRACT, (PASSING AN IRON BAR SET AT 2,298.54 FEET) A TOTAL DISTANCE OF 2,328.54 FEET TO THE TRUE POINT OF BEGINNING;

CONTAINING 32.807 ACRES, MORE OR LESS BEING PART OF AN ORIGINAL 70 ACRE TRACT AS DESCRIBED IN DEED BOOK 213, PAGE 264;

THERE BEING APPROXIMATELY 21.602 ACRES IN SAID FARM LOT 8 AND APPROXIMATELY 11.205 ACRES IN SAID FARM LOT 5;

SUBJECT TO ALL EASEMENTS, RESTRICTIONS AND RIGHTS-OF-WAY, IF ANY, OF RECORD.

SURVEYED BY FRANK CELIO, SURVEYOR, REGSTRATION NUMBER 6612 ON AUGUST 30, 1994. BASIS OF BEARINGS IS ASSUMED.
PRIOR DEED REFERENCE OFFICIAL RECORD VOLUME 1352 PAGE 703, DELAWARE COUNTY, OHIO RECORDER

SURVEYOR'S NOTES:

1) FIELD WORK PERFORMED ON NOVEMBER 16, 2016.
2) THIS SURVEY REPRESENTS THE SAME PARCEL AS DESCRIBED IN TITLE COMMITMENT SHOWN ON THIS SURVEY.
3) THERE WAS NO OBSERVED EVIDENCE OF EARTH MOVING ACTIVITIES ON THE SUBJECT PARCEL.
4) THERE IS NO OBSERVED EVIDENCE OF WETLAND MARKERS ON SITE.
5) THERE IS NO EVIDENCE OF PROPOSED CHANGES IN THE RIGHT-OF-WAY LINES.
6) THE SUBJECT PARCEL HAS DIRECT PHYSICAL ACCESS TO STEITZ ROAD, A PUBLICLY DEDICATED ROADWAY.
7) THE SUBJECT PARCEL IS CONTIGUOUS ALONG IT'S COMMON LINES WITHOUT STRIPS, GAPS, GORES, OR OVERLAPS.

UTILITY NOTE

THE UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES LOCATED HERE ON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES LOCATED ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

ZONING INFORMATION

NOT PROVIDED BY CLIENT.

BASIS OF BEARINGS

THE BEARINGS SHOWN ON THIS SURVEY ARE BASED ON THE CENTERLINE OF STEITZ ROAD (TOWNSHIP ROAD 125) AS DESCRIBED IN D.B. 1352, PAGES 700-702 AND BEING NORTH 03°00'00" EAST.

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, THE PROPERTY IS IN ZONE "X" OF THE FLOOD INSURANCE RATE MAPS, COMMUNITY PANEL NO. 39041C0236K, WHICH BEARS AN EFFECTIVE DATE OF APRL 16, 2009.

IRON PINS

WHERE INDICATED HEREON, UNLESS OTHERWISE NOTED, ARE TO BE SET AND ARE 5/8" SOLID REBAR, THIRTY INCHES LONG WITH YELLOW PLASTIC CAP BEARING THE INITIALS "CEC."

SCHEDULE B - SECTION II:

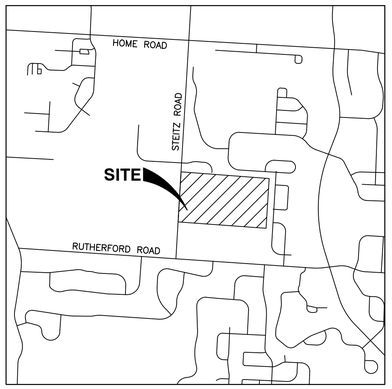
BASED UPON TITLE COMMITMENT FILE NO: 150504ATA, OHIO BAR TITLE INSURANCE COMPANY,
EFFECTIVE DATE: JULY 1, 2015 AT 7:00AM

ITEMS 1-10 AND 12-18 ARE NOT SURVEY RELATED.

11) EASEMENT AS SET FORTH IN DEED VOLUME 203 PAGE 423, DELAWARE COUNTY, OHIO RECORDER.
NOT LOCATED ON SUBJECT PARCEL.

12) LEASE AS SET FORTH IN LEASE VOLUME 7 PAGE 223 DELAWARE COUNTY, OHIO RECORDER.
LOCATED ON SUBJECT PARCEL, BLANKET IN NATURE.

13) LEASE AS SET FORTH IN LEASE VOLUME 9 PAGE 222 DELAWARE COUNTY, OHIO RECORDER.
LOCATED ON SUBJECT PARCEL, BLANKET IN NATURE.



VICINITY MAP
SCALE:1"=2,000'

THE UNDERSIGNED, BEING A REGISTERED SURVEYOR IN THE STATE OF OHIO CERTIFIES TO
(i) OHIO BAR TITLE INSURANCE COMPANY (ii) PULTE HOMES OF OHIO LLC (iii)

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 11(a), 13, 16, 17, AND 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON: NOVEMBER 16, 2016

DATE

MARK ALAN SMITH
OHIO REGISTRATION/LICENSE NO. S-8232

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES
STEITZ ROAD
LIBERTY TOWNSHIP

ALTA/NSPS
LAND TITLE SURVEY

DATE:	DECEMBER 2016
DRAWN BY:	ALB
DWG SCALE:	N/A
CHECKED BY:	JWC
PROJECT NO:	152-227
APPROVED BY:	MAS

DRAWING NO.: ALTA

SHEET 1 OF 2

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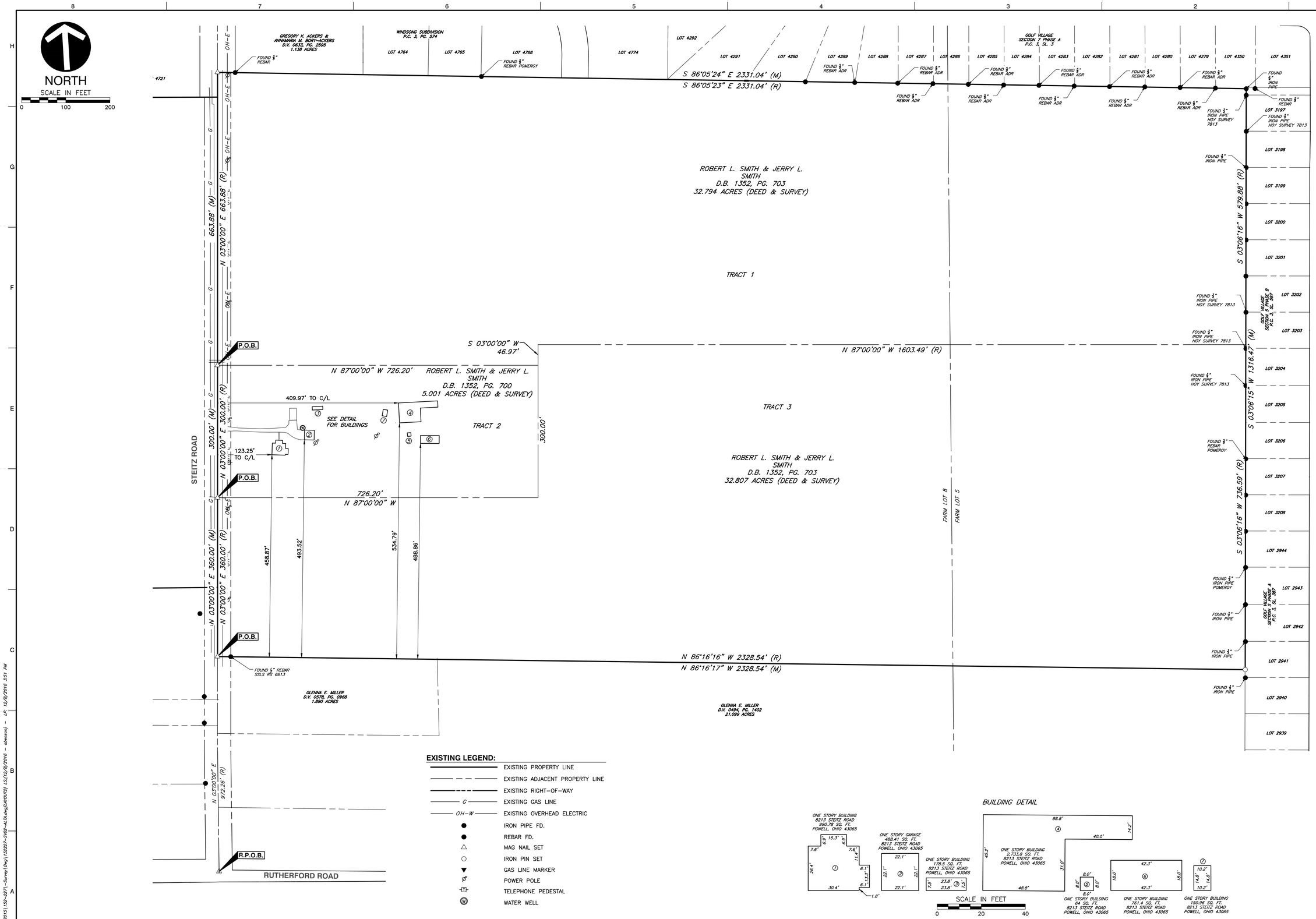

REVISION RECORD		
NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES STEITZ ROAD LIBERTY TOWNSHIP

ALTA/NSPS LAND TITLE SURVEY

DATE:	DECEMBER 2016
DRAWN BY:	ALB
DWG SCALE:	1"=100'
CHECKED BY:	JWC
PROJECT NO:	152-227
APPROVED BY:	MAS

DRAWING NO.: **ALTA**

SHEET 2 OF 2

P:\2015\152-227\-Survey\Dwg\152227-SVY2-ALTA.dwg[LAYOUT2] LS(12/8/2016 - aberson) - LP: 12/8/2016 3:51 PM

Shelly-Smith Properties
Traffic Impact Study

Prepared For:

Pulte Group, Inc.

Prepared By:

SMART SERVICES, INC.

1900 Crown Park Court, Suite E
Columbus, OH 43235
(614) 914-5543

December 2016

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Shelly-Smith Properties
Traffic Impact Study

Prepared For:

Pulte Group, Inc.
4900 Tuttle Crossing Boulevard
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Prepared By:

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Telephone: (614) 914-5543
e-mail: tstanhope@smartservices-inc.com

Under the direction of:

Registered Engineer No. E-64507, Ohio

12-08-2016
Date

STATE OF OHIO
TODD J. STANHOPE
E-64507
REGISTERED PROFESSIONAL ENGINEER

December 2016

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Signal Warrant Supporting Documentation and Worksheets
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Synchro Capacity Reports
Turn Lane Length Calculations
Sight Distance Exhibits

BACKGROUND

The Pulte Group is developing a site with 183 single family lots, 72 of which will be an "empty nester" product. The site is located on both sides of Steitz Road just south of Hunters Bend between Home Road and Rutherford Road. Figure 1 shows the location of the site. One full access is proposed on Steitz Road for access both east and west of Steitz Road. There are also connections on the east to Hunters Bend to the north and a connection to a future development to the south. On the west, there is a connection to Wolf Path Drive to the north. Figure 2 shows a site plan.

The site is part of a planned annexation to the City of Powell. When the annexation occurs, the proposed access on Steitz Road will be in the City of Powell so the City of Powell is the permitting agency. The City of Powell is requiring a Traffic Impact Study (TIS). The study area extends outside the City of Powell so the Delaware County Engineer's Office (DCEO) will also review the study. A TIS pre-meeting was held at the City of Powell on October 17, 2016 to discuss the specific requirements of the study. The study area is the proposed site accesses and the intersections of Home Road & Steitz Road and Rutherford Road & Steitz Road.

A formal memo of understanding (MOU) dated November 1, 2016 was submitted to the City of Powell and the DCEO and comments were received on November 22, 2016. A copy of the MOU with comments is in the Appendix.

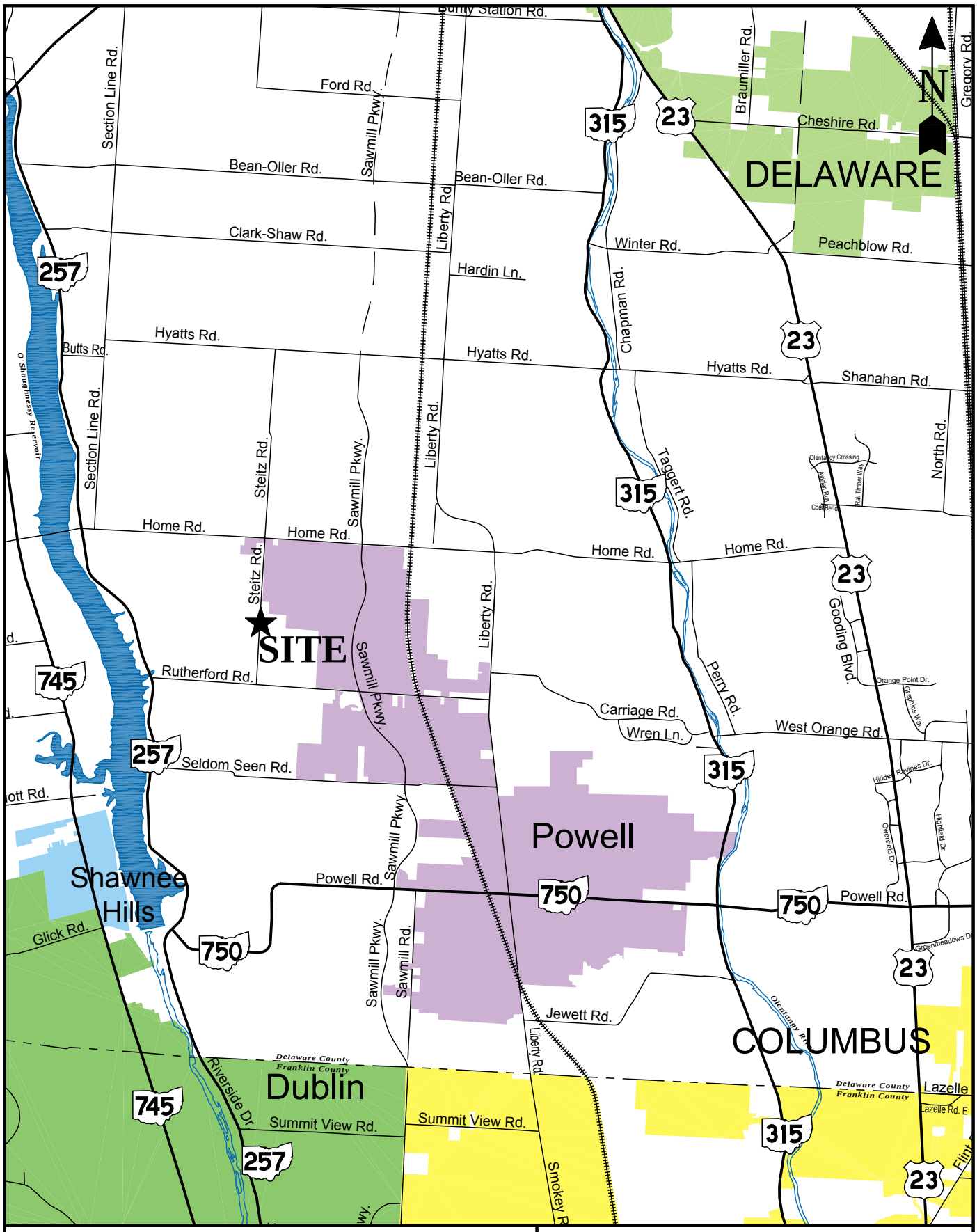
EXISTING CONDITIONS

The intersection of Rutherford Road & Steitz Road is currently controlled by "Stop" signs on the Steitz Road approach. The intersection of Home Road & Steitz Road is controlled by a traffic signal which was recently installed. Table 1 shows the speed limit and classification of each roadway in the study area.

Street	Speed Limit	Delaware County Thoroughfare Plan Classification
Home Road	55 mph	Major Arterial
Steitz Road	55 mph	Major Collector
Rutherford Road	45 mph	Minor Collector

TABLE 1 – Summary of Roadway Designations

The DCEO provided a 2013 count at Home Road & Steitz Road for use in the study. A 14-hour turning movement count was be performed at the intersection of Rutherford Road & Steitz Road. The volumes on the Steitz Road leg were transferred north and used as the basis of the through traffic in front of the site. The count reports for these counts are in the Appendix. Based on the results of the counts, the analysis hours for both intersection in the AM Peak was 7:00-8:00 AM. In the PM Peak, the counts showed 5:15-6:15 PM as the analysis hour of Home Road & Steitz Road, and 4:15-5:15 PM as the analysis hour of Rutherford Road & Steitz Road.

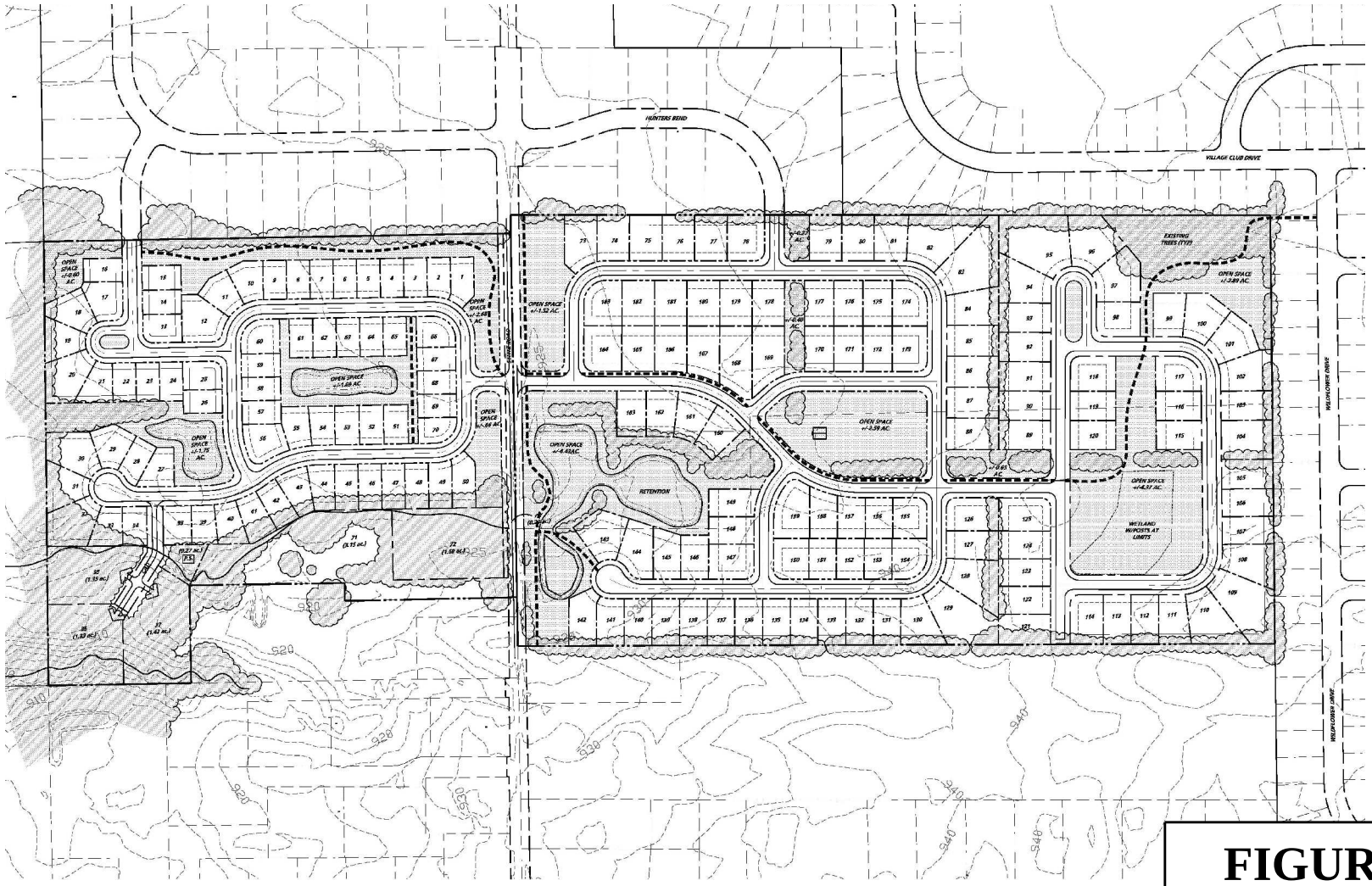


SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 11/2016

FIGURE 1

SITE LOCATION



N

0' 150' 300' 600'

SCALE

FIGURE 2

SITE LAYOUT

SHELLY-SMITH PROPERTIES TRAFFIC IMPACT STUDY

11/2016

PREPARED BY:

SMART SERVICES, INC.

PROJECTED SITE TRAFFIC

Trip Generation

Site traffic was computed using *Trip Generation Manual, 9th Edition* published by ITE. The relevant land use will be "Single-Family Detached Housing" (ITE Code #210). It is noted that "Senior Adult Housing-Detached" (ITE Code #251) could represent the "empty nester" product. Since there are no restrictions, the direction for this project was to use the most conservative trip generation which is "Single-Family Detached Housing" (ITE Code #210). There are 183 single family units proposed. Table 2 shows a summary of the trip generation calculations.

Trip Distribution

Per the City of Powell's comment on the MOU, the trip distribution was reassessed for this site. The general trip distribution is based on the existing AM counts in the peak direction (away from the site) of the site. The calculations are in the Appendix and the resulting distribution is as follows:

- 39% north on Steitz Road
  - -3% north of Home Road on Steitz Road
  - -5% west on Home Road
  - -31% east on Home Road
- 61% south on Steitz Road
  - -14% west on Rutherford Road
  - -47% east on Rutherford Road

Because of the connection to the subdivisions to the north, there is anticipated to be some interaction between the site and the adjacent subdivisions. Since access along Steitz Road will be evenly spaced, it is not anticipated that this would significantly affect the volumes in the study.

2027 ADJACENT PARCELS TRAFFIC

Per the MOU, an estimate of the traffic generated by the two undeveloped parcels (Parcel # 31924001049000 and Parcel #31924001049001) to the south need to be included in the background traffic. The two parcels are a total of 25 acres.

The Shelly and Smith Properties are a total of 109.42 acres. Table 3 shows the trip generation calculations for the adjacent area based on the trips per acre of the Shelly and Smith Properties. The trips generated were assigned to the network with the same distribution as the site traffic. Approximately two thirds of the traffic was assumed to use a potential access on Steitz Road.

Traffic Study Subarea	Land Use	Time of Day	Data Set from: *Trip Generation Manual, 9th Edition* (Unless noted Otherwise)	Overide with Average	Regression Equation from: *Trip Generation Manual 9th Edition*	Total Trips	Entering		Exiting	
							%	Total Trips	%	Total Trips
Shelly Prop.	Single-Family Detached Housing (Based on 183 Dwelling Units) (Non ITE Source)	Daily	Weekday	☐	Average Rate= 10.01	721	50%	361	50%	360
		AM Peak	Peak Hour of Adj. Street Traffic, One Hour between 7 & 9 AM	☐	Average Rate= 0.75	54	25%	14	75%	40
	Ind. Variable (X) = 72 Each	PM Peak	Peak Hour of Adj. Street Traffic, One Hour between 4 & 6 PM	☐	Average Rate= 0.99	71	63%	45	37%	26
Smith Prop.	Single-Family Detached Housing (Based on 183 Dwelling Units) (Non ITE Source)	Daily	Weekday	☐	Average Rate= 10.01	1111	50%	556	50%	555
		AM Peak	Peak Hour of Adj. Street Traffic, One Hour between 7 & 9 AM	☐	Average Rate= 0.75	84	25%	21	75%	63
	Ind. Variable (X) = 111 Each	PM Peak	Peak Hour of Adj. Street Traffic, One Hour between 4 & 6 PM	☐	Average Rate= 0.99	110	63%	69	37%	41
TOTALS		**Daily**		☐		**1832**		**917**		**915**
		AM Peak				**138**		**35**		**103**
		PM Peak				**181**		**114**		**67**

Shelly-Smith Properties Traffic Impact Study - 12/2016

TABLE 2 - SITE TRIP GENERATION SUMMARY

SMART SERVICES, INC.

Traffic Study Subarea	Land Use	Time of Day	Data Set from: *Trip Generation Manual, 9th Edition* (Unless noted Otherwise)	Regression Equation from: *Trip Generation Manual 9th Edition*	Total Trips	Entering		Exiting	
						%	Total Trips	%	Total Trips
Adj Property	Single-Family Detached Housing (Based on Shelly-Smith Trips/Acre) (Non ITE Source)	Daily	Weekday	Average Rate= 16.74	419	50%	210	50%	209
		AM Peak	Peak Hour of Adj. Street Traffic, One Hour between 7 & 9 AM	Average Rate= 1.26	32	25%	8	75%	24
	Ind. Variable (X) = 25.0 Acres	PM Peak	Peak Hour of Adj. Street Traffic, One Hour between 4 & 6 PM	Average Rate= 1.65	41	63%	26	37%	15

Shelly-Smith Properties Traffic Impact Study - 12/2016

TABLE 3 - ADJACENT PROPERTY SITE TRIP GENERATION SUMMARY

SMART SERVICES, INC.

2017 AND 2027 TRAFFIC

A 10-year horizon is required for the traffic study. Opening day is assumed to occur in 2017, therefore the design year is 2027. The DCEO provided Design Designation Data to compute growth rates on Home Road which is as follows:

DESIGN DESIGNATION - T.R. 125

CURRENT ADT (2015)	1890
DESIGN YEAR ADT (2035L	4470
DESIGN HOURLY VOLUME (2035L	715
DIRECTIONAL DISTRIBUTION	45%
TRUCKS (24 HOUR B&C)	2%
DESIGN SPEED	55
LEGAL SPEED	55
DESIGN FUNCTIONAL CLASSIFICATION:	
URBAN COLLECTOR	
NHS PROJECT	NO

The Mid-Ohio Regional Planning Commission (MORPC) provided linear annual growth rates on all legs of the Rutherford Road & Steitz Road intersection for use in the study. The correspondence from MORPC is in the Appendix. Table 4 shows the growth rate and corresponding factors applied to the 2013 counts. Table 5 shows the growth rate and corresponding factors applied to the 2016 counts.

Segment	Linear Annual Growth Rate	2013 to 2017 Factor	2013 to 2027 Factor
Home Road	6.83%	1.273	1.956
Steitz Road	*2.30%	1.092	1.322

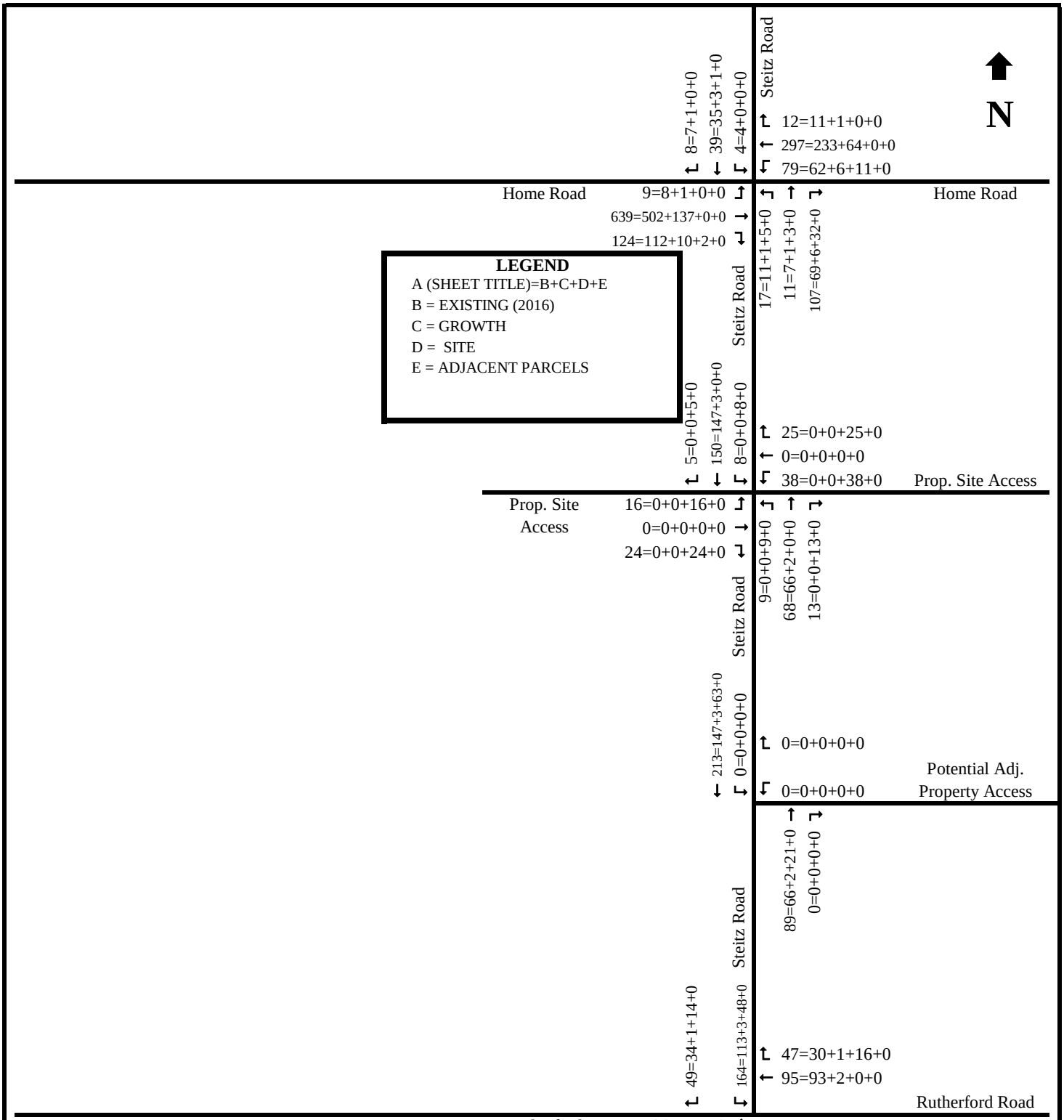
*=Based on growth rate north of Rutherford Road

TABLE 4 – 2013 Based Growth Factor Summary

Segment	Linear Annual Growth Rate	2016 to 2017 Factor	2016 to 2027 Factor
Rutherford Rd east of Steitz Rd	2.60%	1.026	1.286
Steitz Rd north of Rutherford Rd	2.30%	1.023	1.253
Rutherford Rd west of Steitz Rd	3.00%	1.030	1.330

TABLE 5 – 2016 Based Growth Factor Summary

Figures 3 and 4 show the components of the 2017 traffic. Figures 5 and 6 show the components of the 2027 traffic. To assist with the review, exhibits showing the 2017 and 2027 'No Build' volumes have been provided in the Appendix.



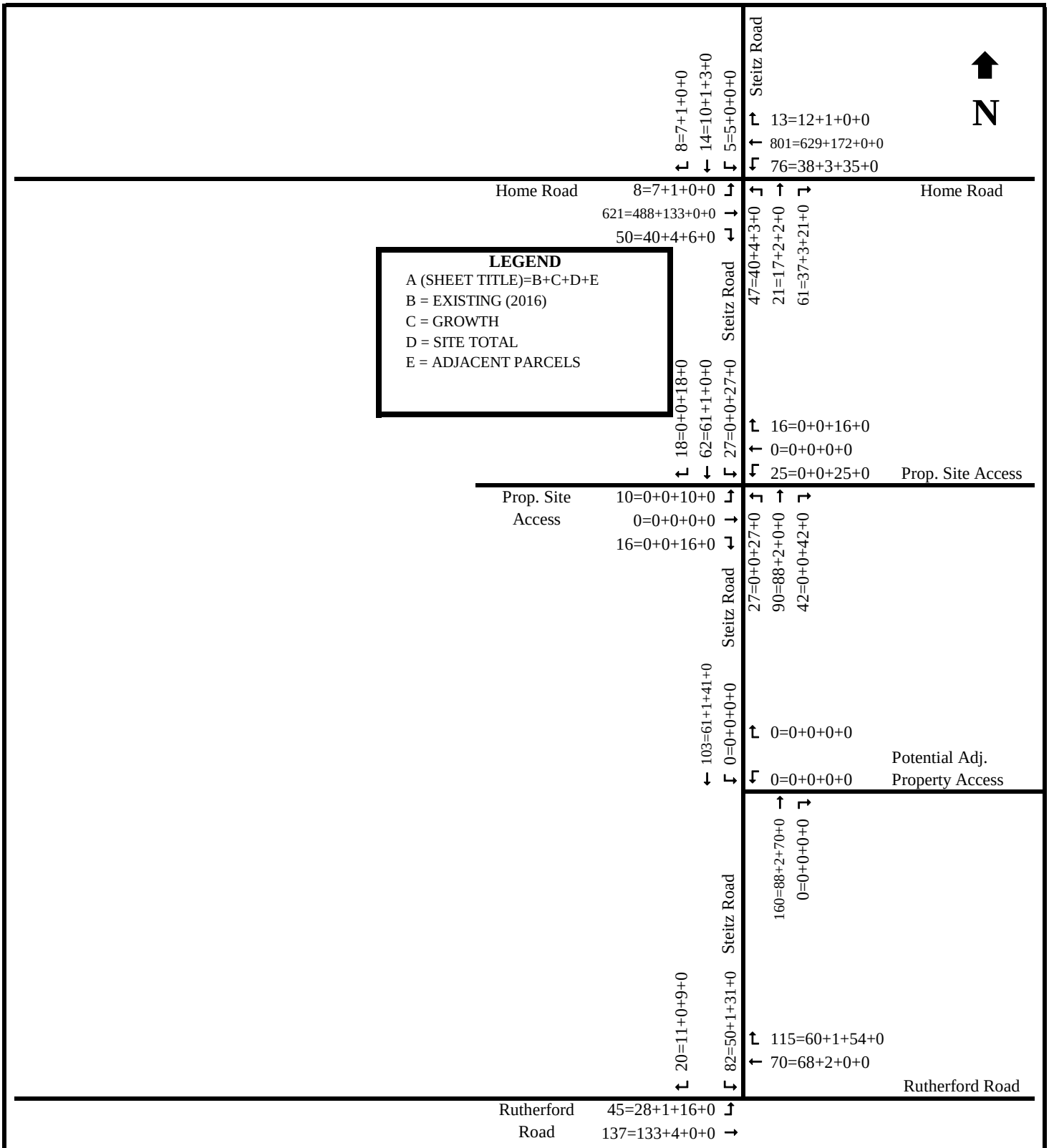
NOTE: Rounding as a result of software algorithms can result in one car discrepancies in the site traffic between intersections.

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

FIGURE 3

2017 'BUILD' - AM PEAK



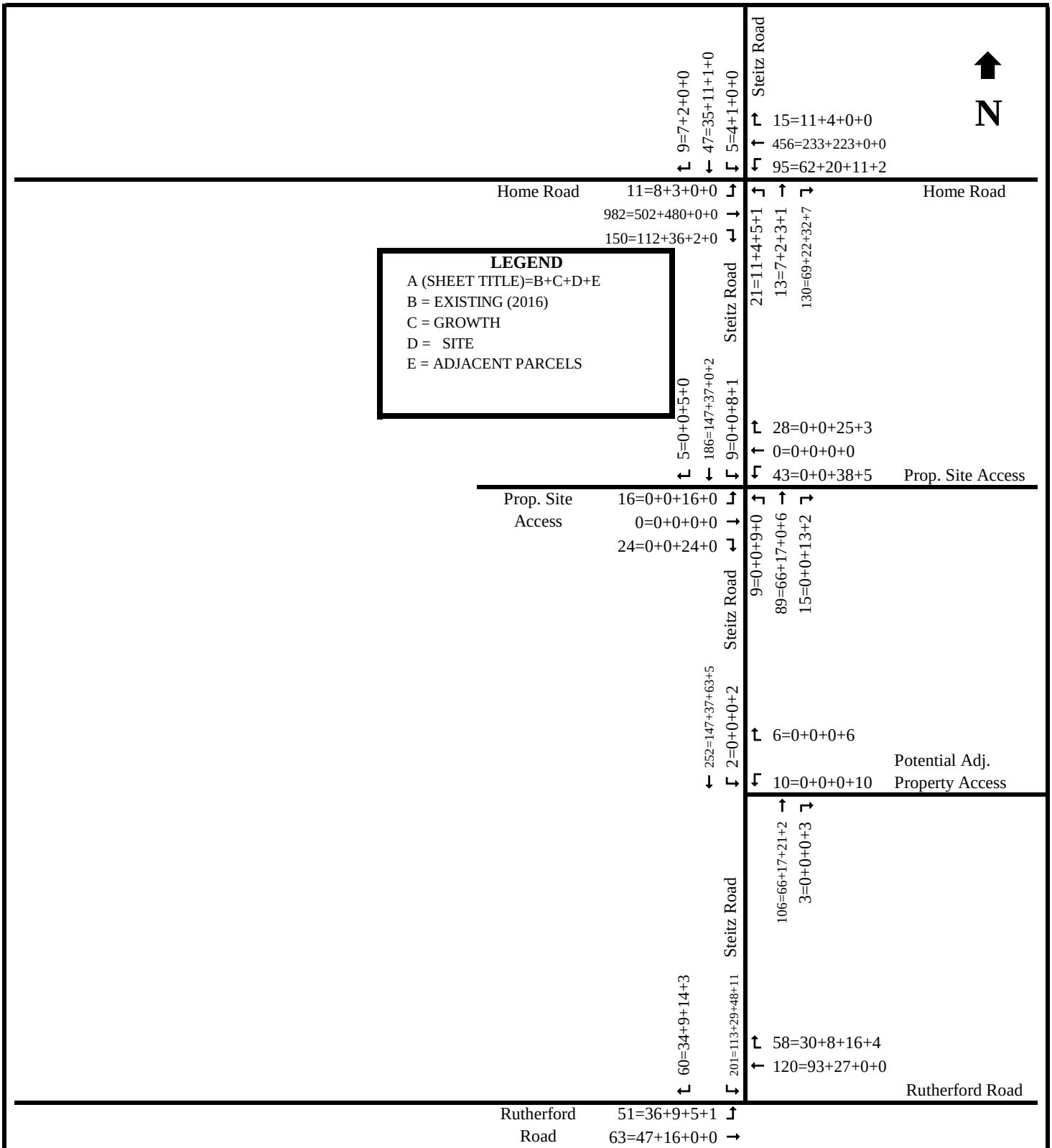
NOTE: Rounding as a result of software algorithms can result in one car discrepancies in the site traffic between intersections.

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

FIGURE 4

2017 'BUILD' - PM PEAK



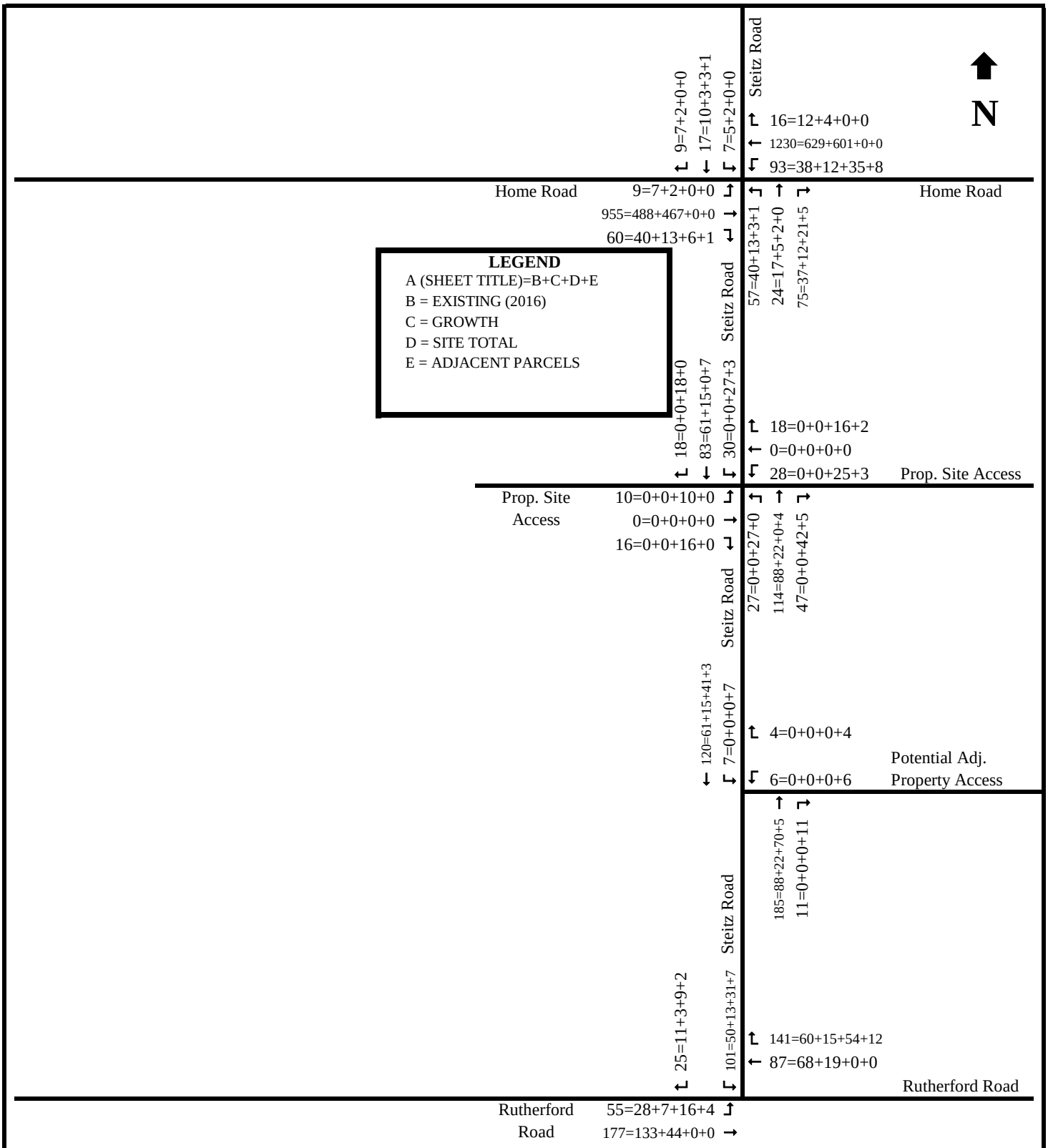
NOTE: Rounding as a result of software algorithms can result in one car discrepancies in the site traffic between intersections.

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

FIGURE 5

2027 'BUILD' - AM PEAK



NOTE: Rounding as a result of software algorithms can result in one car discrepancies in the site traffic between intersections.

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

FIGURE 6

2027 'BUILD' - PM PEAK

TRAFFIC ANALYSES

Signal Warrant Analysis

A signal warrant analysis was performed for the intersection of Rutherford Road & Steitz Road. There are a total of 9 warrants in the *Ohio Manual of Uniform Traffic Control Devices, 2012 Edition (OMUTCD)*. If any of these are met, a signal is "warranted." If a signal is warranted, it means it is above the minimum level that a signal is desirable and may or may not be recommended for installation. A listing of the 9 warrants follows:

- Warrant # 1 – Eight-Hour Vehicular Volume
- Warrant # 2 – Four-Hour Vehicular Volume
- Warrant # 3 – Peak Hour
- Warrant # 4 – Pedestrian Volume
- Warrant # 5 – School Crossing
- Warrant # 6 – Coordinated Signal System
- Warrant # 7 – Crash Experience
- Warrant # 8 – Roadway Network
- Warrant # 9 – Intersection near a Grade Crossing

For the vehicular volume based warrants, the *OMUTCD* specifies two levels of volume criteria depending on the 85th percentile speed and the population of the municipality. The volumes necessary are lower for speeds greater than 40 MPH or for communities with a population less than 10,000. For the higher speed or lower population criteria, traffic volumes required to meet the warrants are 70 percent of the volumes required for a lower speed or high population community. When speed data is not collected as part of the study, it is common practice to use the speed limit, which for Rutherford Road is 45 MPH.

For the analysis, daily distributions for the site had to be projected for use in the warrant analyses. For the residential distribution for both the site and the adjacent parcels considered in the study, the data was based on a count Smart Services, Inc. had on file. Supporting calculations of the daily distribution are in the Appendix.

The *OMUTCD* states under "guidance" that engineering judgment should be used to determine what portion of the right-turn vehicles from the minor street approach should be deducted in the analysis. The most conservative way to test the warrants is to not discount the right turn movements. If the signal warrants are met without the right turn discount, the effect of right turns would need to be considered in a final analysis.

The results showed that the Eight-Hour and Four-Hour signal warrants are not met in the 2027 'Build' condition so signal warrants would not be met in any of the conditions in the study. The warrant worksheets are in the Appendix. It is noted that the growth factors on Rutherford Road east and west of Steitz Road are different. To take the most conservative test of the signal warrants, the higher growth factor was applied to Rutherford Road.

Turn Lane Warrant Analysis

Left Turn Lanes – Because only a small portion of the Steitz Road right-of-way is currently in the City of Powell, the City has directed that the Delaware County Engineer's Office *TIS Standards* be used to assess the warrants. According to the *TIS Standards*, there are three criteria to examine in order to determine if left turn lanes are warranted at the site access. The first criterion is the procedure found in the *State Highway Access Management Manual* (*AMM*) published by ODOT. The second criterion is on roadways classified as Major or Minor Arterials with speeds greater than 40 MPH. The third criterion is on Major Collectors with speeds greater than 40 MPH and more than 10 left turning vehicles during the peak hour for full build-out of the development. For Steitz Road at the Prop. Site Access, criterion 3 would apply and be met in both the northbound and southbound direction. Table 6 shows a summary of the results of the left turn lane warrants. The graphs from the *AMM* is in the Appendix.

Right Turn Lanes - Per the *TIS Standards,* the procedure for determining whether a right turn lane is required is according to the procedures found in the *AMM.* Table 6 also shows a summary of the results of the right turn lane warrants. The graphs from the *AMM* are in the Appendix.

Intersection	Direction	Peak Hour	2017 'Build'	2027 'Build'
Steitz Road & Prop. Site Access	NB LT	AM Peak	Warrant Not Met	Warrant Not Met
		PM Peak	**Warranted (Criteria 3)**	**Warranted (Criteria 3)**
	SB LT	AM Peak	Warrant Not Met	Warrant Not Met
		PM Peak	**Warranted (Criteria 3)**	**Warranted (Criteria 3)**
	NB RT	AM Peak	Warrant Not Met	Warrant Not Met
		PM Peak	Warrant Not Met	Warrant Not Met
	SB RT	AM Peak	Warrant Not Met	Warrant Not Met
		PM Peak	Warrant Not Met	Warrant Not Met

TABLE 6 – Summary of Turn Lane Warrant Analyses

Signalized Capacity Analyses

Signalized capacity analyses were performed at the existing signalized intersection of Home Road & Steitz Road to determine if the existing signal timing needs to be adjusted and confirm that recent improvements will accommodate the site traffic. The analyses were performed using the computer software *Synchro 9*. In the analyses, delays are computed which correspond to a Level of Service (LOS) "A" through "F". In an urban area, Level of Service (LOS) "D" and above is generally considered an acceptable LOS. Since driver expectations are different for various types of traffic control, there are different LOS criteria for unsignalized intersections versus signalized intersections. LOS criteria for signalized intersections are shown in Table 7.

Level of Service	Delay Range (seconds/vehicle)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Source: *Highway Capacity Manual 2010*

TABLE 7 - Level of Service Criteria for Signalized Intersections

The following comprises the background of the signalized capacity analyses:

- *Synchro 9* was used to perform the analyses.
- The existing intersection peak hour factor was applied.
- The existing lane configuration and phasing were used in the analyses.
- Heavy vehicle percentage was assumed to be 2%.
- Signal splits were optimized at a minimum cycle of 80 seconds.

The results of the 2017 'Build' analysis show that the optimal signal timing is very close to the existing. The DCEO should ensure phase 1 has a sufficient split time. The results of the 2027 'Build' analysis show that the intersection and all approaches operate at LOS "C" or above. Therefore, the recent improvements at the intersection will also accommodate the site traffic. The detailed reports from *Synchro* are in the Appendix.

Turn Lane Length Analysis

Turn lane lengths for the warranted intersection's turn lanes were calculated. The calculations were performed per Section 400 of the *ODOT L&D Manual*. Per the comments in the MOU, the design speed on Steitz Road is 55 MPH. The results are shown in the Conclusions section. The calculations are in the Appendix.

Intersection Sight Distance

The site engineer, Civil & Environmental Consultants, Inc., provided sight distance exhibits for the site access on Steitz Road and the intersection of Rutherford Road & Steitz Road. The exhibits are in the Appendix.

CONCLUSIONS

2017 and 2027 'No Build' and 'Build' volumes were developed for use in signal warrant, turn lane warrant, and signalized capacity analyses. The following is a summary of the conclusions for each analysis condition:

2017 'No Build'

- Rutherford Road & Steitz Road
  - A traffic signal is not warranted.

2017 'Build'

- Home Road & Steitz Road
  - The optimal signal timing is very close to the existing signal timing. The DCEO should ensure phase 1 (WBLT) has a sufficient split time.

- Steitz Road & Prop. Site Access
  - A northbound left turn lane is warranted on Steitz Road. The length of the lane would be 285 feet which includes the 50' diverging taper.
  - A southbound left turn lane is warranted on Steitz Road. The length of the lane would be 285 feet which includes the 50' diverging taper.
  - A northbound right turn lane is not warranted.
  - A southbound right turn lane is not warranted.

- Rutherford Road & Steitz Road
  - A traffic signal is not warranted.

2027 'No Build'

- Rutherford Road & Steitz Road
  - A traffic signal is not warranted.

2027 'Build'

- Home Road & Steitz Road
  - The intersection and all approaches operate at LOS "C" or above. Therefore, the recent improvements at the intersection will also accommodate the site traffic.

- Steitz Road & Prop. Site Access
  - An northbound left turn lane is warranted on Steitz Road. The length of the lane would be 285 feet which includes the 50' diverging taper.
  - An southbound left turn lane is warranted on Steitz Road. The length of the lane would be 285 feet which includes the 50' diverging taper.
  - A northbound right turn lane is not warranted.
  - A southbound right turn lane is not warranted.

- Rutherford Road & Steitz Road
  - A traffic signal is not warranted.

APPENDIX

SMART SERVICES, INC.
Surveying • Environmental • Traffic • CA/CM
An Ohio EDGE Certified Firm

11/7/16 - MAL

November 1, 2016

include Site PLAN

Mr. Chris Huber, PE
City of Powell
47 Hall Street
Powell, OH 43065

Re: Shelly-Smith Properties Traffic Impact Study MOU
City of Powell, Delaware County, Ohio

Please consider this letter as a Memo of Understanding (MOU) for the subject Traffic Impact Study. The site is proposed to be developed with 183 single family lots 72 of which will be an "empty nester" product. The site is located on both sides of Steitz Road just south of Hunters Bend between Home Road and Rutherford Road. One full access is proposed on Steitz Road for access both east and west of Steitz Road. There are also connections on the east to Hunters Bend to the north and a connection to a future development to the south. On the west, there is a connection to Wolf Path Drive to the north. The site is part of a planned annexation to the City of Powell. When the annexation occurs, the proposed access on Steitz Road will be in the City of Powell so the City of Powell is the permitting agency.

The City of Powell is requiring a Traffic Impact Study (TIS). The study area extends outside the City of Powell so the Delaware County Engineer's Office (DCEO) will also review the study. A TIS pre-meeting was held at the City of Powell on October 17, 2016 to discuss the specific requirements of the study. The scope is based on the following which is Smart Services' understanding of what will be required for this site and relevant follow up information:

- The study area is the proposed site accesses and the intersections of Home Road & Steitz Road and Rutherford Road & Steitz Road.
- Design speed is 55 mph
- Data Collection – The DCEO will provide design traffic at the intersection of Home Road & Steitz Road. A peak hour turning movement count will be performed at the intersection of Rutherford Road & Steitz Road. The DCEO had previously indicated that volumes on the Steitz Road leg can be transferred north and used as the basis of the through traffic in front of the site.

- Trip Generation - Site traffic will be computed using *Trip Generation Manual, 9th Edition* published by ITE. The relevant land uses will be "Single-Family Detached Housing" (ITE Code #210). It is noted that "Senior Adult Housing-Detached" (ITE Code #251) could represent the "empty nester" product. ~~but~~ the direction for this project was to use the most conservative trip generation which is "Single-Family Detached Housing" (ITE Code #210).

Since there are no restrictions

88 W. Church Street
Newark, Ohio 43055
740.345.4700

1900 Crown Park Court
Columbus, Ohio 43235
614.914.5543

- An estimate of the traffic generated by the undeveloped parcel~~s to the south~~ will be included in the background traffic. The ratio of trips generated for this site to the acreage will be applied to the acreage of the adjacent parcel~~s~~.

- Trip Distribution will be based on the *Home Road Site (S. of Home; W. of Steitz) Traffic Impact Study* prepared by Smart Services, Inc. and is proposed as follows:

  - 58% north on Steitz Road
    - -25% west on Home Road at Site Access
    - -33% east on Home Road at Site Access
  - 42% south on Steitz Road
    - -15% west on Rutherford Road
    - -27% east on Rutherford Road

- Design Year Traffic Development – A 10-year design horizon will be required. Growth rates will be developed based on the design traffic (to be provided by the DCEO) at the Home Road & Steitz Road intersection.

- Analyses
  - Left and right turn lane warrant analyses will be performed at the proposed site access on Steitz Road. Because only a small portion of the Steitz Road right-of-way is currently in the City of Powell, the City has directed that the DCEO *TIS Standards* be used to assess the warrants. The length of any warranted turn lanes will be calculated in the study.

  - A signalized capacity analysis will be performed at the intersection of Home Road & Steitz Road for the horizon year 'Build' condition which will consider the recent improvement by the DCEO. The purpose of this analysis is to confirm that the planned improvements are sufficient to accommodate the site traffic.

  - A signalized capacity analysis will be performed at the intersection of Home Road & Steitz Road for the opening day 'Build' condition which will evaluate existing signal timing. The purpose of this analysis is to confirm that the planned improvements are sufficient to accommodate the site traffic. The DCEO will provide the existing signal timing.

  - A signal warrant analysis will be performed at the intersection of Rutherford Road & Steitz Road.

  - An intersection sight distance assessment will be made at Rutherford Road & Steitz Road.

If this MOU is acceptable to you, please indicate your approval in the space provided below. If not, please let us know what items need to be changed. Thank you!

Sincerely,
SMART SERVICES, INC.

Todd J. Stanhope, PE, PTOE
Director of Traffic Engineering

Submitted: One electronic copy (PDF format) via e-mail

cc: M. Love – Delaware County Engineer's Office
M. Reeves - CEC, Inc.

City of Powell

Approved:_____ Date:_____

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Steitz_Rd_and_Rutherford_Rd_360029_10-20-2016
Site Code : 360029
Start Date : 10/20/2016
Page No : 1

Groups Printed- Cars - Trucks

	Steitz Rd Southbound			Rutherford Rd Westbound			Rutherford Rd Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
06:00 AM	5	0	5	5	1	6	2	1	3	14
06:15 AM	7	1	8	6	0	6	3	4	7	21
06:30 AM	7	3	10	8	1	9	1	7	8	27
06:45 AM	13	5	18	10	13	23	17	14	31	72
Total	32	9	41	29	15	44	23	26	49	134
07:00 AM	45	8	53	13	17	30	13	12	25	108
07:15 AM	26	10	36	23	4	27	7	12	19	82
07:30 AM	22	10	32	30	3	33	6	12	18	83
07:45 AM	20	6	26	27	6	33	10	11	21	80
Total	113	34	147	93	30	123	36	47	83	353
08:00 AM	24	12	36	22	7	29	2	15	17	82
08:15 AM	22	8	30	15	5	20	2	12	14	64
08:30 AM	26	3	29	21	7	28	5	17	22	79
08:45 AM	24	9	33	30	3	33	4	15	19	85
Total	96	32	128	88	22	110	13	59	72	310
09:00 AM	17	2	19	17	6	23	2	8	10	52
09:15 AM	7	5	12	10	7	17	1	15	16	45
09:30 AM	4	2	6	7	2	9	3	6	9	24
09:45 AM	8	3	11	7	9	16	4	7	11	38
Total	36	12	48	41	24	65	10	36	46	159
10:00 AM	5	1	6	9	3	12	0	15	15	33
10:15 AM	5	1	6	6	5	11	2	8	10	27
10:30 AM	8	1	9	3	7	10	4	6	10	29
10:45 AM	4	3	7	4	1	5	4	7	11	23
Total	22	6	28	22	16	38	10	36	46	112
11:00 AM	10	2	12	6	7	13	1	8	9	34
11:15 AM	10	1	11	10	3	13	2	4	6	30
11:30 AM	9	5	14	6	7	13	3	13	16	43
11:45 AM	7	4	11	9	5	14	5	5	10	35
Total	36	12	48	31	22	53	11	30	41	142
12:00 PM	7	5	12	7	3	10	0	13	13	35
12:15 PM	5	2	7	10	4	14	1	9	10	31
12:30 PM	3	3	6	10	10	20	1	4	5	31
12:45 PM	10	3	13	9	3	12	1	11	12	37
Total	25	13	38	36	20	56	3	37	40	134
01:00 PM	9	4	13	9	7	16	2	6	8	37
01:15 PM	9	1	10	12	3	15	4	5	9	34
01:30 PM	9	2	11	6	11	17	4	7	11	39
01:45 PM	16	9	25	11	13	24	2	10	12	61
Total	43	16	59	38	34	72	12	28	40	171
02:00 PM	8	4	12	9	9	18	0	5	5	35
02:15 PM	8	0	8	14	12	26	4	8	12	46
02:30 PM	21	5	26	5	6	11	1	17	18	55
02:45 PM	30	11	41	14	9	23	5	15	20	84
Total	67	20	87	42	36	78	10	45	55	220
03:00 PM	12	4	16	15	13	28	5	12	17	61

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Steitz_Rd_and_Rutherford_Rd_360029_10-20-2016
Site Code : 360029
Start Date : 10/20/2016
Page No : 2

Groups Printed- Cars - Trucks

	Steitz Rd Southbound			Rutherford Rd Westbound			Rutherford Rd Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
03:15 PM	13	5	18	10	10	20	5	20	25	63
03:30 PM	9	4	13	19	21	40	3	18	21	74
03:45 PM	13	2	15	13	21	34	5	21	26	75
Total	47	15	62	57	65	122	18	71	89	273
04:00 PM	6	2	8	18	16	34	8	25	33	75
04:15 PM	10	1	11	20	28	48	9	29	38	97
04:30 PM	18	1	19	15	12	27	4	36	40	86
04:45 PM	10	4	14	19	7	26	8	39	47	87
Total	44	8	52	72	63	135	29	129	158	345
05:00 PM	12	5	17	14	13	27	7	29	36	80
05:15 PM	14	5	19	20	9	29	6	37	43	91
05:30 PM	17	4	21	12	13	25	7	33	40	86
05:45 PM	17	5	22	12	9	21	6	35	41	84
Total	60	19	79	58	44	102	26	134	160	341
06:00 PM	10	5	15	14	12	26	6	17	23	64
06:15 PM	11	3	14	18	16	34	11	24	35	83
06:30 PM	11	4	15	10	13	23	2	21	23	61
06:45 PM	9	1	10	14	5	19	10	15	25	54
Total	41	13	54	56	46	102	29	77	106	262
07:00 PM	10	5	15	13	8	21	4	13	17	53
07:15 PM	7	5	12	9	8	17	5	8	13	42
07:30 PM	6	3	9	4	9	13	2	12	14	36
07:45 PM	1	2	3	8	4	12	2	11	13	28
Total	24	15	39	34	29	63	13	44	57	159
Grand Total	686	224	910	697	466	1163	243	799	1042	3115
Apprch %	75.4	24.6		59.9	40.1		23.3	76.7		
Total %	22	7.2	29.2	22.4	15	37.3	7.8	25.7	33.5	
Cars	678	218	896	675	459	1134	237	782	1019	3049
% Cars	98.8	97.3	98.5	96.8	98.5	97.5	97.5	97.9	97.8	97.9
Trucks	8	6	14	22	7	29	6	17	23	66
% Trucks	1.2	2.7	1.5	3.2	1.5	2.5	2.5	2.1	2.2	2.1

Smart Services, Inc.

88 W. Church Street
Newark, OH 43055
(740) 345-4700

File Name : Steitz_Rd_and_Rutherford_Rd_360029_10-20-2016
Site Code : 360029
Start Date : 10/20/2016
Page No : 3

	Steitz Rd Southbound			Rutherford Rd Westbound			Rutherford Rd Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	45	8	53	13	17	30	13	12	25	108
07:15 AM	26	10	36	23	4	27	7	12	19	82
07:30 AM	22	10	32	30	3	33	6	12	18	83
07:45 AM	20	6	26	27	6	33	10	11	21	80
Total Volume	113	34	147	93	30	123	36	47	83	353
% App. Total	76.9	23.1		75.6	24.4		43.4	56.6		
PHF	.628	.850	.693	.775	.441	.932	.692	.979	.830	.817
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 01:00 PM										
01:00 PM	9	4	13	9	7	16	2	6	8	37
01:15 PM	9	1	10	12	3	15	4	5	9	34
01:30 PM	9	2	11	6	11	17	4	7	11	39
01:45 PM	16	9	25	11	13	24	2	10	12	61
Total Volume	43	16	59	38	34	72	12	28	40	171
% App. Total	72.9	27.1		52.8	47.2		30	70		
PHF	.672	.444	.590	.792	.654	.750	.750	.700	.833	.701
Peak Hour Analysis From 02:00 PM to 07:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	10	1	11	20	28	48	9	29	38	97
04:30 PM	18	1	19	15	12	27	4	36	40	86
04:45 PM	10	4	14	19	7	26	8	39	47	87
05:00 PM	12	5	17	14	13	27	7	29	36	80
Total Volume	50	11	61	68	60	128	28	133	161	350
% App. Total	82	18		53.1	46.9		17.4	82.6		
PHF	.694	.550	.803	.850	.536	.667	.778	.853	.856	.902

CM Transportation

7007 Discovery Blvd.
Dublin, OH 43017

File Name : 10302013 Home and Steitz AM Peak
Site Code :
Start Date : 10/30/2013
Page No : 1

Groups Printed- Cars - Trucks

	Steitz From North				Home From East				Steitz From South				Home From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:30 AM	1	2	2	5	1	12	0	13	2	1	2	5	0	77	3	80	103
06:45 AM	1	4	1	6	2	30	3	35	0	3	11	14	1	102	18	121	176
Total	2	6	3	11	3	42	3	48	2	4	13	19	1	179	21	201	279
07:00 AM	0	9	0	9	25	52	5	82	2	1	30	33	0	139	19	158	282
07:15 AM	1	6	5	12	20	66	4	90	2	0	8	10	3	119	18	140	252
07:30 AM	2	12	2	16	9	59	0	68	3	4	3	10	3	133	46	182	276
07:45 AM	1	8	0	9	8	56	2	66	4	2	28	34	2	111	29	142	251
Total	4	35	7	46	62	233	11	306	11	7	69	87	8	502	112	622	1061
08:00 AM	0	4	1	5	5	56	1	62	4	2	6	12	1	82	32	115	194
08:15 AM	0	4	2	6	3	41	2	46	5	1	6	12	2	89	24	115	179
Grand Total	6	49	13	68	73	372	17	462	22	14	94	130	12	852	189	1053	1713
Apprch %	8.8	72.1	19.1		15.8	80.5	3.7		16.9	10.8	72.3		1.1	80.9	17.9		
Total %	0.4	2.9	0.8	4	4.3	21.7	1	27	1.3	0.8	5.5	7.6	0.7	49.7	11	61.5	
Cars	6	49	11	66	73	354	17	444	22	14	94	130	12	838	189	1039	1679
% Cars	100	100	84.6	97.1	100	95.2	100	96.1	100	100	100	100	100	98.4	100	98.7	98
Trucks	0	0	2	2	0	18	0	18	0	0	0	0	0	14	0	14	34
% Trucks	0	0	15.4	2.9	0	4.8	0	3.9	0	0	0	0	0	1.6	0	1.3	2

	Steitz From North				Home From East				Steitz From South				Home From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	9	0	9	**25**	52	**5**	82	2	1	**30**	33	0	**139**	19	158	**282**
07:15 AM	1	6	**5**	12	20	**66**	4	**90**	2	0	8	10	**3**	119	18	140	252
07:30 AM	**2**	**12**	2	**16**	9	59	0	68	3	**4**	3	10	3	133	**46**	**182**	276
07:45 AM	1	8	0	9	8	56	2	66	**4**	2	28	**34**	2	111	29	142	251
Total Volume	4	35	7	46	62	233	11	306	11	7	69	87	8	502	112	622	1061
% App. Total	8.7	76.1	15.2		20.3	76.1	3.6		12.6	8	79.3		1.3	80.7	18		
PHF	.500	.729	.350	.719	.620	.883	.550	.850	.688	.438	.575	.640	.667	.903	.609	.854	.941

CM Transportation

7007 Discovery Blvd.
Dublin, OH 43017

File Name : 11072013 Home and Steitz PM Peak
Site Code :
Start Date : 11/7/2013
Page No : 1

Groups Printed- Cars - Trucks

	Steitz From North				Home From East				Steitz From South				Home From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	2	2	111	1	114	9	7	0	16	6	74	12	92	224
04:15 PM	0	0	1	1	1	121	2	124	11	2	4	17	2	97	5	104	246
04:30 PM	0	3	0	3	3	112	4	119	9	8	2	19	3	91	8	102	243
04:45 PM	3	2	0	5	1	105	3	109	12	4	12	28	1	126	6	133	275
Total	3	6	2	11	7	449	10	466	41	21	18	80	12	388	31	431	988
05:00 PM	3	2	1	6	6	128	3	137	12	3	15	30	1	105	8	114	287
05:15 PM	2	4	0	6	11	164	3	178	9	3	12	24	1	123	8	132	340
05:30 PM	0	3	3	6	12	149	3	164	8	5	11	24	2	138	9	149	343
05:45 PM	3	1	2	6	6	159	3	168	13	6	7	26	2	126	10	138	338
Total	8	10	6	24	35	600	12	647	42	17	45	104	6	492	35	533	1308
06:00 PM	0	2	2	4	9	157	3	169	10	3	7	20	2	101	13	116	309
06:15 PM	0	1	0	1	5	106	4	115	4	3	9	16	1	91	12	104	236
Grand Total	11	19	10	40	56	1312	29	1397	97	44	79	220	21	1072	91	1184	2841
Apprch %	27.5	47.5	25		4	93.9	2.1		44.1	20	35.9		1.8	90.5	7.7		
Total %	0.4	0.7	0.4	1.4	2	46.2	1	49.2	3.4	1.5	2.8	7.7	0.7	37.7	3.2	41.7	
Cars	11	19	10	40	56	1311	28	1395	97	44	79	220	21	1071	91	1183	2838
% Cars	100	100	100	100	100	99.9	96.6	99.9	100	100	100	100	100	99.9	100	99.9	99.9
Trucks	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	3
% Trucks	0	0	0	0	0	0.1	3.4	0.1	0	0	0	0	0	0.1	0	0.1	0.1

	Steitz From North				Home From East				Steitz From South				Home From West				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	2	**4**	0	**6**	11	**164**	**3**	**178**	9	3	**12**	24	1	123	8	132	340
05:30 PM	0	3	**3**	6	**12**	149	3	164	8	5	11	24	**2**	**138**	9	**149**	**343**
05:45 PM	**3**	1	2	6	6	159	3	168	**13**	**6**	7	**26**	2	126	10	138	338
06:00 PM	0	2	2	4	9	157	3	169	10	3	7	20	2	101	**13**	116	309
Total Volume	5	10	7	22	38	629	12	679	40	17	37	94	7	488	40	535	1330
% App. Total	22.7	45.5	31.8		5.6	92.6	1.8		42.6	18.1	39.4		1.3	91.2	7.5		
PHF	.417	.625	.583	.917	.792	.959	1.00	.954	.769	.708	.771	.904	.875	.884	.769	.898	.969

Traffic Study Subarea	Land Use	Time of Day	Data Set from: *Trip Generation Manual, 9th Edition* (Unless noted Otherwise)	Regression Equation from: *Trip Generation Manual 9th Edition*	Total Trips	Entering		Exiting	
						%	Total Trips	%	Total Trips
23	Single-Family Detached Housing (ITE Code #210)	Daily	Weekday	ln(T)=0.92ln(X)+2.72	1831	50%	916	50%	915
		AM Peak	Peak Hour of Adj. Street Traffic, One Hour between 7 & 9 AM	T=0.70(X)+9.74	138	25%	35	75%	103
	Ind. Variable (X) = 183 Dwelling Units	PM Peak	Peak Hour of Adj. Street Traffic, One Hour between 4 & 6 PM	ln(T)=0.90ln(X)+0.51	181	63%	114	37%	67

Shelly-Smith Properties Traffic Impact Study - 12/2016

APPENDIX EXHIBIT - SITE TRIP GENERATION SUMMARY

SMART SERVICES, INC.

From: Hwashik Jang
To: Todd Stanhope
Cc: CHuber@cityofpowell.us; mlove@co.delaware.oh.us; Zhuojun Jiang; Nick Gill
Subject: RE: Steitz Road / Rutherford Road Growth Rate Request
Date: Tuesday, November 29, 2016 11:36:43 AM

Todd,

We have completed processing growth rates on the intersection of Steitz Rd and Rutherford Rd. Please use a linear annual growth rate as summarized in the following table below.

Location	**Linear Annual Growth Rate**
Rutherford Rd e/o Steitz Rd	2.60%
Steitz Rd n/o Rutherford Rd	2.30%
Rutherford Rd w/o Steitz Rd	3.00%

Note: This is planning level analysis based on MORPC regional travel demand model.

If you have any other questions, please let me know.

Thanks,

Hwashik

Hwashik Jang | hjang@morpc.org | MORPC
Tel 614.233.4145 | Fax 614.233.4245

From: Todd Stanhope [mailto:tstanhope@smartservices-inc.com]
Sent: Friday, November 04, 2016 4:37 PM
To: Zhuojun Jiang <zjiang@morpc.org>
Cc: Nick Gill <NGILL@morpc.org>; Hwashik Jang <hjang@morpc.org>; CHuber@cityofpowell.us; mlove@co.delaware.oh.us
Subject: Steitz Road / Rutherford Road Growth Rate Request

Zhuojun

We are performing a traffic study for the above site which is being annexed into the City of Powell. Please provide a growth rate for all legs of the Rutherford Road & Steitz Road intersection. Below is MORPC's requested information about the study.

1. Traffic Data upon which you would be applying these growth rates (preferably 24 hour counts). As part of the project, a 14-hour turning movement count was taken at the intersection of Rutherford Road & Steitz Road which is attached.
2. Open Year & Design Year, for this study: 2017 and 2027
3. Roadway network assumptions: Any roadway assumptions/changes in the vicinity, such as

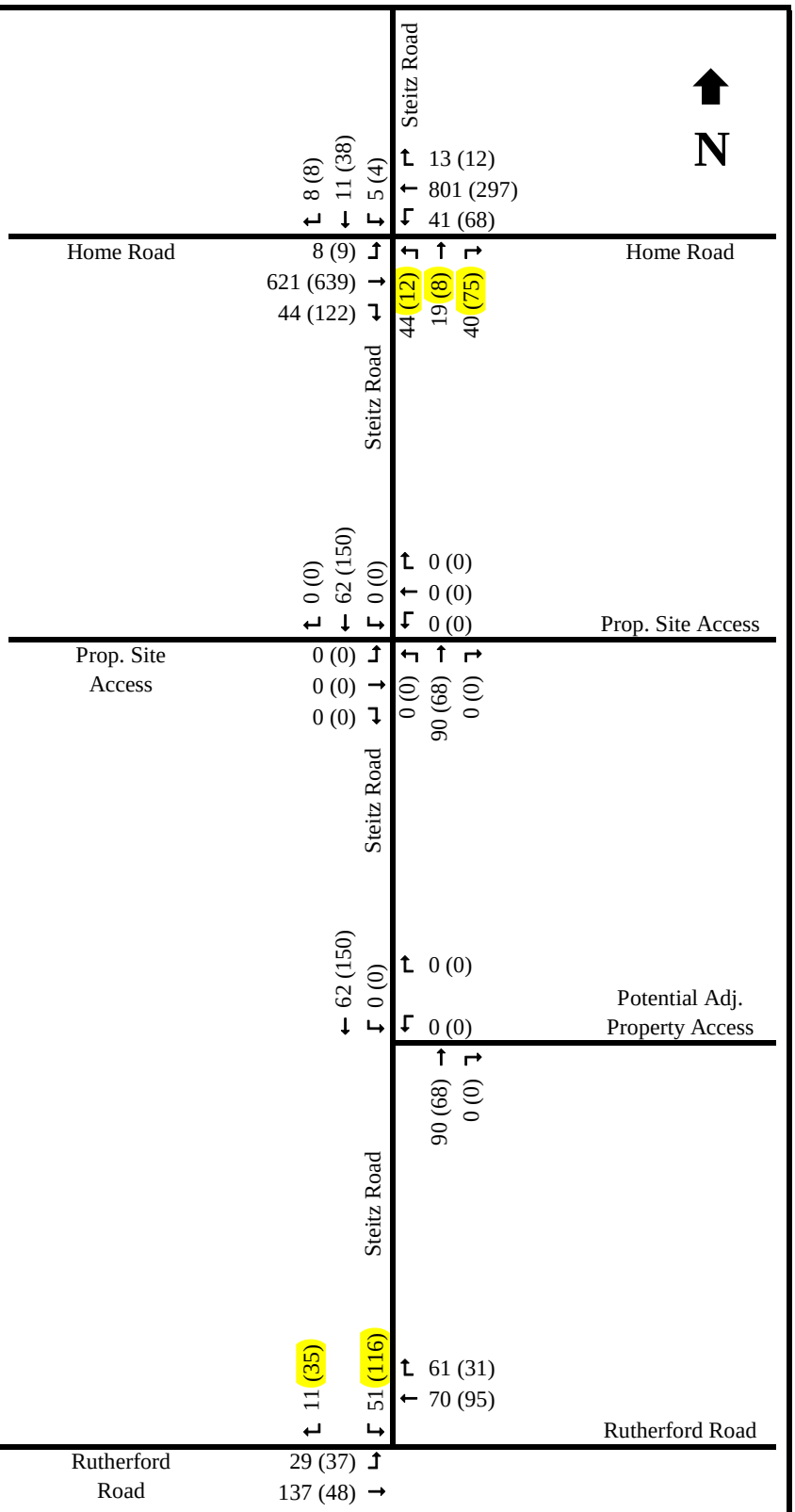
change in number of lanes or roadway alignments, etc: None anticipated

4. Land use assumptions: General info on proposed site location & development, such as: site map, Trip Generation (excel file, preferably). The site is located on both sides of Steitz Road just south of Hunters Bend. Trip generation for the 183 lots (72 of the lots are an "empty nester" product) will be calculated as part of the study and is not available at this time.
5. Project Review Contact Person: Chris Huber from the City of Powell and Mike Love from the Delaware County Engineer's Office will be reviewing the study. Their e-mail addresses are in the cc: line.

Todd J. Stanhope, PE, PTOE
Director of Traffic Engineering

***Smart Services, Inc.* (Columbus Office)**
*A **DBE / EDGE** Certified Business*

1900 Crown Park Court, Suite E
Columbus, Ohio 43235
Ph: 614-914-5543
www.SmartServices-Inc.com



AM Peak - Away from Site

NW: 12 (5%)
N: 8 (3%)
NE: 75 (31%)
SW: 35 (14%)
SE: 116 (47%)

Total: 246 (100%)

LEGEND

222 - PM PEAK Hour Turning Movement

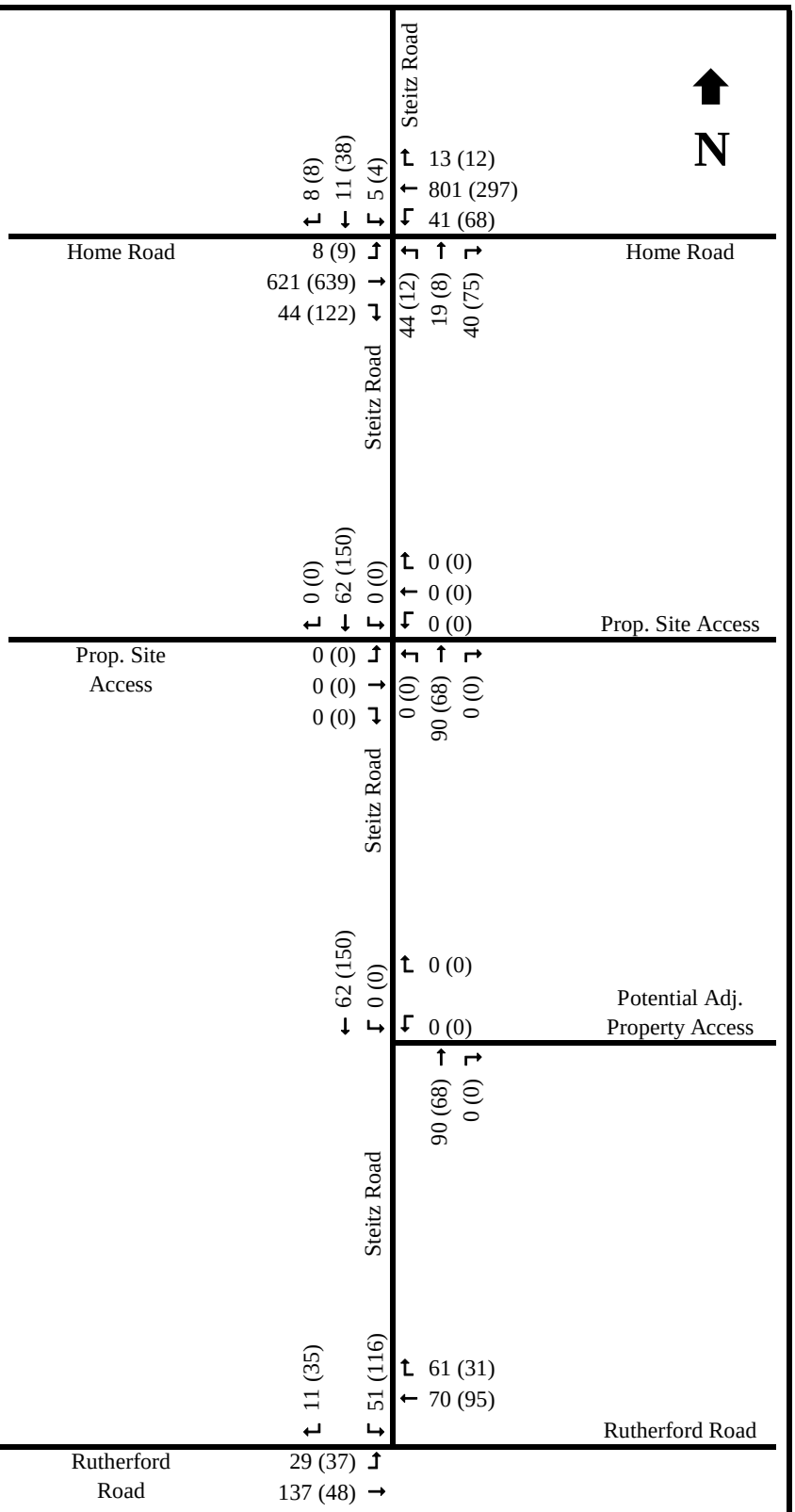
(222) - AM PEAK Hour Turning Movement

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

APPENDIX EXHIBIT

2017 'NO BUILD' TRAFFIC
Not Including Adjacent Property



LEGEND

222 - PM PEAK Hour Turning Movement

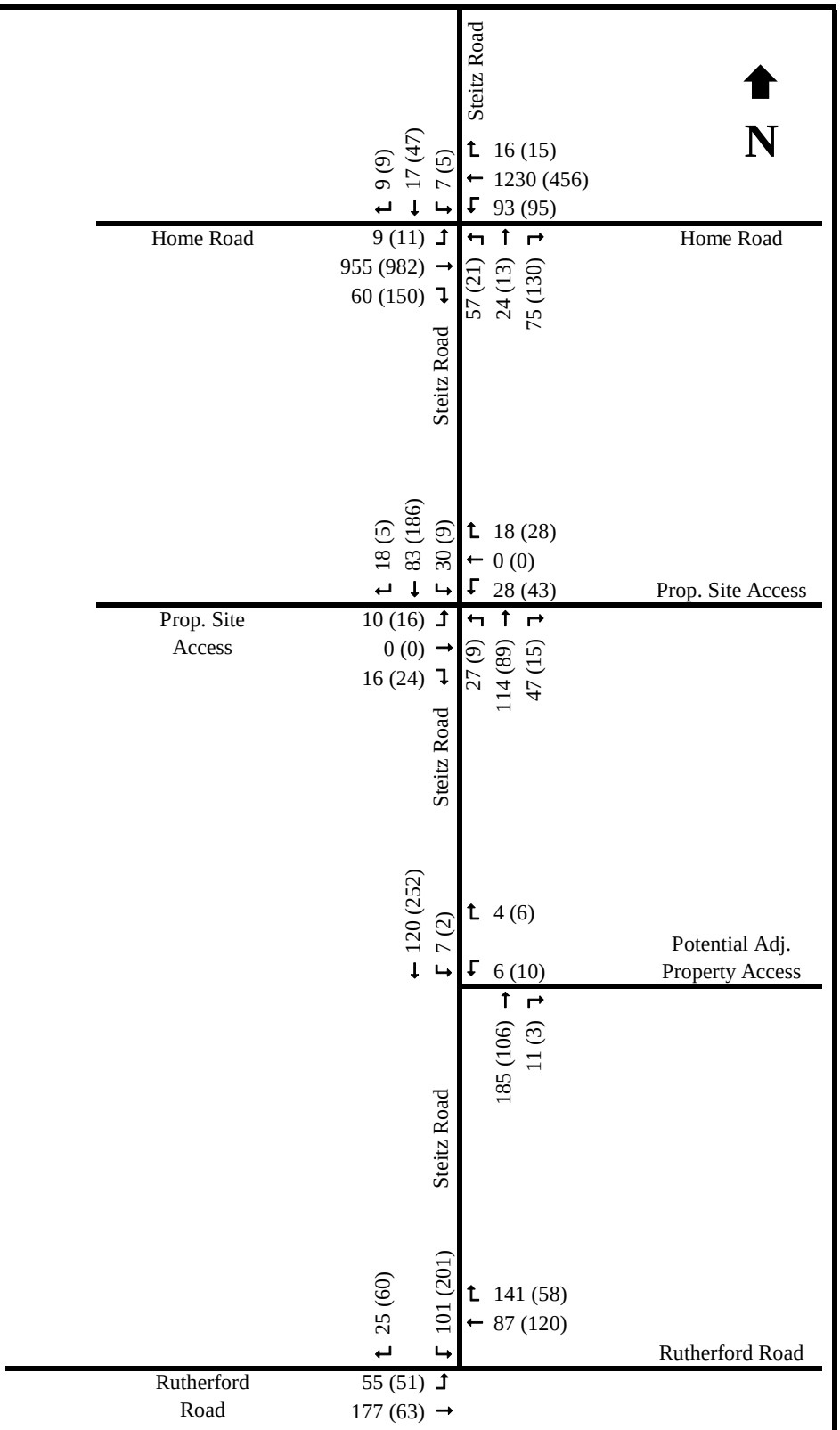
(222) - AM PEAK Hour Turning Movement

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

APPENDIX EXHIBIT

2017 'NO BUILD' TRAFFIC



LEGEND

222 - PM PEAK Hour Turning Movement

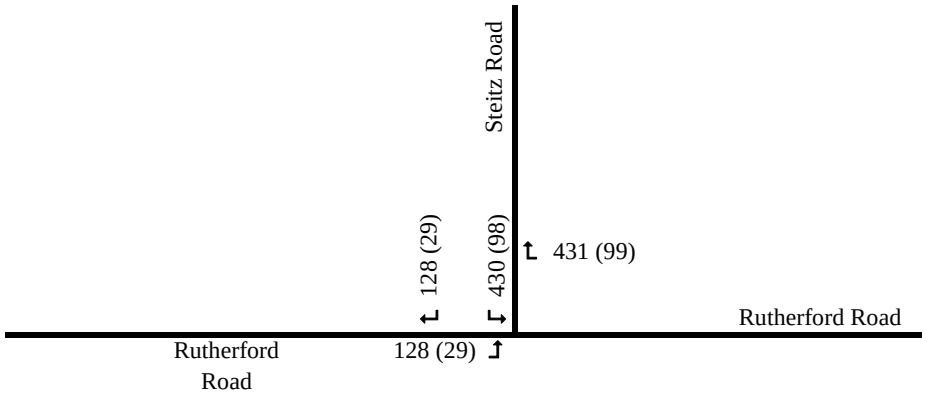
(222) - AM PEAK Hour Turning Movement

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

APPENDIX EXHIBIT

2027 'BUILD' TRAFFIC



LEGEND

222	-	SITE GENERATED TRAFFIC
(222)	-	ADJACENT PROPERTY SITE GENERATED TRAFFIC

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

PREPARED BY: SMART SERVICES, INC. 12/2016

APPENDIX EXHIBIT

SITE GENERATED TRAFFIC - DAILY

Time	Residential Source: *Locust Curve Drive - Delaware, Ohio*										TOTAL DAILY DISTRIBUTION			
	% of 24 Hour Entering (Weekday)	% of 24 Hour Exiting (Weekday)	Volume Entering (Weekday)				Volume Exiting (Weekday)				Volume			
			EB	WB	SB		EB	WB	SB		EB	WB	SB	
					LT	RT			LT	RT			LT	RT
			128	431	0	0	0	0	430	128	128	431	430	128
000	0.2%	0.1%	0	1	0	0	0	0	0	0	0	1	0	0
100	0.3%	0.0%	0	1	0	0	0	0	0	0	0	1	0	0
200	0.5%	0.1%	1	2	0	0	0	0	0	0	1	2	0	0
300	0.2%	0.1%	0	1	0	0	0	0	0	0	0	1	0	0
400	0.0%	0.3%	0	0	0	0	0	0	1	0	0	0	1	0
500	0.1%	1.5%	0	0	0	0	0	0	6	2	0	0	6	2
600	1.2%	5.7%	2	5	0	0	0	0	25	7	2	5	25	7
700	3.3%	13.5%	4	14	0	0	0	0	58	17	4	14	58	17
800	5.0%	9.5%	6	21	0	0	0	0	41	12	6	21	41	12
900	4.4%	6.4%	6	19	0	0	0	0	27	8	6	19	27	8
1000	4.6%	4.5%	6	20	0	0	0	0	19	6	6	20	19	6
1100	5.5%	5.2%	7	24	0	0	0	0	22	7	7	24	22	7
1200	5.4%	7.1%	7	23	0	0	0	0	30	9	7	23	30	9
1300	4.5%	4.6%	6	19	0	0	0	0	20	6	6	19	20	6
1400	5.3%	4.8%	7	23	0	0	0	0	21	6	7	23	21	6
1500	6.9%	4.9%	9	30	0	0	0	0	21	6	9	30	21	6
1600	7.4%	6.8%	10	32	0	0	0	0	29	9	10	32	29	9
1700	11.8%	6.7%	15	51	0	0	0	0	29	9	15	51	29	9
1800	8.7%	6.3%	11	37	0	0	0	0	27	8	11	37	27	8
1900	8.3%	4.8%	11	36	0	0	0	0	21	6	11	36	21	6
2000	7.9%	3.8%	10	34	0	0	0	0	16	5	10	34	16	5
2100	4.6%	2.0%	6	20	0	0	0	0	9	3	6	20	9	3
2200	2.8%	1.1%	4	12	0	0	0	0	5	1	4	12	5	1
2300	1.0%	0.1%	1	4	0	0	0	0	0	0	1	4	0	0
TOTAL	100.00%	100.0%	128	431	0	0	0	0	430	128	128	431	430	128

TABLE - Daily Site Traffic Distribution-Steitz Road & Rutherford Road (Ref. #4)

Time	Residential Source: *Locust Curve Drive - Delaware, Ohio*										TOTAL DAILY DISTRIBUTION			
	% of 24 Hour Entering (Weekday)	% of 24 Hour Exiting (Weekday)	Volume Entering (Weekday)				Volume Exiting (Weekday)				Volume			
			EB	WB	SB		EB	WB	SB		EB	WB	SB	
					LT	RT			LT	RT			LT	RT
			29	99	0	0	0	0	98	29	29	99	98	29
000	0.2%	0.1%	0	0	0	0	0	0	0	0	0	0	0	0
100	0.3%	0.0%	0	0	0	0	0	0	0	0	0	0	0	0
200	0.5%	0.1%	0	0	0	0	0	0	0	0	0	0	0	0
300	0.2%	0.1%	0	0	0	0	0	0	0	0	0	0	0	0
400	0.0%	0.3%	0	0	0	0	0	0	0	0	0	0	0	0
500	0.1%	1.5%	0	0	0	0	0	0	1	0	0	0	1	0
600	1.2%	5.7%	0	1	0	0	0	0	6	2	0	1	6	2
700	3.3%	13.5%	1	3	0	0	0	0	13	4	1	3	13	4
800	5.0%	9.5%	1	5	0	0	0	0	9	3	1	5	9	3
900	4.4%	6.4%	1	4	0	0	0	0	6	2	1	4	6	2
1000	4.6%	4.5%	1	5	0	0	0	0	4	1	1	5	4	1
1100	5.5%	5.2%	2	5	0	0	0	0	5	1	2	5	5	1
1200	5.4%	7.1%	2	5	0	0	0	0	7	2	2	5	7	2
1300	4.5%	4.6%	1	4	0	0	0	0	5	1	1	4	5	1
1400	5.3%	4.8%	2	5	0	0	0	0	5	1	2	5	5	1
1500	6.9%	4.9%	2	7	0	0	0	0	5	1	2	7	5	1
1600	7.4%	6.8%	2	7	0	0	0	0	7	2	2	7	7	2
1700	11.8%	6.7%	3	12	0	0	0	0	7	2	3	12	7	2
1800	8.7%	6.3%	3	9	0	0	0	0	6	2	3	9	6	2
1900	8.3%	4.8%	2	8	0	0	0	0	5	1	2	8	5	1
2000	7.9%	3.8%	2	8	0	0	0	0	4	1	2	8	4	1
2100	4.6%	2.0%	1	5	0	0	0	0	2	1	1	5	2	1
2200	2.8%	1.1%	1	3	0	0	0	0	1	0	1	3	1	0
2300	1.0%	0.1%	0	1	0	0	0	0	0	0	0	1	0	0
TOTAL	100.00%	100.0%	29	99	0	0	0	0	98	29	29	99	98	29

TABLE - Daily Site Traffic Distribution-Steitz Road & Rutherford Road (Ref. #5)

Adjacent Parcels

Signal Warrant #1 Worksheet (Ref. #4689)

Steitz Road & Rutherford Road

2027 'Build' Traffic

Speed Limit on Rutherford Road: 55 MPH (Community Population >10,000)

CONDITION	# OF LANES	RUTHERFORD ROAD											STEITZ ROAD							WARRANT #1 - CONDITION A				WARRANT #1 - CONDITION B			
		MAJOR STREET											MINOR STREET														
		Existing		Growth		Site		Adjacent Parcels Background		Total			Existing	Growth	Site	Adjacent Parcels Background	Right Turn Reduction	Total	MAX								
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	2-WAY	SB	SB	SB	SB	SB	SB	1-WAY	MAJOR		MINOR		MAJOR		MINOR	
																				100%	80%	100%	80%	100%	80%	100%	80%
Warrant	1																			500	400	150	120	750	600	75	60
Warrant	2																			600	480	200	160	900	720	100	80
70% Warrant	1											X							X	**350**	**280**	**105**	**84**	**525**	**420**	**53**	**42**
70% Warrant	2																			420	336	140	112	630	504	70	56
6-7 AM		49	44	16	15	2	5	0	1	67	65	**132**	41	10	32	7	0	91	**91**	NO	NO	NO	YES	NO	NO	YES	YES
7-8 AM		83	123	27	41	4	14	1	3	116	181	**296**	147	37	75	17	0	276	**276**	NO	YES	YES	YES	NO	NO	YES	YES
8-9 AM		72	110	24	36	6	21	1	5	104	173	**276**	128	32	53	12	0	226	**226**	NO	NO	YES	YES	NO	NO	YES	YES
9-10 AM		46	65	15	21	6	19	1	4	68	110	**178**	48	12	36	8	0	104	**104**	NO	NO	NO	YES	NO	NO	YES	YES
10-11 AM		46	38	15	13	6	20	1	5	68	75	**143**	28	7	25	6	0	66	**66**	NO	NO	NO	NO	NO	NO	YES	YES
11-12 Noon		41	53	14	17	7	24	2	5	63	100	**163**	48	12	29	7	0	95	**95**	NO	NO	NO	YES	NO	NO	YES	YES
12-1 PM		40	56	13	18	7	23	2	5	62	103	**165**	38	10	39	9	0	96	**96**	NO	NO	NO	YES	NO	NO	YES	YES
1-2 PM		40	72	13	24	6	19	1	4	60	120	**180**	59	15	26	6	0	105	**105**	NO	NO	YES	YES	NO	NO	YES	YES
2-3 PM		55	78	18	26	7	23	2	5	81	132	**213**	87	22	27	6	0	142	**142**	NO	NO	YES	YES	NO	NO	YES	YES
3-4 PM		89	122	29	40	9	30	2	7	129	199	**328**	62	16	28	6	0	111	**111**	NO	YES	YES	YES	NO	NO	YES	YES
4-5 PM		158	135	52	45	10	32	2	7	222	219	**441**	52	13	38	9	0	112	**112**	YES	YES	YES	YES	NO	YES	YES	YES
5-6 PM		160	102	53	34	15	51	3	12	231	198	**430**	79	20	38	9	0	145	**145**	YES	YES	YES	YES	NO	YES	YES	YES
6-7 PM		106	102	35	34	11	37	3	9	155	182	**336**	54	14	35	8	0	111	**111**	NO	YES	YES	YES	NO	NO	YES	YES
7-8 PM		57	63	19	21	11	36	2	8	89	128	**217**	39	10	27	6	0	82	**82**	NO	NO	NO	NO	NO	NO	YES	YES
																		WARRANT STATUS		**2 Hours Met (8 Required) CONDITION NOT MET**				**0 Hours Met (8 Required) CONDITION NOT MET**			

	WARRANT #1 - COMBINATION OF 80% CONDITION A & 80% CONDITION B
WARRANT STATUS	**2 Hours Met (8 Required) CONDITION NOT MET**

WARRANT #1 : NOT MET

NOTE(S)

Existing traffic component on Rutherford Road is based on count taken 10/20/2016.
Existing traffic component on Steitz Road is based on count taken 10/20/2016.

A growth factor of 1.33 was applied to the existing Rutherford Road counts.
A growth factor of 1.253 was applied to the existing Steitz Road counts.

Prepared By:

SMART SERVICES, INC.

12/2016

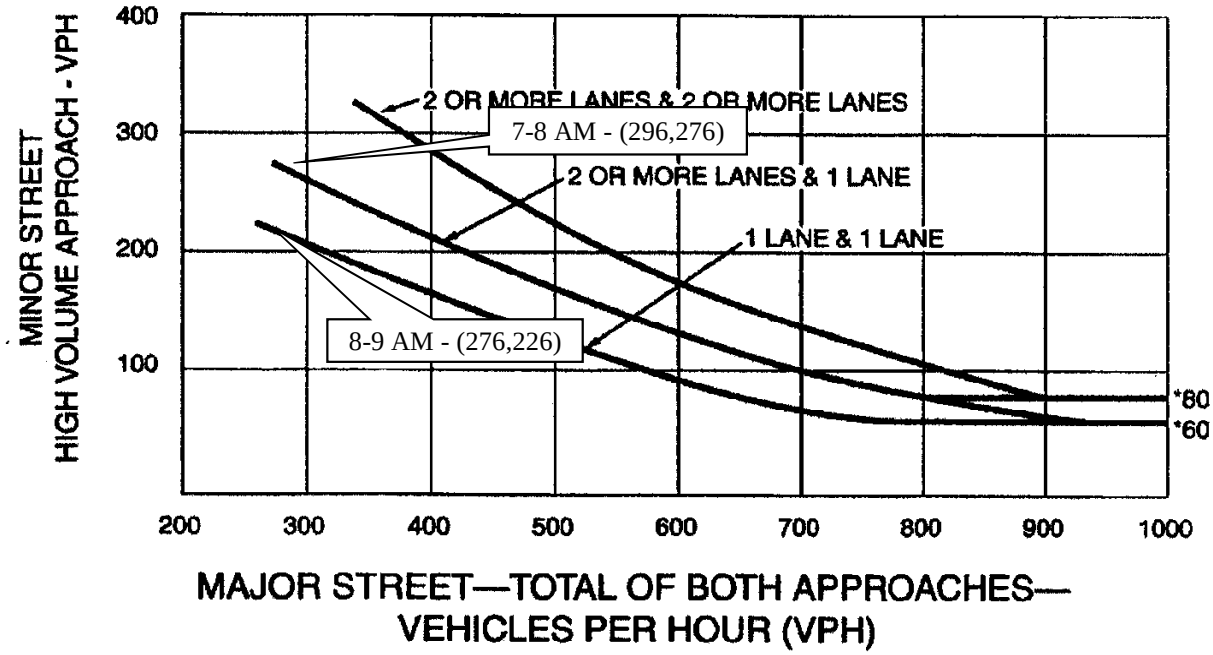
Appendix

Signal Warrant 2 (Ref. #4689)

Steitz Road & Rutherford Road
2027 'Build' Traffic

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



***Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.**

Lanes	Time	Major Street Volume (2-Way)	Minor Street Volume (1-Way)	Criteria Met in Hour	Warrant Result
1 Lane & 1 Lane	6-7 AM	132	91	NO	NOT MET
	7-8 AM	296	276	YES	
	8-9 AM	276	226	YES	
	9-10 AM	178	104	NO	
	10-11 AM	143	66	NO	
	11-12 Noon	163	95	NO	
	12-1 PM	165	96	NO	
	1-2 PM	180	105	NO	
	2-3 PM	213	142	NO	
	3-4 PM	328	111	NO	
	4-5 PM	441	112	NO	
	5-6 PM	430	145	NO	
	6-7 PM	336	111	NO	
	7-8 PM	217	82	NO	

NOTE(S)

Existing traffic component on Rutherford Road is based on count taken 10/20/2016.
Existing traffic component on Steitz Road is based on count taken 10/20/2016.

A growth factor of 1.33 was applied to the existing Rutherford Road counts.
A growth factor of 1.253 was applied to the existing Steitz Road counts.

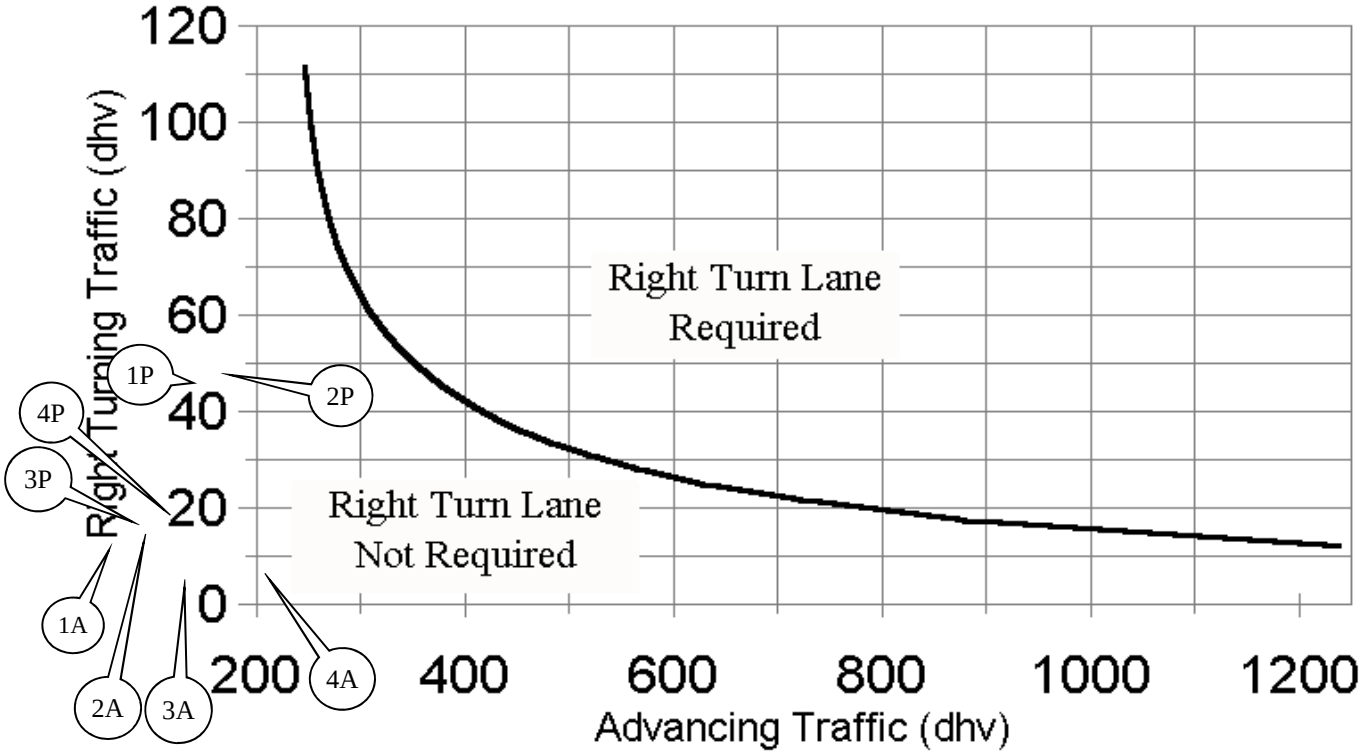
SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY
PREPARED BY: SMART SERVICES, INC. 12/2016

APPENDIX

FOUR HOUR SIGNAL WARRANT 70% FACTOR
(REF. #4689)

2-Lane Highway Right Turn Lane Warrant

> 40 mph or 70 kph Posted Speed



WARRANT SUMMARY

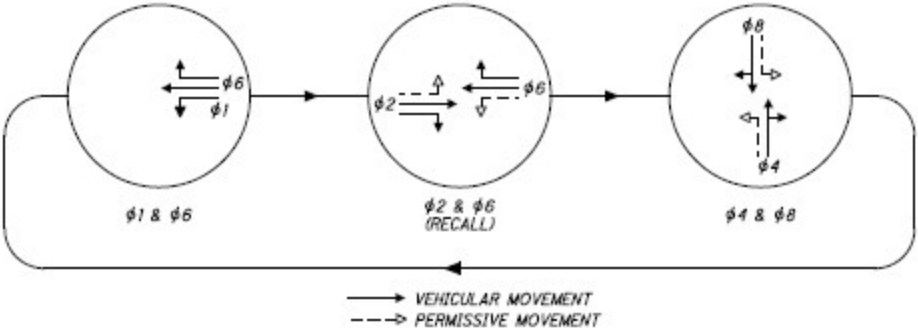
ID	INTERSECTION [MOVEMENT] - VOLUME SET	AM PEAK (A)	PM PEAK (P)		RESULT
1	Steitz Road & Prop. Site Access [NB RT] - 2017 'BUILD'	(90,13)	(159,42)		NOT MET
2	Steitz Road & Prop. Site Access [NB RT] - 2027 'BUILD'	(113,15)	(188,47)		NOT MET
3	Steitz Road & Prop. Site Access [SB RT] - 2017 'BUILD'	(163,5)	(107,18)		NOT MET
4	Steitz Road & Prop. Site Access [SB RT] - 2027 'BUILD'	(200,5)	(131,18)		NOT MET

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY
PREPARED BY: SMART SERVICES, INC. 12/2016

APPENDIX

2 LANE HIGHWAY RIGHT TURN LANE WARRANT (> 40 MPH)

PROPOSED PHASING DIAGRAM



SIGNAL CONTROLLER TIMING CHART
INTERSECTION: HOME ROAD AT STEITZ ROAD
MAINTAINING AGENCY: DELAWARE COUNTY

START UP

START IN: (X) Y/R FLASH OR ( ) ALL RED
TIME FOR FLASH OR ALL RED: 10 SEC.
FIRST PHASES: ϕ2 & ϕ6
COLOR DISPLAYED: (X) GREEN ( ) YELLOW

DUAL ENTRY (X)

REST IN RED: ( ) RING 1 ( ) RING 2

OVERLAP	A	B	C	D
PHASES				

PHASE		1	2	3	4	5	6	7	8
MOVEMENT		WBLT	EBT		NBT		WBT		SBT
MINIMUM GREEN (INITIAL)		7.0	30.0		10.0		30.0		10.0
ADDED INITIAL									
MAXIMUM INITIAL									
PASSAGE (PRESET GAP)		3.0	3.0		3.0		3.0		3.0
TIME BEFORE REDUCTION									
MINIMUM GAP									
TIME TO REDUCE									
MAX. GREEN I		10.0	50.0		17.0		60.0		17.0
MAX. GREEN II									
YELLOW CHANGE		3.0	4.0		4.0		4.0		4.0
ALL RED CLEARANCE		2.0	2.0		2.0		2.0		2.0
WALK									
PEDESTRIAN CLEARANCE									
RECALL	MAX/MIN/OFF	OFF	MIN		OFF		MIN		OFF
	PEDESTRIAN	OFF	OFF		OFF		OFF		OFF
MEMORY		OFF	OFF		OFF		OFF		OFF
CALL TO NON ACTUATED	NO. 1								
	NO. 2								

Timings
6343: Steitz Road & Home Road

11/30/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	639	124	79	297	12	17	11	107	4	39	8
Future Volume (vph)	9	639	124	79	297	12	17	11	107	4	39	8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Detector Phase	2	2	2	1	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	30.0	30.0	30.0	7.0	30.0	30.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	36.0	36.0	36.0	12.0	36.0	36.0	16.0	16.0		16.0	16.0	
Total Split (s)	52.0	52.0	52.0	12.0	64.0	64.0	16.0	16.0		16.0	16.0	
Total Split (%)	65.0%	65.0%	65.0%	15.0%	80.0%	80.0%	20.0%	20.0%		20.0%	20.0%	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None		None	None	
Act Effct Green (s)	39.7	39.7	39.7	48.4	48.9	48.9	10.2	10.2		10.2	10.2	
Actuated g/C Ratio	0.60	0.60	0.60	0.74	0.74	0.74	0.16	0.16		0.16	0.16	
v/c Ratio	0.02	0.60	0.13	0.18	0.23	0.01	0.09	0.36		0.02	0.17	
Control Delay	8.1	14.7	2.1	4.1	4.3	0.1	29.2	11.7		28.5	25.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.1	14.7	2.1	4.1	4.3	0.1	29.2	11.7		28.5	25.7	
LOS	A	B	A	A	A	A	C	B		C	C	
Approach Delay		12.6			4.2			13.9			25.9	
Approach LOS		B			A			B			C	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 65.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 10.8 — Intersection LOS: B
Intersection Capacity Utilization 73.3% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6343: Steitz Road & Home Road

Timings
6343: Steitz Road & Home Road

11/30/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	621	50	76	801	13	47	21	61	5	14	8
Future Volume (vph)	8	621	50	76	801	13	47	21	61	5	14	8
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Detector Phase	2	2	2	1	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	30.0	30.0	30.0	7.0	30.0	30.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	36.0	36.0	36.0	12.0	36.0	36.0	16.0	16.0		16.0	16.0	
Total Split (s)	52.0	52.0	52.0	12.0	64.0	64.0	16.0	16.0		16.0	16.0	
Total Split (%)	65.0%	65.0%	65.0%	15.0%	80.0%	80.0%	20.0%	20.0%		20.0%	20.0%	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None		None	None	
Act Effct Green (s)	38.1	38.1	38.1	46.8	47.3	47.3	10.2	10.2		10.2	10.2	
Actuated g/C Ratio	0.59	0.59	0.59	0.73	0.74	0.74	0.16	0.16		0.16	0.16	
v/c Ratio	0.02	0.58	0.05	0.16	0.60	0.01	0.22	0.27		0.02	0.08	
Control Delay	8.6	14.5	0.3	4.1	8.1	0.2	29.4	14.2		26.8	21.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.6	14.5	0.3	4.1	8.1	0.2	29.4	14.2		26.8	21.5	
LOS	A	B	A	A	A	A	C	B		C	C	
Approach Delay		13.4			7.7			19.7			22.5	
Approach LOS		B			A			B			C	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 64.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 11.0 — Intersection LOS: B
Intersection Capacity Utilization 82.4% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 6343: Steitz Road & Home Road

Timings
6343: Steitz Road & Home Road

11/30/2016

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	982	150	95	456	15	21	13	130	5	47	9
Future Volume (vph)	11	982	150	95	456	15	21	13	130	5	47	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Detector Phase	2	2	2	1	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	30.0	30.0	30.0	7.0	30.0	30.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	36.0	36.0	36.0	12.0	36.0	36.0	16.0	16.0		16.0	16.0	
Total Split (s)	52.0	52.0	52.0	12.0	64.0	64.0	16.0	16.0		16.0	16.0	
Total Split (%)	65.0%	65.0%	65.0%	15.0%	80.0%	80.0%	20.0%	20.0%		20.0%	20.0%	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None		None	None	
Act Effct Green (s)	45.5	45.5	45.5	55.8	54.7	54.7	10.1	10.1		10.1	10.1	
Actuated g/C Ratio	0.59	0.59	0.59	0.73	0.71	0.71	0.13	0.13		0.13	0.13	
v/c Ratio	0.02	0.95	0.16	0.40	0.37	0.01	0.13	0.46		0.03	0.24	
Control Delay	7.5	34.9	1.8	10.2	5.1	0.3	33.2	12.9		31.4	30.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	7.5	34.9	1.8	10.2	5.1	0.3	33.2	12.9		31.4	30.3	
LOS	A	C	A	B	A	A	C	B		C	C	
Approach Delay		30.3			5.8			15.5			30.4	
Approach LOS		C			A			B			C	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 76.9
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 21.9 — Intersection LOS: C
Intersection Capacity Utilization 80.4% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6343: Steitz Road & Home Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	955	60	93	1230	16	57	24	75	7	17	9
Future Volume (vph)	9	955	60	93	1230	16	57	24	75	7	17	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Detector Phase	2	2	2	1	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	30.0	30.0	30.0	7.0	30.0	30.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	36.0	36.0	36.0	12.0	36.0	36.0	16.0	16.0		16.0	16.0	
Total Split (s)	52.0	52.0	52.0	12.0	64.0	64.0	16.0	16.0		16.0	16.0	
Total Split (%)	65.0%	65.0%	65.0%	15.0%	80.0%	80.0%	20.0%	20.0%		20.0%	20.0%	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Recall Mode	Min	Min	Min	None	Min	Min	None	None		None	None	
Act Effct Green (s)	49.0	49.0	49.0	57.2	57.9	57.9	10.3	10.3		10.3	10.3	
Actuated g/C Ratio	0.66	0.66	0.66	0.77	0.78	0.78	0.14	0.14		0.14	0.14	
v/c Ratio	0.09	0.80	0.06	0.32	0.87	0.01	0.31	0.35		0.04	0.11	
Control Delay	10.3	21.2	0.6	5.8	18.2	0.3	36.9	16.1		31.6	24.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	10.3	21.2	0.6	5.8	18.2	0.3	36.9	16.1		31.6	24.9	
LOS	B	C	A	A	B	A	D	B		C	C	
Approach Delay		19.9			17.1			23.7			26.3	
Approach LOS		B			B			C			C	

Intersection Summary

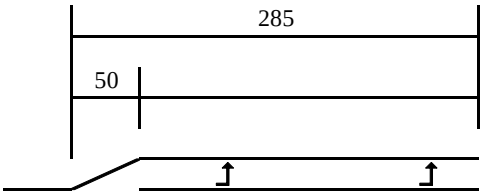
Cycle Length: 80
Actuated Cycle Length: 74.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 18.7 Intersection LOS: B
Intersection Capacity Utilization 97.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6343: Steitz Road & Home Road

(1) STEITZ ROAD & PROP. SITE ACCESS - NB LT - 2017 'BUILD'

Critical Analysis Period: PM PEAK

Type =	Unsignalized Through Road		Design Condition (Rev)=	B	
Speed =	55	MPH	Storage Length (Adj) =	NA	
Cycle Length =	60	seconds	Deceleration/Div. Taper =	285	feet
Turning Volume =	27	VPH	Turn Lane Length =	285	feet
# of Turning Lanes =	1				
Advancing Volume =	159	VPH			
Turning % (>10% HIGH) =	17.0%	HIGH			
Design Condition =	B or C				
Vehicles per Cycle =	0.5				
Storage Length (Calc) =	50	feet			

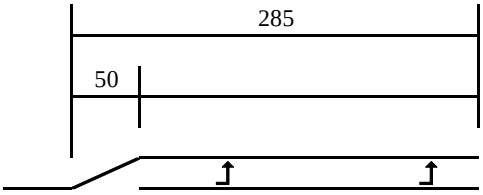


Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.

(2) STEITZ ROAD & PROP. SITE ACCESS - NB LT - 2027 'BUILD'

Critical Analysis Period: PM PEAK

Type =	Unsignalized Through Road		Design Condition (Rev)=	B	
Speed =	55	MPH	Storage Length (Adj) =	NA	
Cycle Length =	60	seconds	Deceleration/Div. Taper =	285	feet
Turning Volume =	27	VPH	Turn Lane Length =	285	feet
# of Turning Lanes =	1				
Advancing Volume =	188	VPH			
Turning % (>10% HIGH) =	14.4%	HIGH			
Design Condition =	B or C				
Vehicles per Cycle =	0.5				
Storage Length (Calc) =	50	feet			

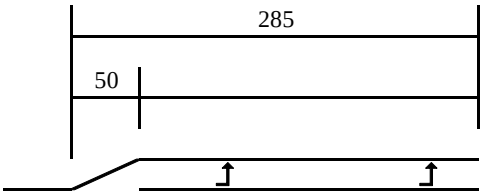


Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.

(3) STEITZ ROAD & PROP. SITE ACCESS - SB LT - 2017 'BUILD'

Critical Analysis Period: PM PEAK

Type =	Unsignalized Through Road		Design Condition (Rev)=	B	
Speed =	55	MPH	Storage Length (Adj) =	NA	
Cycle Length =	60	seconds	Deceleration/Div. Taper =	285	feet
Turning Volume =	27	VPH	Turn Lane Length =	285	feet
# of Turning Lanes =	1				
Advancing Volume =	107	VPH			
Turning % (>10% HIGH) =	25.2%	HIGH			
Design Condition =	B or C				
Vehicles per Cycle =	0.5				
Storage Length (Calc) =	50	feet			

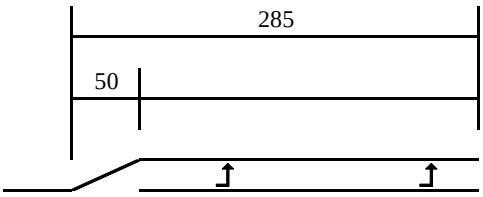


Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.

(4) STEITZ ROAD & PROP. SITE ACCESS - SB LT - 2027 'BUILD'

Critical Analysis Period: PM PEAK

Type =	Unsignalized Through Road		Design Condition (Rev)=	B	
Speed =	55	MPH	Storage Length (Adj) =	NA	
Cycle Length =	60	seconds	Deceleration/Div. Taper =	285	feet
Turning Volume =	30	VPH	Turn Lane Length =	285	feet
# of Turning Lanes =	1				
Advancing Volume =	131	VPH			
Turning % (>10% HIGH) =	22.9%	HIGH			
Design Condition =	B or C				
Vehicles per Cycle =	0.5				
Storage Length (Calc) =	50	feet			



Calculations based on 401-7E in ODOT L&D Manual. All dimensions are in feet.

SHELLY-SMITH PROPERTIES
TRAFFIC IMPACT STUDY

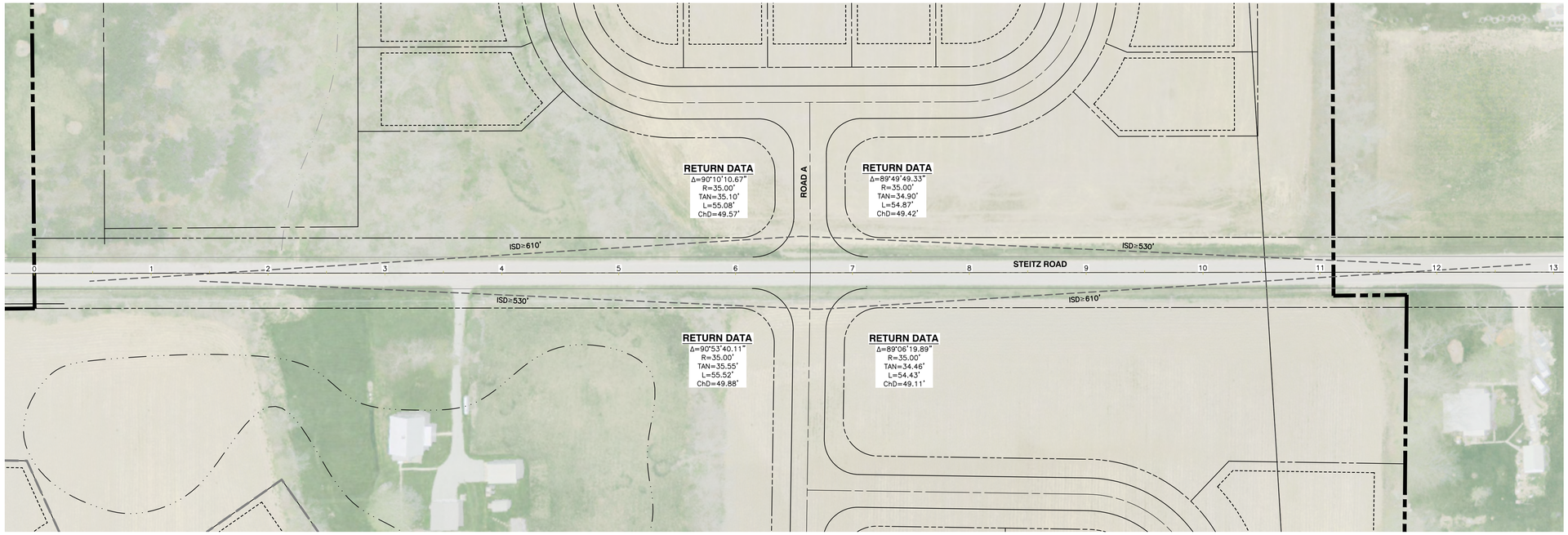
PREPARED BY: SMART SERVICES, INC. 12/2016

APPENDIX

LEFT TURN LANE CALCULATIONS

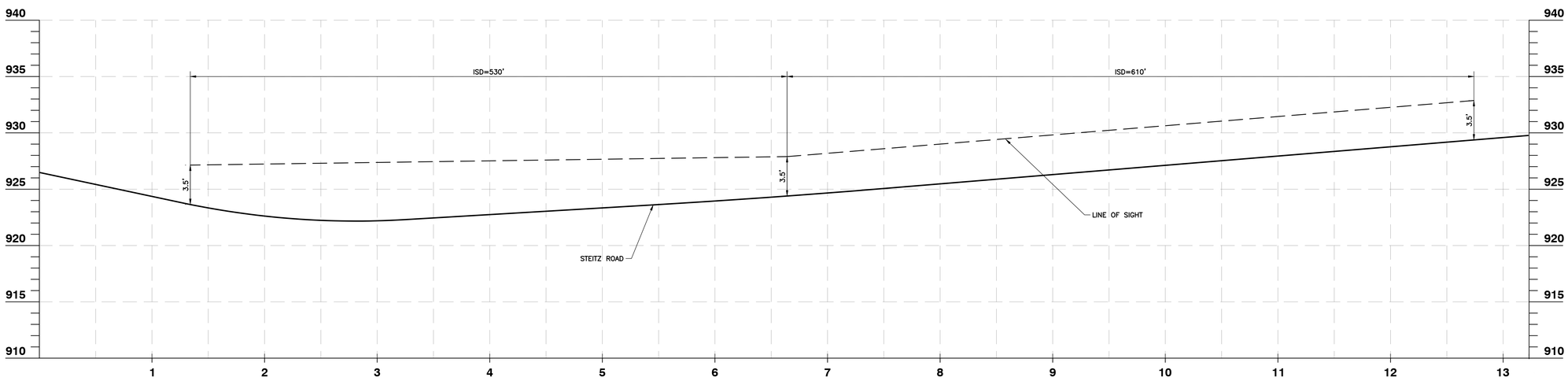
NORTH

SCALE IN FEET
0 50 100



INTERSECTION SIGHT DISTANCE FOR ROAD A & STEITZ ROAD

SCALE: 1"=50'



INTERSECTION SIGHT DISTANCE PROFILE FOR ROAD A & STEITZ ROAD

SCALE H:1"=50'; V:1"=5'

SCALE IN FEET
0 5 10
VERT SCALE: 1"=5'

SCALE IN FEET
0 50 100
HORIZ SCALE: 1"=50'

NOTES:

1. DESIGN SPEED: 55 MPH
   LEFT TURN INTERSECTION SIGHT DISTANCE: 610 FT.*
   RIGHT TURN INTERSECTION SIGHT DISTANCE: 530 FT.*

*PER ODOT LOCATION AND DESIGN MANUAL, VOL. 1, FIGURE 201-5E

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES
SMITH FIELDS
CITY OF POWELL
DELAWARE COUNTY, OHIO

SIGHT DISTANCE

DATE:	NOVEMBER 2016
DRAWN BY:	NSS
DWG SCALE:	AS NOTED
CHECKED BY:	MCR
PROJECT NO:	152-227
APPROVED BY:	*HAND SIGNATURE ON FILE *CLL

EXHIBIT: 1

SHEET 1 OF 1

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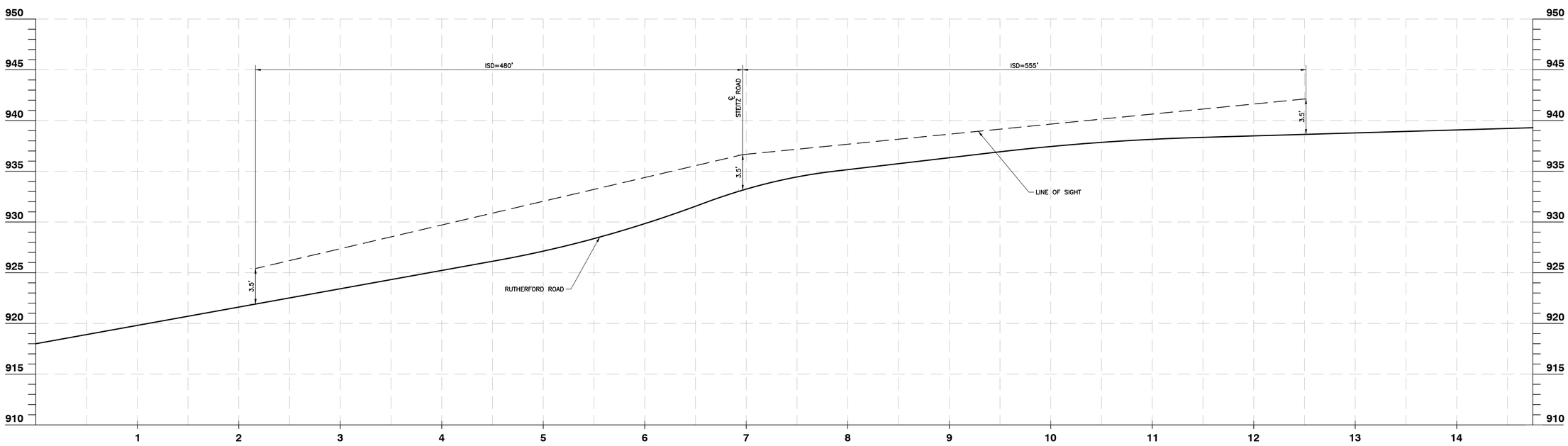
NORTH

SCALE IN FEET
0 50 100

INTERSECTION SIGHT DISTANCE FOR RUTHERFORD ROAD & STEITZ ROAD

SCALE: 1"=50'



INTERSECTION SIGHT DISTANCE PROFILE FOR RUTHERFORD ROAD & STEITZ ROAD

SCALE H:1"=50'; V:1"=5'

SCALE IN FEET
0 5 10
VERT SCALE: 1"=5'

SCALE IN FEET
0 50 100
HORIZ SCALE: 1"=50'

NOTES:

1. DESIGN SPEED: 50 MPH
   LEFT TURN INTERSECTION SIGHT DISTANCE: 555 FT.*
   RIGHT TURN INTERSECTION SIGHT DISTANCE: 480 FT.*

*PER ODOT LOCATION AND DESIGN MANUAL, VOL. 1, FIGURE 201-5E

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road · Suite 250 · Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES
SMITH FIELDS
CITY OF POWELL
DELAWARE COUNTY, OHIO

SIGHT DISTANCE

DATE:	NOVEMBER 2016
DRAWN BY:	NSS
CHECKED BY:	MCR
DWG SCALE:	
PROJECT NO:	152-227
APPROVED BY:	*HAND SIGNATURE ON FILE *CLL

EXHIBIT: 1

SHEET 1 OF 1

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SMART SERVICES, INC.
Surveying ◆ Environmental ◆ Traffic ◆ CA/CM
An Ohio DBE/EDGE Certified Firm

December 8, 2016

Mr. Chris Huber, PE
City of Powell
47 Hall Street
Powell, OH 43065

Re: Shelly-Smith Properties Traffic Impact Study
City of Powell, Delaware County, Ohio

Dear Chris:

With this letter, we are submitting two copies of the subject traffic impact study. We have already provided the PDF version of the study via e-mail.

If you have any questions, please contact me. Thank you!

Sincerely,

SMART SERVICES, INC.

Todd J. Stanhope, PE, PTOE
Director of Traffic Engineering

Submitted: Two copies of traffic access study

cc: M. Love – Delaware County Engineer's Office (1 copy)
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1900 Crown Park Court
Columbus, Ohio 43235
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Label	Common Name	Scientific Name	Condition	DBH (inches)	Multiple Trunk DBH (inches)
1	Black Cherry	Prunus serotina	Good	8	6.6
2	Green Ash	Fraxinus pennsylvanica	Good	8	
3	Red Maple	Acer rubrum	Good	29	
4	Green Ash	Fraxinus pennsylvanica	Good	8	
5	Green Ash	Fraxinus pennsylvanica	Good	9	
6	Green Ash	Fraxinus pennsylvanica	Good	12	11
7	Pin Oak	Quercus palustris	Good	17	
8	Black Cherry	Prunus serotina	Good	9	
9	Green Ash	Fraxinus pennsylvanica	Good	9	
10	Pin Oak	Quercus palustris	Good	6	
11	Pin Oak	Quercus palustris	Good	6	
12	Black Cherry	Prunus serotina	Good	8	
13	Sycamore	Ulmus rubra	Good	8	
14	Green Ash	Fraxinus pennsylvanica	Good	8	
15	Pin Oak	Quercus palustris	Good	14	
16	Black Cherry	Prunus serotina	Good	15	
17	Black Cherry	Prunus serotina	Good	10	10.1
18	Hackberry	Celtis occidentalis	Good	9	
19	Hackberry	Celtis occidentalis	Good	12	
20	Sycamore	Ulmus rubra	Good	21	21
21	Pin Oak	Quercus palustris	Good	6	
22	Red Maple	Acer rubrum	Good	8	
23	Pin Oak	Quercus palustris	Good	8	
24	Pin Oak	Quercus palustris	Good	8	
25	Pin Oak	Quercus palustris	Good	12	
26	Pin Oak	Quercus palustris	Good	12	
27	Pin Oak	Quercus palustris	Good	12	
28	Pin Oak	Quercus palustris	Good	12	
29	Pin Oak	Quercus palustris	Good	12	
30	Pin Oak	Quercus palustris	Good	12	
31	Pin Oak	Quercus palustris	Good	12	
32	Pin Oak	Quercus palustris	Good	12	
33	Pin Oak	Quercus palustris	Good	12	
34	Pin Oak	Quercus palustris	Good	12	
35	Pin Oak	Quercus palustris	Good	12	
36	Pin Oak	Quercus palustris	Good	12	
37	Pin Oak	Quercus palustris	Good	12	
38	Pin Oak	Quercus palustris	Good	12	
39	Pin Oak	Quercus palustris	Good	12	
40	Pin Oak	Quercus palustris	Good	12	
41	Pin Oak	Quercus palustris	Good	12	
42	Pin Oak	Quercus palustris	Good	12	
43	Pin Oak	Quercus palustris	Good	12	
44	Pin Oak	Quercus palustris	Good	12	
45	Pin Oak	Quercus palustris	Good	12	
46	Pin Oak	Quercus palustris	Good	12	
47	Pin Oak	Quercus palustris	Good	12	
48	Pin Oak	Quercus palustris	Good	12	
49	Pin Oak	Quercus palustris	Good	12	
50	Pin Oak	Quercus palustris	Good	12	
51	Pin Oak	Quercus palustris	Good	12	
52	Pin Oak	Quercus palustris	Good	12	
53	Pin Oak	Quercus palustris	Good	12	
54	Pin Oak	Quercus palustris	Good	12	
55	Pin Oak	Quercus palustris	Good	12	
56	Pin Oak	Quercus palustris	Good	12	
57	Pin Oak	Quercus palustris	Good	12	
58	Pin Oak	Quercus palustris	Good	12	
59	Pin Oak	Quercus palustris	Good	12	
60	Pin Oak	Quercus palustris	Good	12	
61	Pin Oak	Quercus palustris	Good	12	
62	Pin Oak	Quercus palustris	Good	12	
63	Pin Oak	Quercus palustris	Good	12	
64	Pin Oak	Quercus palustris	Good	12	
65	Pin Oak	Quercus palustris	Good	12	
66	Pin Oak	Quercus palustris	Good	12	
67	Pin Oak	Quercus palustris	Good	12	
68	Pin Oak	Quercus palustris	Good	12	
69	Pin Oak	Quercus palustris	Good	12	
70	Pin Oak	Quercus palustris	Good	12	
71	Pin Oak	Quercus palustris	Good	12	
72	Pin Oak	Quercus palustris	Good	12	
73	Pin Oak	Quercus palustris	Good	12	
74	Pin Oak	Quercus palustris	Good	12	
75	Pin Oak	Quercus palustris	Good	12	
76	Pin Oak	Quercus palustris	Good	12	
77	Pin Oak	Quercus palustris	Good	12	
78	Pin Oak	Quercus palustris	Good	12	
79	Pin Oak	Quercus palustris	Good	12	
80	Pin Oak	Quercus palustris	Good	12	
81	Pin Oak	Quercus palustris	Good	12	
82	Pin Oak	Quercus palustris	Good	12	
83	Pin Oak	Quercus palustris	Good	12	
84	Pin Oak	Quercus palustris	Good	12	
85	Pin Oak	Quercus palustris	Good	12	
86	Pin Oak	Quercus palustris	Good	12	
87	Pin Oak	Quercus palustris	Good	12	
88	Pin Oak	Quercus palustris	Good	12	
89	Pin Oak	Quercus palustris	Good	12	
90	Pin Oak	Quercus palustris	Good	12	
91	Pin Oak	Quercus palustris	Good	12	
92	Pin Oak	Quercus palustris	Good	12	
93	Pin Oak	Quercus palustris	Good	12	
94	Pin Oak	Quercus palustris	Good	12	
95	Pin Oak	Quercus palustris	Good	12	
96	Pin Oak	Quercus palustris	Good	12	
97	Pin Oak	Quercus palustris	Good	12	
98	Pin Oak	Quercus palustris	Good	12	
99	Pin Oak	Quercus palustris	Good	12	
100	Pin Oak	Quercus palustris	Good	12	
101	Pin Oak	Quercus palustris	Good	12	
102	Pin Oak	Quercus palustris	Good	12	
103	Pin Oak	Quercus palustris	Good	12	
104	Pin Oak	Quercus palustris	Good	12	
105	Pin Oak	Quercus palustris	Good	12	
106	Pin Oak	Quercus palustris	Good	12	
107	Pin Oak	Quercus palustris	Good	12	
108	Pin Oak	Quercus palustris	Good	12	
109	Pin Oak	Quercus palustris	Good	12	
110	Pin Oak	Quercus palustris	Good	12	
111	Pin Oak	Quercus palustris	Good	12	
112	Pin Oak	Quercus palustris	Good	12	
113	Pin Oak	Quercus palustris	Good	12	
114	Pin Oak	Quercus palustris	Good	12	
115	Pin Oak	Quercus palustris	Good	12	
116	Pin Oak	Quercus palustris	Good	12	
117	Pin Oak	Quercus palustris	Good	12	
118	Pin Oak	Quercus palustris	Good	12	
119	Pin Oak	Quercus palustris	Good	12	
120	Pin Oak	Quercus palustris	Good	12	
121	Pin Oak	Quercus palustris	Good	12	
122	Pin Oak	Quercus palustris	Good	12	
123	Pin Oak	Quercus palustris	Good	12	
124	Pin Oak	Quercus palustris	Good	12	
125	Pin Oak	Quercus palustris	Good	12	
126	Pin Oak	Quercus palustris	Good	12	
127	Pin Oak	Quercus palustris	Good	12	
128	Pin Oak	Quercus palustris	Good	12	
129	Pin Oak	Quercus palustris	Good	12	
130	Pin Oak	Quercus palustris	Good	12	
131	Pin Oak	Quercus palustris	Good	12	
132	Black Cherry	Prunus serotina	Good	7	
133	Pin Oak	Quercus palustris	Good	7	
134	Pin Oak	Quercus palustris	Good	14	
135	Pin Oak	Quercus palustris	Good	7	
136	Black Cherry	Prunus serotina	Good	8	
137	Pin Oak	Quercus palustris	Good	8	
138	Pin Oak	Quercus palustris	Good	63	
139	Sycamore	Ulmus rubra	Good	9	
140	Pin Oak	Quercus palustris	Good	11	
141	Pin Oak	Quercus palustris	Good	8	
142	Pin Oak	Quercus palustris	Good	12	
143	Pin Oak	Quercus palustris	Good	13	
144	Pin Oak	Quercus palustris	Good	12	
145	Pin Oak	Quercus palustris	Good	10	
146	White Oak	Quercus alba	Good	9	
147	Pin Oak	Quercus palustris	Good	10	
148	Pin Oak	Quercus palustris	Good	8	
149	Pin Oak	Quercus palustris	Good	8	
150	Pin Oak	Quercus palustris	Good	11	
151	Pin Oak	Quercus palustris	Good	10	
152	Pin Oak	Quercus palustris	Good	7	
153	Pin Oak	Quercus palustris	Good	8	8
154	Pin Oak	Quercus palustris	Good	7	
155	Pin Oak	Quercus palustris	Good	8	
156	Pin Oak	Quercus palustris	Good	22	
157	Pin Oak	Quercus palustris	Good	21	
158	Pin Oak	Quercus palustris	Good	12	
159	Pin Oak	Quercus palustris	Good	7	
160	Pin Oak	Quercus palustris	Good	9	6
161	Pin Oak	Quercus palustris	Good	10	
162	Pin Oak	Quercus palustris	Good	14	
163	Sycamore	Ulmus rubra	Good	17	
164	Pin Oak	Quercus palustris	Good	9	
165	Pin Oak	Quercus palustris	Good	9	6
166	Pin Oak	Quercus palustris	Good	12	
167	Pin Oak	Quercus palustris	Good	12	
168	Pin Oak	Quercus palustris	Good	12	
169	Pin Oak	Quercus palustris	Good	12	
170	Pin Oak	Quercus palustris	Good	9	
171	Pin Oak	Quercus palustris	Good	20	
172	Pin Oak	Quercus palustris	Good	20	
173	Pin Oak	Quercus palustris	Good	22	
174	Pin Oak	Quercus palustris	Good	23	
175	Pin Oak	Quercus palustris	Good	18	
176	Pin Oak	Quercus palustris	Good	12	
177	Pin Oak	Quercus palustris	Good	12	
178	Pin Oak	Quercus palustris	Good	12	
179	Pin Oak	Quercus palustris	Good	12	
180	Pin Oak	Quercus palustris	Good	12	
181	Pin Oak	Quercus palustris	Good	11	
182	Pin Oak	Quercus palustris	Good	22	
183	Sycamore	Ulmus rubra	Good	6	
184	Pin Oak	Quercus palustris	Good	8	
185	Pin Oak	Quercus palustris	Good	7	
186	Pin Oak	Quercus palustris	Good	8	
187	Pin Oak	Quercus palustris	Good	8	
188	Pin Oak	Quercus palustris	Good	7	
189	Pin Oak	Quercus palustris	Good	7	
190	Pin Oak	Quercus palustris	Good	8	
191	Pin Oak	Quercus palustris	Good	8	
192	Sycamore	Ulmus rubra	Good	6	
193	Pin Oak	Quercus palustris	Good	8	
194	Pin Oak	Quercus palustris	Good	8	
195	Pin Oak	Quercus palustris	Good	8	
196	Pin Oak	Quercus palustris	Good	8	
197	Pin Oak	Quercus palustris	Good	8	
198	Pin Oak	Quercus palustris	Good	8	
199	Pin Oak	Quercus palustris	Good	8	
200	Pin Oak	Quercus palustris	Good	8	
201	Pin Oak	Quercus palustris	Good	8	
202	Pin Oak	Quercus palustris	Good	8	
203	Pin Oak	Quercus palustris	Good	8	
204	Pin Oak	Quercus palustris	Good	8	
205	Pin Oak	Quercus palustris	Good	8	
206	Pin Oak	Quercus palustris	Good	8	
207	Pin Oak	Quercus palustris	Good	8	
208	Pin Oak	Quercus palustris	Good	8	
209	Pin Oak	Quercus palustris	Good	8	
210	Pin Oak	Quercus palustris	Good	8	
211	Pin Oak	Quercus palustris	Good	8	
212	Pin Oak	Quercus palustris	Good	8	
213	Pin Oak	Quercus palustris	Good	8	
214	Pin Oak	Quercus palustris	Good	8	
215	Pin Oak	Quercus palustris	Good	8	
216	Pin Oak	Quercus palustris	Good	8	
217	Pin Oak	Quercus palustris	Good	8	
218	Pin Oak	Quercus palustris	Good	8	
219	Pin Oak	Quercus palustris	Good	8	
220	Pin Oak	Quercus palustris	Good	8	
221	Pin Oak	Quercus palustris	Good	8	
222	Pin Oak	Quercus palustris	Good	8	
223	Pin Oak	Quercus palustris	Good	8	
224	Pin Oak	Quercus palustris	Good	8	
225	Pin Oak	Quercus palustris	Good	8	
226	Pin Oak	Quercus palustris	Good	8	
227	Pin Oak	Quercus palustris	Good	8	
228	Pin Oak	Quercus palustris	Good	8	
229	Pin Oak	Quercus palustris	Good	8	
230	Pin Oak	Quercus palustris	Good	8	
231	Pin Oak	Quercus palustris	Good	8	
232	Pin Oak	Quercus palustris	Good	8	
233	Pin Oak	Quercus palustris	Good	8	
234	Pin Oak	Quercus palustris	Good	8	
235	Pin Oak	Quercus palustris	Good	8	
236	Pin Oak	Quercus palustris	Good	8	
237	Pin Oak	Quercus palustris	Good	8	
238	Pin Oak	Quercus palustris	Good	8	
239	Pin Oak	Quercus palustris	Good	8	
240	Pin Oak	Quercus palustris	Good	8	
241	Pin Oak	Quercus palustris	Good	8	
242	Pin Oak	Quercus palustris	Good	8	
243	Pin Oak	Quercus palustris	Good	8	
244	Pin Oak	Quercus palustris	Good	8	
245	Pin Oak	Quercus palustris	Good	8	
246	Pin Oak	Quercus palustris	Good	8	
247	Pin Oak	Quercus palustris	Good	8	
248	Pin Oak	Quercus palustris	Good	8	
249	Pin Oak	Quercus palustris	Good	8	
250	Pin Oak	Quercus palustris	Good	8	

Label	Common Name	Scientific Name	Condition	DBH (inches)	Multiple Trunk DBH (inches)
251	Pin Oak	Quercus palustris	Good	8	
252	Pin Oak	Quercus palustris	Good	8	
253	Pin Oak	Quercus palustris	Good	8	
254	Pin Oak	Quercus palustris	Good	8	
255	Pin Oak	Quercus palustris	Good	8	
256	Pin Oak	Quercus palustris	Good	8	
257	Pin Oak	Quercus palustris	Good	8	
258	Pin Oak	Quercus palustris	Good	8	
259	Silver Maple	Acer saccharinum	Good	16	
260	Silver Maple	Acer saccharinum	Good	11	
261	Silver Maple	Acer saccharinum	Good	12	
262	Pin Oak	Quercus palustris	Good	19	
263	Pin Oak	Quercus palustris	Good	19	
264	Pin Oak	Quercus palustris	Good	17	
265	Pin Oak	Quercus palustris	Good	9	
266	Pin Oak	Quercus palustris	Good	9	
267	Pin Oak	Quercus palustris	Good	9	
268	Pin Oak	Quercus palustris	Good	17	
269	Pin Oak	Quercus palustris	Good	17	
270	Pin Oak	Quercus palustris	Good	13	
271	Silver Maple	Acer saccharinum	Good	14	
272	Silver Maple	Acer saccharinum	Good	8	
273	Pin Oak	Quercus palustris	Good	20	
274	Pin Oak	Quercus palustris	Good	20	
275	Pin Oak	Quercus palustris	Good	12	10
276	Pin Oak	Quercus palustris	Good	12	10
277	Pin Oak	Quercus palustris	Good	20	17
278	Pin Oak	Quercus palustris	Good	9	6
279	Pin Oak	Quercus palustris	Good	9	6
280	Silver Maple	Acer saccharinum	Poor	14	12,12,10,8
281	Silver Maple	Acer saccharinum	Good	10	7
282	Pin Oak	Quercus palustris	Good	15	
283	Pin Oak	Quercus palustris	Good	12	7
284	Pin Oak	Quercus palustris	Good	15	9
285	Pin Oak	Quercus palustris	Good	8	
286	Pin Oak	Quercus palustris	Good	8	
287	Pin Oak	Quercus palustris	Good	19	
288	Pin Oak	Quercus palustris	Good	17	
289	Pin Oak	Quercus palustris	Good	21	
290	Pin Oak	Quercus palustris	Good	8	
291	Silver Maple	Acer saccharinum	Good	14	12,9,8
292	Pin Oak	Quercus palustris	Good	9	
293	Silver Maple	Acer saccharinum	Good	20	18,12
294	Pin Oak	Quercus palustris	Good	26	
295	Pin Oak	Quercus palustris	Good	8	
296	Pin Oak	Quercus palustris	Good	8	
297	Pin Oak	Quercus palustris	Good	20	
298	Pin Oak	Quercus palustris	Good	17	
299	Pin Oak	Quercus palustris	Good	25	
300	Pin Oak	Quercus palustris	Good	8	
301	Silver Maple	Acer saccharinum	Good	31	14,12,9,8
302	Silver Maple	Acer saccharinum	Good	18	14,12,9,8
303	Silver Maple	Acer saccharinum	Good	10	9,8
304	Silver Maple	Acer saccharinum	Good	8	
305	Silver Maple	Acer saccharinum	Good	8	
306	Silver Maple	Acer saccharinum	Good	8	
307	Silver Maple	Acer saccharinum	Good	8	
308	Silver Maple	Acer saccharinum	Good	8	
309	Silver Maple	Acer saccharinum	Good	8	
310	Silver Maple	Acer saccharinum	Good	8	
311	Silver Maple	Acer saccharinum	Good	8	
312	Silver Maple	Acer saccharinum	Good	8	
313	Silver Maple	Acer saccharinum	Good	8	
314	Silver Maple	Acer saccharinum	Good	8	
315	Pin Oak	Quercus palustris	Good	8	
316	Pin Oak	Quercus palustris	Good	8	
317	Pin Oak	Quercus palustris	Good	8	
318	Pin Oak	Quercus palustris	Good	8	
319	Pin Oak	Quercus palustris	Good	8	
320	Pin Oak	Quercus palustris	Good	8	
321	Pin Oak	Quercus palustris	Good	10	10.1
322	Pin Oak	Quercus palustris	Good	8	
323	Pin Oak	Quercus palustris	Good	26	
324	Pin Oak	Quercus palustris	Good	26	
325	Pin Oak	Quercus palustris	Good	20	
326	Hackberry	Celtis occidentalis	Good	8	
327	Hackberry	Celtis occidentalis	Good	7	
328	Pin Oak	Quercus palustris	Good	24	13
329	Pin Oak	Quercus palustris	Good	29	
330	Pin Oak	Quercus palustris	Good	14	
331	Hackberry	Celtis occidentalis	Good	12	
332	Hackberry	Celtis occidentalis	Good	12	
333	Sugar Maple	Acer saccharum	Good	7	
334	Hackberry	Celtis occidentalis	Good	12	
335	Hackberry	Celtis occidentalis	Good	12	
336	Hackberry	Celtis occidentalis	Good	7	
337	Hackberry	Celtis occidentalis	Good	9	
338	Hackberry	Celtis occidentalis	Good	12	
339	Hackberry	Celtis occidentalis	Good	12	
340	Pin Oak	Quercus palustris	Good	12	
341	Hackberry	Celtis occidentalis	Good	12	
342	Pin Oak	Quercus palustris	Good	12	
343	Pin Oak	Quercus palustris	Good	12	
344	Pin Oak	Quercus palustris	Good	12	
345	Pin Oak	Quercus palustris	Good	12	
346	Pin Oak	Quercus palustris	Good	12	
347	Pin Oak	Quercus palustris	Good	12	
348	Pin Oak	Quercus palustris	Good	12	
349	Pin Oak	Quercus palustris	Good	12	
350	Pin Oak	Quercus palustris	Good	12	
351	Pin Oak	Quercus palustris	Good	12	
352	Pin Oak	Quercus palustris	Good	12	
353	Pin Oak	Quercus palustris	Good	12	
354	Hackberry	Celtis occidentalis	Good	12	
355	Pin Oak	Quercus palustris	Good	12	
356	Pin Oak	Quercus palustris	Good	12	
357	Pin Oak	Quercus palustris	Good	12	
358	Pin Oak	Quercus palustris	Good	12	
359	American Elm	Ulmus americana	Good	6	
360	Pin Oak	Quercus palustris	Good	12	
361	Pin Oak	Quercus palustris	Good	12	
362	Black Walnut	Juglans nigra	Good	6	
363	Pin Oak	Quercus palustris	Good	12	
364	Pin Oak	Quercus palustris	Good	12	
365	Pin Oak	Quercus palustris	Good	12	
366	Pin Oak	Quercus palustris	Good	12	
367	Pin Oak	Quercus palustris	Good	12	
368	Pin Oak	Quercus palustris	Good	12	
369	Pin Oak	Quercus palustris	Good	12	
370	White Ash	Fraxinus americana	Poor	12	
371	Sycamore	Ulmus rubra	Good	9	
372	Pin Oak	Quercus palustris	Good	12	
373	Pin Oak	Quercus palustris	Good	12	
374	Tri-Color Beech	Fagus grandifolia	Good	6	
375	Black Cherry	Prunus serotina	Good	8	
376	Pin Oak	Quercus palustris	Good	9	
377	Pin Oak	Quercus palustris	Good	9	
378	Pin Oak	Quercus palustris	Good	9	
379	Pin Oak	Quercus palustris	Good	9	
380	Pin Oak	Quercus palustris	Good	9	
381	Pin Oak	Quercus palustris	Good	9	
382	Pin Oak	Quercus palustris	Good	9	
383	Pin Oak	Quercus palustris	Good	9	
384	Pin Oak	Quercus palustris	Good	9	
385	Pin Oak	Quercus palustris	Good	9	
386	Pin Oak	Quercus palustris	Good	9	
387	Pin Oak	Quercus palustris	Good	9	
388	Black Cherry	Prunus serotina	Good	9	
389	Pin Oak	Quercus palustris	Good	9	
390	Pin Oak	Quercus palustris	Good	9	
391	Pin Oak	Quercus palustris	Good	9	
392	Pin Oak	Quercus palustris	Good	9	
393	Pin Oak	Quercus palustris	Good	9	
394	Pin Oak	Quercus palustris	Good	9	
395	Pin Oak	Quercus palustris	Good	9	
396	Pin Oak	Quercus palustris	Good	9	
397	Pin Oak	Quercus palustris	Good	9	
398	Pin Oak	Quercus palustris	Good	9	
399	Pin Oak	Quercus palustris	Good	9	
400	Pin Oak	Quercus palustris	Good	9	
401	Pin Oak	Quercus palustris	Good	9	
402	Pin Oak	Quercus palustris	Good	9	
403	Pin Oak	Quercus palustris	Good	9	
404	Pin Oak	Quercus palustris	Good	9	
405	Pin Oak	Quercus palustris	Good	9	
406	Sycamore	Ulmus rubra	Good	12	
407	Pin Oak	Quercus palustris	Good	9	
408	Silver Maple	Acer saccharinum	Poor	14	12,12,10,8
409	Silver Maple	Acer saccharinum	Poor	14	12,12,10,8
410	Pin Oak	Quercus palustris	Good	9	
411	Pin Oak	Quercus palustris	Good	9	
412	Pin Oak	Quercus palustris	Good	9	
413	Pin Oak	Quercus palustris	Good	9	
414	Pin Oak	Quercus palustris	Good	9	
415	Pin Oak	Quercus palustris	Good	9	
416	Pin Oak	Quercus palustris	Good	9	
417	Pin Oak	Quercus palustris	Good	9	
418	Pin Oak	Quercus palustris	Good	9	
419	Pin Oak	Quercus palustris	Good	9	
420	Pin Oak	Quercus palustris	Good	9	
421	Pin Oak	Quercus palustris	Good	9	
422	Pin Oak	Quercus palustris	Good	9	
423	Pin Oak	Quercus palustris	Good	9	
424	Pin Oak	Quercus palustris	Good	9	
425	Ironwood	Acacia stenophylla	Good	8	
426	Black Cherry	Prunus serotina	Good	9	
427	Pin Oak	Quercus palustris	Good	20	
428	Silver Maple	Acer saccharinum	Good	6	
429	Pin Oak	Quercus palustris	Good	10	
430	Pin Oak	Quercus palustris	Good	24	17,16,12
431	Pin Oak	Quercus palustris	Good	23	
432	Pin Oak	Quercus palustris	Good	6	
433	Pin Oak	Quercus palustris	Good	8	7
434	Pin Oak	Quercus palustris	Good	8	
435	Pin Oak	Quercus palustris	Good	8	
436	Pin Oak	Quercus palustris	Good	11	
437	Pin Oak	Quercus palustris	Good	8	
438	Pin Oak	Quercus palustris	Good	8	
439	Pin Oak	Quercus palustris	Good	16	
440	Silver Maple	Acer saccharinum	Good	6	
441	Pin Oak	Quercus palustris	Good	7	
442	Pin Oak	Quercus palustris	Good	7	
443	Pin Oak	Quercus palustris	Good	19	
444	Hackberry	Celtis occidentalis	Good	19	17
445	Silver Maple	Acer saccharinum	Good	20	17,14
446	Pin Oak	Quercus palustris	Good	22	
447	Pin Oak	Quercus palustris	Good	16	
448	Pin Oak	Quercus palustris	Good	8	
449	Pin Oak	Quercus palustris	Good	8	
450	Pin Oak	Quercus palustris	Good	8	
451	Pin Oak	Quercus palustris	Good	8	
452	Pin Oak	Quercus palustris	Good	20	20,12
453	Pin Oak	Quercus palustris	Good	8	
454	Pin Oak	Quercus palustris	Good	18	
455	Pin Oak	Quercus palustris	Good	8	
456	Pin Oak	Quercus palustris	Good	8	
457	Pin Oak	Quercus palustris	Good	8	
458	Pin Oak	Quercus palustris	Good	8	
459	Pin Oak	Quercus palustris	Good	14	
460	Pin Oak	Quercus palustris	Good	8	
461	Pin Oak	Quercus palustris	Good	8	
462	Pin Oak	Quercus palustris	Good	8	
463	Pin Oak	Quercus palustris	Good	8	
464	Pin Oak	Quercus palustris	Good	8	
465	Pin Oak	Quercus palustris	Good	8	
466	Pin Oak	Quercus palustris	Good	8	
467	Pin Oak	Quercus palustris	Good	8	
468	Pin Oak	Quercus palustris	Good	8	
469	Pin Oak	Quercus palustris	Good	8	
470	Pin Oak	Quercus palustris	Good	8	
471	Pin Oak	Quercus palustris	Good	8	
472	Pin Oak	Quercus palustris	Good	8	
473	Pin Oak	Quercus palustris	Good	8	
474	Pin Oak	Quercus palustris	Good	8	
475	Pin Oak	Quercus palustris	Good	8	
476	Pin Oak	Quercus palustris	Good	8	
477	Pin Oak	Quercus palustris	Good	8	
478	Pin Oak	Quercus palustris	Good	8	
479	Pin Oak	Quercus palustris	Good	8	
480	Pin Oak	Quercus palustris	Good	8	
481	Pin Oak	Quercus palustris	Good	8	
482	Pin Oak	Quercus palustris	Good	8	
483	Pin Oak	Quercus palustris	Good	8	
484	Pin Oak	Quercus palustris	Good	8	
485	Silver Maple	Acer saccharinum	Good	8	
486	Silver Maple	Acer saccharinum	Good	8	
487	Pin Oak	Quercus palustris	Good	8	
488	Pin Oak	Quercus palustris	Good	8	
489	Pin Oak	Quercus palustris	Good	8	
490	Pin Oak	Quercus palustris	Good	8	
491	Pin Oak	Quercus palustris	Good	8	
492	Silver Maple	Acer saccharinum	Good	8	
493	Pin Oak	Quercus palustris	Good	21	
494	Silver Maple	Acer saccharinum	Good	7	
495	Pin Oak	Quercus palustris	Good	8	
496	Pin Oak	Quercus palustris	Good	8	
497	Pin Oak	Quercus palustris	Good	24	
498	Pin Oak	Quercus palustris	Good	21	28
499	Pin Oak	Quercus palustris	Good	8	
500	Pin Oak	Quercus palustris	Good	8	
501	Pin Oak	Quercus palustris	Good	7	
502	Pin Oak	Quercus palustris	Good	7	
503	Pin Oak	Quercus palustris	Good	8	
504	Sycamore	Ulmus rubra	Good	8	
505	Pin Oak	Quercus palustris	Good	8	
506	Pin Oak	Quercus palustris	Good	26	
507	Pin Oak	Quercus palustris	Good	20	
508	Pin Oak	Quercus palustris	Good	20	
509	Pin Oak	Quercus palustris	Good	8	
510	Pin Oak	Quercus palustris	Good	8	
511	Pin Oak	Quercus palustris	Good	8	
512	Pin Oak	Quercus palustris	Good	8	
513	Pin Oak	Quercus palustris	Good	8	
514	Pin Oak	Quercus palustris	Good	8	
515	Pin Oak	Quercus palustris	Good	8	
516	Pin Oak	Quercus palustris	Good	8	
517	Pin Oak	Quercus palustris	Good	8	
518	Pin Oak	Quercus palustris	Good	8	
519	Pin Oak	Quercus palustris	Good	8	
520	Pin Oak	Quercus palustris	Good	8	
521	Pin Oak	Quercus palustris	Good	8	
522	Pin Oak	Quercus palustris	Good	8	
523	Pin Oak	Quercus palustris	Good	8	
524	Pin Oak	Quercus palustris	Good	8	
525	Pin Oak	Quercus palustris	Good	8	
526	Silver Maple	Acer saccharinum	Good	8	
527	Pin Oak	Quercus palustris	Good	8	
528	Pin Oak	Quercus palustris	Good	8	
529	Pin Oak	Quercus palustris	Good	8	
530	Pin Oak	Quercus palustris	Good	8	
531	Pin Oak	Quercus palustris	Good	8	
532	Pin Oak	Quercus palustris	Good	8	
533	Pin Oak	Quercus palustris	Good	8	
534	Pin Oak	Quercus palustris	Good	8	
535	Black Cherry	Prunus serotina	Good	8	
536	Pin Oak	Quercus palustris	Good	8	
537	Pin Oak	Quercus palustris	Good	8	
538	Pin Oak	Quercus palustris	Good	8	
539	Pin Oak	Quercus palustris	Good	8	
540	Pin Oak	Quercus palustris	Good	8

LEGEND

- APPROXIMATE SITE BOUNDARY
- SHEET MATCHLINE

TREE SURVEY

- AMERICAN ELM
- APPLE
- BLACK CHERRY
- BLACK LOCUST
- BLACK WALNUT
- GREEN ASH
- HACKBERRY
- HAWTHORNE
- HONEY LOCUST
- PIN OAK
- RED OAK
- SLIPPERY ELM
- SUGAR MAPLE

SCALE IN FEET

0 50 100

NOTES:

1. IMAGE REFERENCE: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), UNION COUNTY 12-INCH RESOLUTION ORTHOPHOTO, IMAGERY DATE: 2015.
2. IDENTIFICATION OF TREES ON THE SUBJECT PROPERTY WAS PERFORMED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. (CEC) ON NOVEMBER 18-28, & DECEMBER 5-7, 2016.

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250 Old Wilson Bridge Road, Suite 250, Worthington, OH 43085
614-540-6633 · 888-598-6808
www.cecinc.com

PULTE HOMES
CARPENTERS MILL
LIBERTY TOWNSHIP
DELAWARE COUNTY, OHIO

DRAWN BY:	MAD	CHECKED BY:	MRL	APPROVED BY:	JCD*
DATE:	12/13/2016	SCALE:	1 inch = 50 feet	PROJECT NO:	152-227

TREE SURVEY MAP

SHEET NO: **2-1**

* Hand signature on file

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LEGEND

- APPROXIMATE SITE BOUNDARY
- SHEET MATCHLINE

TREE SURVEY

- BITTERNUT HICKORY
- BLACK CHERRY
- GREEN ASH
- HACKBERRY
- PIN OAK
- RED MAPLE
- SILVER MAPLE
- SLIPPERY ELM
- SUGAR MAPLE

SCALE IN FEET

0 50 100

NOTES:

1. IMAGE REFERENCE: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), UNION COUNTY 12-INCH RESOLUTION ORTHOPHOTO, IMAGERY DATE: 2015.
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DRAWN BY:	MAD	CHECKED BY:	MRL	APPROVED BY:	JCD*
DATE:	12/13/2016	SCALE:	1 inch = 50 feet	PROJECT NO:	152-227

TREE SURVEY MAP

SHEET NO: **2-2**

* Hand signature on file

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LEGEND

- APPROXIMATE SITE BOUNDARY
- SHEET MATCHLINE

TREE SURVEY

- AMERICAN ELM
- APPLE
- BITTERNUT HICKORY
- BLACK CHERRY
- BLACK LOCUST
- GREEN ASH
- HACKBERRY
- HONEY LOCUST
- PIGNUT HICKORY
- PIN OAK
- RED MAPLE
- RED OAK
- SHAGBARK HICKORY
- SILVER MAPLE
- SLIPPERY ELM
- SUGAR MAPLE
- SWAMP WHITE OAK

SCALE IN FEET

0 50 100

NOTES:

1. IMAGE REFERENCE: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), UNION COUNTY 12-INCH RESOLUTION ORTHOPHOTO, IMAGERY DATE: 2015.
2. IDENTIFICATION OF TREES ON THE SUBJECT PROPERTY WAS PERFORMED BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC. (CEC) ON NOVEMBER 18-28, & DECEMBER 5-7, 2016.

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DELAWARE COUNTY, OHIO

DRAWN BY:	MAD	CHECKED BY:	MRL	APPROVED BY:	JCD*
DATE:	12/13/2016	SCALE:	1 inch = 50 feet	PROJECT NO:	152-227

TREE SURVEY MAP

SHEET NO: **2-3**

* Hand signature on file

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LEGEND

- APPROXIMATE SITE BOUNDARY
- SHEET MATCHLINE

TREE SURVEY

- AMERICAN ELM
- APPLE
- BLACK CHERRY
- GREEN ASH
- IRONWOOD
- PIN OAK
- RED MAPLE
- SHAGBARK HICKORY
- SILVER MAPLE
- SLIPPERY ELM
- SUGAR MAPLE

SCALE IN FEET

0 50 100

NOTES:

1. IMAGE REFERENCE: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), UNION COUNTY 12-INCH RESOLUTION ORTHOPHOTO, IMAGERY DATE: 2015.
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DELAWARE COUNTY, OHIO

DRAWN BY:	MAD	CHECKED BY:	MRL	APPROVED BY:	JCD*
DATE:	12/13/2016	SCALE:	1 inch = 50 feet	PROJECT NO:	152-227

TREE SURVEY MAP

SHEET NO: **2-4**

* Hand signature on file

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LEGEND

- APPROXIMATE SITE BOUNDARY
- SHEET MATCHLINE

TREE SURVEY

- AMERICAN ELM
- BLACK CHERRY
- BLACK WALNUT
- BOXELDER
- GREEN ASH
- HACKBERRY
- NORWAY SPRUCE
- OSAGE-ORANGE
- PIN OAK
- RED MAPLE
- RED PINE
- SILVER MAPLE
- SLIPPERY ELM
- SUGAR MAPLE
- WHITE ASH
- WHITE PINE

SCALE IN FEET

0 50 100

NOTES:

1. IMAGE REFERENCE: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), UNION COUNTY 12-INCH RESOLUTION ORTHOPHOTO, IMAGERY DATE: 2015.
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DRAWN BY:	MAD	CHECKED BY:	MRL	APPROVED BY:	JCD*
DATE:	12/13/2016	SCALE:	1 inch = 50 feet	PROJECT NO:	152-227

TREE SURVEY MAP

SHEET NO: **2-5**

* Hand signature on file

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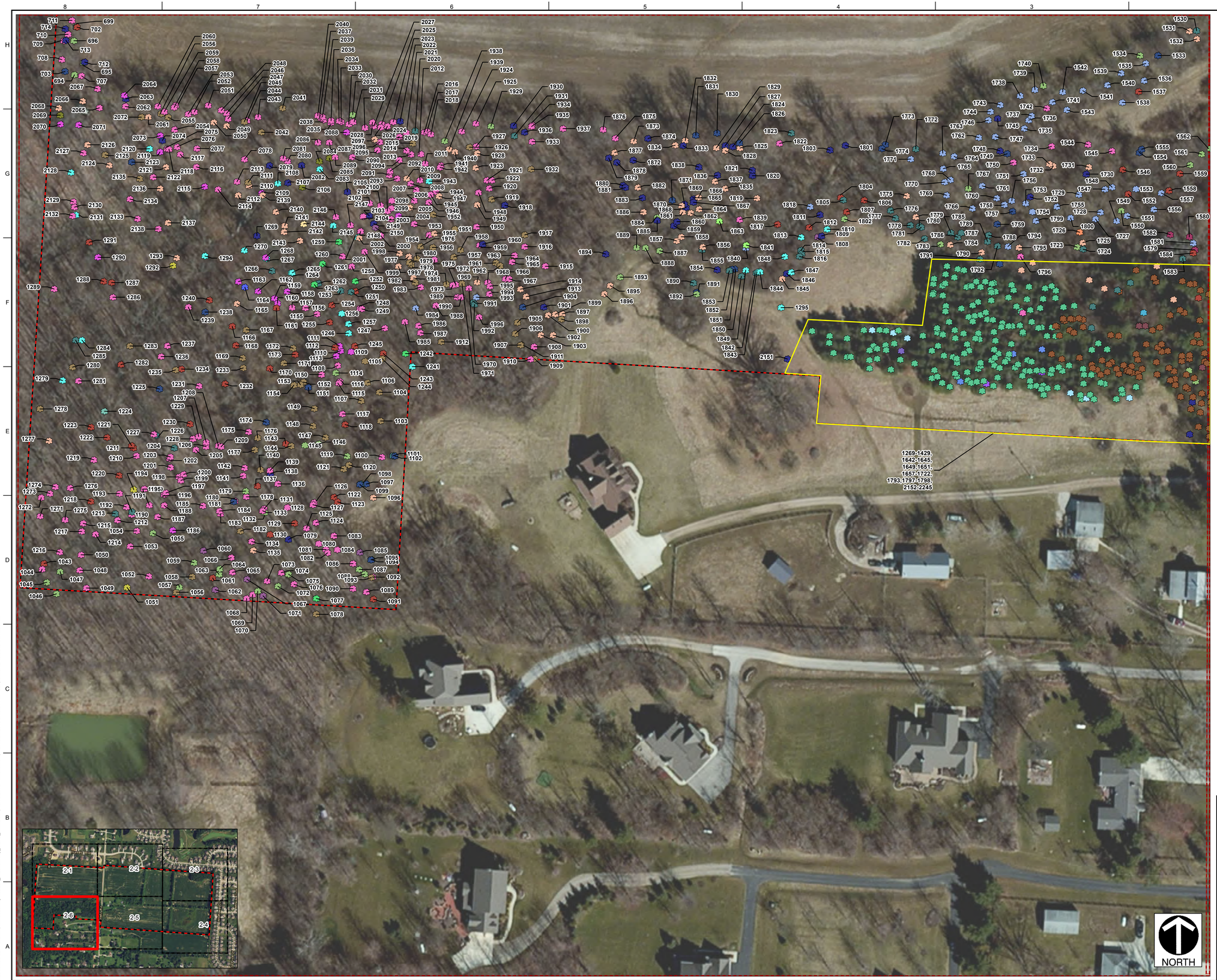

LEGEND

- APPROXIMATE SITE BOUNDARY
- SHEET MATCHLINE

TREE SURVEY

- AMERICAN BASSWOOD
- AMERICAN BEECH
- AMERICAN ELM
- AMERICAN HOPHORNBEAM
- BITTERNUT HICKORY
- BLACK CHERRY
- BLACK WALNUT
- BLACK WILLOW
- BOXELDER
- EASTERN COTTONWOOD
- GREEN ASH
- HACKBERRY
- HAWTHORNE
- HONEY LOCUST
- IRONWOOD
- LARGE TOOTHED ASPEN
- NORWAY SPRUCE
- PIN OAK
- RED OAK
- SCOTCH PINE
- SHAGBARK HICKORY
- SILVER MAPLE
- SLIPPERY ELM
- SUGAR MAPLE
- SWAMP WHITE OAK
- SWEET GUM
- TULIP TREE
- WHITE ASH
- WHITE PINE

SCALE IN FEET

0 50 100

NOTES:

1. IMAGE REFERENCE: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (OGRIP), OHIO STATEWIDE IMAGERY PROGRAM (OSIP), UNION COUNTY 12-INCH RESOLUTION ORTHOPHOTO, IMAGERY DATE: 2015.
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DELAWARE COUNTY, OHIO

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DATE:	12/13/2016	SCALE:	1 inch = 50 feet	PROJECT NO:	152-227

TREE SURVEY MAP

SHEET NO: **2-6**

* Hand signature on file

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P.O. Box 2553
Columbus, Ohio 43216
Tel. (614) 481-5263
Fax (614) 255-6428

December 1, 2016

Michael Reeves
Civil & Enviromental Consultants, Inc.
250 Old Wilson Bridge Rd Suite 250
Worthington, OH 43085

RE: Shelly/Smith Property – Steitz Rd, Liberty Township, Delaware County, OH

Dear Mr. Reeves:

This letter is to confirm that Charter Communications has the capacity and ability to provide advanced cable, high speed internet and digital phone services to the proposed Shelly/Smith Property – Steitz Rd, Liberty Township, Delaware County, OH.

If you have any questions give me a call at 614-481-5263 and I will be happy to discuss this project with you.

Thank You!

Kevin D. Rich
Construction Manager
kevin.rich1@charter.com

AEP OHIO
A unit of American Electric Power

AEP Ohio
850 Tech Center Drive
Gahanna, OH 43230
AEPOhio.com

November 14, 2016

Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road, Suite 250
Worthington, OH 43085

RE: AVAILABILITY OF ELECTRICAL SERVICE

Smith Fields Single Family Development – Steitz Road, City of Powell

To Whom It May Concern:

This letter will confirm that American Electric Power has electric service facilities adjacent to your new project. These facilities will be made available to serve your project with some Contribution-In-Aid-To-Construction charged to the project developer.

Our records indicate your project, a residential development which will consist of approximately 183 units on a 109.42 (+/-) acre site, is located on Steitz Road south of Hunters Run, Liberty Township, Delaware County, Ohio.

American Electric Power anticipates providing your new project the best possible service. I look forward to working with you and remain available to coordinate your project needs. Please contact me to discuss any questions you may have or other assistance you may require.

Sincerely,

Gary D. Hays, P.E.
Customer Design Manager

October 26, 2016

Michael C. Reeves, PE, CFM, LEED AP / Project Manager
Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road, Suite 250 · Worthington, OH 43085

Re: Smith Fields Single Family Development – Off Steitz Rd., South of Hunters Bend, North of Rutherford Rd. located in Powell, Ohio

Michael,

Thank you for your interest in clean, efficient natural gas. This letter is to confirm that Columbia Gas of Ohio, Inc. currently has facilities available in the vicinity of the proposed referenced above project. We currently have a medium pressure main line running north and south along Steitz Rd. between Hunters Bend and Rutherford Rd.

This is a preliminary study only and is not a legally binding project (capital) cost commitment on behalf of Columbia. Any changes from the information submitted may change the study for the Facilities necessary to provide the service. Other factors beyond Columbia's control, include, but are not limited to upstream load requirements, and available capacity at the time an agreement is reached.

Once mechanical drawings are available, please forward them to my attention so that we may complete our feasibility study; as well as determine any costs that may be required. Please note that availability is contingent upon a cost benefit analysis. If the project is not deemed economically feasible for Columbia Gas, a deposit may be necessary

If you have any questions regarding availability, please feel free to contact me at 614.460.5416. I look forward to partnering with you on this and future projects.

Sincerely,

Donna Young

Donna Young
New Business Development Manager | Columbia Gas of Ohio, Inc.
290 W. Nationwide Blvd, Columbus, Ohio 43215 | 614.460.5416
donnayoung@nisource.com

DELAWARE COUNTY
REGIONAL SEWER DISTRICT

MICHAEL A. FROMMER, P.E., EXECUTIVE DIRECTOR

July 12, 2016

Civil & Environmental Consultants, Inc.
Michael C. Reeves, P.E.
250 Old Wilson Bridge Road, Suite 250
Worthington, OH 43085

Re: **Request for Sewer Capacity**
Smith & Shelly Properties
Parcels: 31923002103000, 31924001046000, 31924001047000, 31924001048000

Dear Mr. Reeves:

The Delaware County Regional Sewer District (the "County") has considered your request for approval to discharge sanitary sewage into the Delaware County Sanitary Sewer System from the above referenced location, representing 183 Equivalent Residential Unit(s) (ERU).

It is our understanding that a single pump station will be constructed, which will convey all flows from the development to an existing sanitary outlet. Capacity is conditionally available at two existing outlet locations to serve the proposed project provided that the following conditions are met:

Option 1: Outlet to manhole 8 in Liberty Village Section 1 along Wolf Path Drive. This option will require an upgrade or parallel to 250 feet of 8" sanitary between manholes 6 and 7 in Scioto Reserve Section 1, Phase 4 along Maple Run Lane to the corner of Maple Run Lane/Stone View Court and Tree Lake Boulevard.

Option 2: Outlet to manhole 7 in Scioto Reserve Section 1, Phase 7 along Tree Lake Boulevard. This option will not require additional downstream upgrades.

Please be aware that downstream improvements to the Scioto Reserve pump station and tributary sewer are necessary to serve the proposed development regardless of which option is used. These downstream improvements are planned to be completed by Village Communities concurrent to the proposed development and construction sequencing might be necessary between the two developments.

The current assessment of capacity availability is subject to periodic reevaluation by the County and shall not be valid after 18 months from the date of this letter.

50 CHANNING STREET (SOUTH WING), P.O. BOX 8006, DELAWARE, OHIO 43015-8006
(740) 833-2240 FAX: (740) 833-2239
WWW.CO.DELAWARE.OH.US

If you have any questions, please feel free to contact me.

Sincerely,

Kelly Thiel

Kelly Thiel
Staff Engineer II
Delaware County Regional Sewer District

cc: Mike Frommer
Project File
Correspondence File

50 Channing Street (South Wing), P.O. Box 8006, Delaware, Ohio 43015-8006
(740) 833-2240 Fax: (740) 833-2239
www.co.delaware.oh.us

Officers
TIMOTHY D. McNAMARA
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BRUCE A. BLACKSTON
Vice President
ROBERT W. JENKINS
Secretary
G. MICHAEL DICKEY
Treasurer
GLENN MARZLUF
General Manager/CEO
SHANE CLARK
Deputy General Manager

DEL-CO
WATER COMPANY

6658 OLENTANGY RIVER ROAD
DELAWARE, OHIO 43015
www.delcowater.com
Phone (740) 548-7746 • Fax (740) 548-6203

Directors
WILLIAM E. COLE
DOUGLAS D. DAWSON
DAVID A. BENDER
J. MICHAEL SHEETS
BRIAN P. COGHLAN
PERRY K. TUDOR

December 9, 2016

Michael C. Reeves, P.E.
Civil & Environmental Consultants, Inc.
250 Old Wilson Bridge Road, Suite 250
Worthington, Ohio 43085

Via Email: mreeves@cecinc.com

RE: Water Availability
Shelly/Smith Property – Steitz Road

Dear Mr. Reeves:

As requested, this is to inform you that Del-Co Water is able to provide water service to the site described below upon plan approval and payment of the required fees:

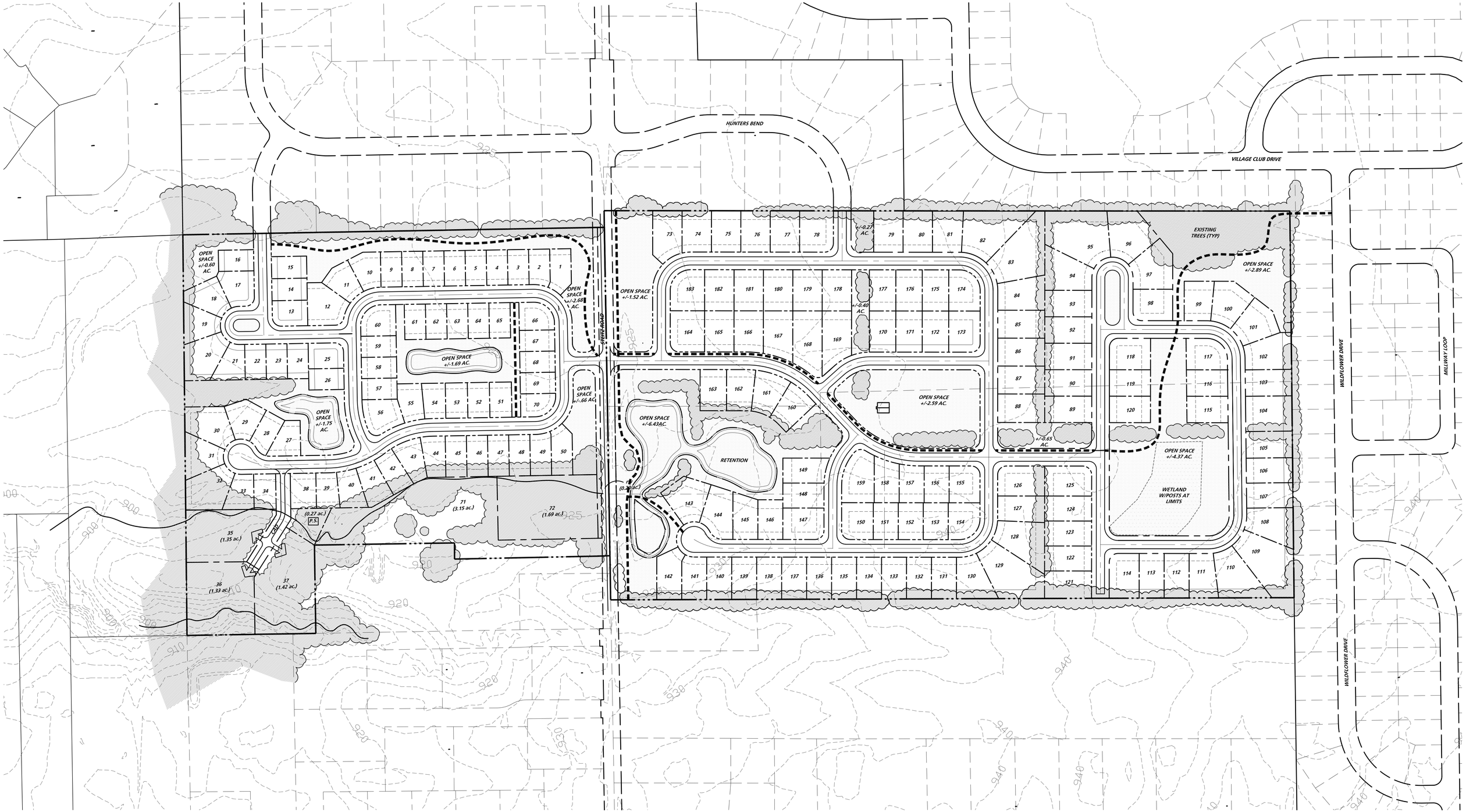
Proposed Land Use: ± 183 single-family homes
Location: East and West sides of Steitz Road, ±4,000 feet south of Home Road
Acreage: ±109.42 acres

This site can be served from an existing 10-inch water line located on Steitz Road and other lines from connecting subdivisions.

This letter of water availability is valid for a period of one year from the date of this letter. Del-Co makes no guarantee of water availability beyond this period. Contact our Engineering Department if you have any questions on the plan review process, or our Customer Service Department for information on tap fees.

Sincerely,
DEL-CO WATER COMPANY, INC.

Shane F. Clark, P.E.
Deputy General Manager



DEVELOPMENT DATA

SHELLY PROPERTY	
Total Area:	+/-38.82 AC.
Total Units	72 *67 - 70'X120' LOTS* *5 - ESTATE LOTS*
Gross Density:	1.85 DU/AC.
Open Space Provided:	+/- 7.38 AC. (19%)

SMITH PROPERTY	
Total Area:	+/-70.6 AC.
Total Units	111 *49 - 85'X130' LOTS* *31- 90'X130' LOTS* *4 - 95'X130' LOTS* *27 - 100'X140' LOTS*
Gross Density:	1.57 DU/AC.
Open Space Provided:	+/- 18.47 AC. (26%)

OVERALL DEVELOPMENT	
Total Area:	+/-109.42 AC.
Total Units	183 *67 - 70'X120' LOTS* *49 - 85'X130' LOTS* *31 - 90'X130' LOTS* *4 - 95'X130' LOTS* *27 - 100'X140' LOTS* *5 - ESTATE LOTS*
Gross Density:	1.67 DU/AC.
Open Space Provided:	+/- 25.85 AC. (24%)

Preliminary Site Plan

SHELLY/SMITH PROPERTY - STEITZ ROAD

LIBERTY TOWNSHIP, DELAWARE COUNTY, OHIO

Prepared for Pulte Homes
Prepared by EDGE
September 21, 2016

0' 75' 150' 300'

NORTH