



## Conservation Design Forum

Ecological Design Services • Landscape Architecture • Planning • Civil / Water Resources Engineering  
Sustainable Urbanism • Ecosystem Sciences

October 16, 2017

Mr. Shaun Kelly, AIA  
Engberg Anderson Architects  
5600 North River Road, Suite 800  
Rosemont, IL 60018

**Ref#:** 17019.00

**Re:** Barrington Area Library

Dear Mr. Kelly,

Conservation Design Forum has completed a review of the documents related to the purchase and development of a portion of the Barrington Area Library's property by the Village of Barrington for the relocation of Lake Zurich Road. The documents that were reviewed include:

### Documents

1. Engberg Anderson Review of the Preliminary Lake Zurich Road Realignment Plan presented on September 9, 2013 (September 18, 2013)
2. Appraisal Report by David White (May 12, 2016) and Appraisal Review Report by Keith Tadrowski (August 5, 2016)
3. Engberg Anderson Meeting Notes for May 12, 2016 Meeting (May 16, 2016)
4. Purchase offer from Village of Barrington (December 8, 2016)
5. Letter from Ken Friker (Library Attorney) to Jim Bateman (Village Attorney) (July 18, 2017)
6. Letter from Ken Friker (Library Attorney) to Jim Bateman (Village Attorney) (August 4, 2017)
7. Letter from Jim Bateman (Village Attorney) to Ken Friker (Library Attorney) (August 9, 2017)
8. Memorandum reviewing appraisal from Michael MaRous (Library Consultant) to Detlev Pansch (August 16, 2017)
9. Intergovernmental Agreement Between Barrington Area Public Library District and the Village of Barrington (draft, no date)
10. Engberg Anderson Review of draft IGA (August 25, 2017)

### Drawings

11. Plat of Highways, proposed (Gewalt Hamilton, 2014)
12. Temporary Easement, proposed (Gewalt Hamilton, 2014)
13. Preliminary Geometry Exhibit (Civiltech, April 21, 2016)
14. Lake Zurich Road Alignment Color Brochure (July 11, 2016)
15. Plans for Proposed Federal Aid Highway (Civiltech, October 14, 2016)
16. Barrington Area Library Parking Lot Maintenance (Engberg Anderson, January 19, 2017)
17. Roundabout Aerial Graphics (no date)

### Other

18. Village of Barrington Zoning Ordinance, Chapter 4 (offstreet parking and landscape)

We have reviewed the above referenced documents and believe that the loss of property and reconfiguration of the north parking lot will impair the Library's use of the remaining land and future options for expansion. Further, we have noted that many of the Village's own rules for parking lot design have been violated in an attempt to provide an equivalent number of existing stalls in an undersized space. We offer the following observations and recommendations:

#### General comments

1. Since the land area associated with the library is reduced, there is reduced area available to expand the library building. This limitation could result from physical space limitations as well as from zoning regulations that may limit FAR or impervious cover. If a variance would be required to allow expansion, the variance should be provided now and not left to future decision makers. The allowable floor area and impervious cover should be based on the current parcel rather than the future, smaller parcel.
2. Since the land area associated with the library is reduced, there is reduced area available to provide detention to allow for library and/or parking expansion.
3. Consider providing detention now for all potential future detention needs to accommodate future library and parking lot expansion and relocation. Ensure that proper documentation has been prepared and permits issued indicating that the storage has been provided and that additional detention will not be required provided the library doesn't exceed the agreed upon impervious coverage. This will require upfront planning to determine the expected maximum build-out of the library and support uses (parking, etc.).
4. Sculpture and path relocations should be part of the project, or the cost to relocate these should be added to the purchase price paid by the Village. The appraisal estimated the cost of relocating five sculptures as well as the concrete library sign at \$10,000. This is not a reasonable budget in our opinion. A reasonable cost for relocating the sculptures would be \$1,500 each (\$1,000 for the new foundation, \$500 for moving). The cost for a new entry sign that is similar to the existing one (cut stone on concrete foundation with raised aluminum letters and surrounding lighting and landscaping) would be \$20,000. Total cost for this work should be \$27,500.

#### IGA Comments

1. The project improvements, as a whole, should be part of the IGA. Future deletions or modifications that affect Route 14 left or right turn lanes or the roundabout, for example, should require library approval.
2. Establish upfront agreements with the Village regarding future parking requirements. It is our understanding that the existing parking quantity does not meet code and therefore the existing library square footage should be grandfathered. The IGA should be modified to grandfather future library expansions to provide the same parking ratio as the current library.
3. Obtain upfront approval for future utility modifications that may be necessary for future library building or parking expansion.
4. 4.A.(iii): Add relocation of existing library amenities such as sculptures and furnishings
5. 4.C (Roadway Construction Timing): Continuous access to the building for pedestrians and vehicles is essential to the library. The IGA should be modified to include language stating "During construction of the Roadway Project, the Village will work with IDOT to stage and coordinate Roadway Project construction to provide continuous access and parking for Library patrons. This includes continuous

access during normal Library hours of operation for pedestrians from adjacent public walkways to the building's primary entrance. It also includes continuous access during normal Library hours of operation for vehicles to the drive immediately in front of the building's primary entrance, as well as continuous access to the East Parking Lot. If closures to any of the stated access areas are needed outside of normal Library hours, the Village shall notify the Library a minimum of 72 hours in advance. The Village will share up-to-date plans for staging and construction of the roadway and parking lot projects with Library representatives."

6. 6.A.: This section only agrees to pay for landscape improvements within available budget. The Library should be reasonable in its landscape plan but the available budget should be of no concern to the Library and the Village/IDOT should be responsible for these improvements regardless of budgeted funds and/or bid prices. Language stating that the landscape plan will be consistent with existing landscape should provide adequate protection to the Village and/or IDOT.
7. 6.C.: We understand IDOT's need for categorical bid items but it may be of equal importance to the Library to have lighting that matches its existing lighting in style and quality and consumables. Thus, to the degree that categorical specification requires that the new lighting meets all these criteria, this should be acceptable. If they cannot or will not agree to this, the library should require that all the lighting be replaced.
8. 7: Due to the new, more convoluted entry sequence, the Library may need two signs (one at 14 and one at LZR library entrance). Both of these signs should be allowed to be electronic. The second sign should be at Village/IDOT expense. The presence of the roundabout may mitigate the need (or at least the size/quality of the second sign. The purpose of the last sentence of this section is not clear.
9. 8: This may go without saying but the Village should be responsible for repairing and/or replacing any and all Library improvements damaged by or removed during the course of future routine or rehabilitative maintenance of utilities or other elements within the Village easements through Library property.
10. 9.: Add language to the effect that stormwater storage shall be provided such that the post-project library property will be fully compliant with the current Lake County Watershed Development Ordinance and any additional requirements of the Village of Barrington. Strike the storage number provided since it implies Library concurrence that the indicated volume is adequate to meet the standard above. The language could include the impervious cover assumed in the calculations so that the Library has a number that can be used for calculations for future expansion. The Library may want to independently calculate existing and proposed project impervious cover. To avoid the applicant (Village) reviewing and approving their own permit, it is recommended that the Lake County Stormwater Management Commission review the WDO permit application for this site.
11. 9.C. This section begins with a statement that the detention storage area between Route 14 and Lake Zurich Road cannot be expanded due to physical constraints imposed by the road location relative to the library. Based on the proposed Detention Pond Grading Plan (Sheet 61) and the Drainage and Utilities Plan (Sheet 55), it would appear that the bottom of the basin could be lowered somewhat to provide additional storage. Also the discharge from the basin outlet could be moved to the next manhole north in Route 14 to reduce the length of storm sewer and lower the invert. Thus, the library should consider increasing the storage at this location to accommodate at least a portion of future library expansion since the library will be much more land-locked as a result of this project.

12. 10.: The apportionment of cost for future relocation of utilities seems very reasonable. However, there are two considerations:
  - a. The determination of what is practical is entirely within the Village Manager's control.
  - b. If future expansions of the building and/or parking could have been located in a way that avoided relocation of Village utilities but for the Lake Zurich Road project, then the Library should not have to pay for the relocation. I am not sure how you determine that now.

### General Design

1. If the library chooses to expand the building to the east, it will require relocation of the east parking lot as well as existing Village Utilities under the parking lot.
2. The expansion of the Route 14 ROW will require moving the overhead powerlines 20 feet closer to the existing building's west side. This will adversely affect the character of the building as viewed from the street. It will also prevent trees from being planted in this area. The value of this loss should be added to the purchase price paid by the Village.

### Site Access and Drop-off

1. The proposed parking lot entrance road should be moved to the library's north property line to allow future expansion of the lot to the north without having to move the road.
  - a. This would impact many trees in the woods north of the existing north parking lot. However, the quality of the trees is limited and there are numerous large dead trees that would be removed at the Village's expense rather than the Library's
  - b. This will also impact the location where the entrance road intersects the realigned Lake Zurich Road.
2. If the book drop-off remains in the currently proposed location, there should be a break in the double yellow line to allow left turn access into the book drop-off. (Also see subsequent paragraphs regarding book drop and parking arrangement.)
3. The proposed entry drive is 21,456 square feet which is much larger than the existing drive which is 4,677 square feet. This increase of 16,779 square feet will require significantly more resources to maintain each year. The costs for routine operations and maintenance of an asphalt drive such as this include:
  - a. crack filling, seal coating, and striping every 2 years ( $\$0.60/\text{sf} \times 16,779 \text{ sf} / 2 = \$5,034/\text{year}$ )
  - b. minor patching every 4 years ( $\$0.75/\text{sf} \times 16,779 \text{ sf} / 4 = \$3,146/\text{year}$ )
  - c. mill and overlay every 15 years ( $\$3.35/\text{sf} \times 16,779 \text{ sf} / 15 = \$3,747/\text{year}$ )
  - d. snow removal: the Library's current vendor for snow removal reviewed the plans for the extended entry and the arrangement of the dead-end accessible parking and determined that snow removal costs will increase by at least 30%, or \$12,000, every year. The vendor indicated that in addition to the increased paving they would not be able to push the snow out of the dead-end lot, but would have to pick it up with a bucket loader, and move to the north end of the lot.

The total increase in annual maintenance and operation = \$23,927 per year.

Since there is no added value to the Library for the longer access drive, the additional operational and maintenance costs should be factored into the purchase price for the property. The present value of a \$23,927 annual expense at 3% interest rate and 50-year project life is \$617,276.

4. The arrangement of the new parking lot and access lane does not allow for a functional visitor drop-off. In the proposed design, passengers will be dropped off on the opposite side of the vehicle from the building's entry and forced to cross the circulation drive to enter the building. An alternative parking lot and drop-off arrangement could address this issue and have the added benefit of allowing drivers to exit the site without having to drive through the parking lot. The Village should work with the Library's consultant team to develop and review alternative parking lot layouts.

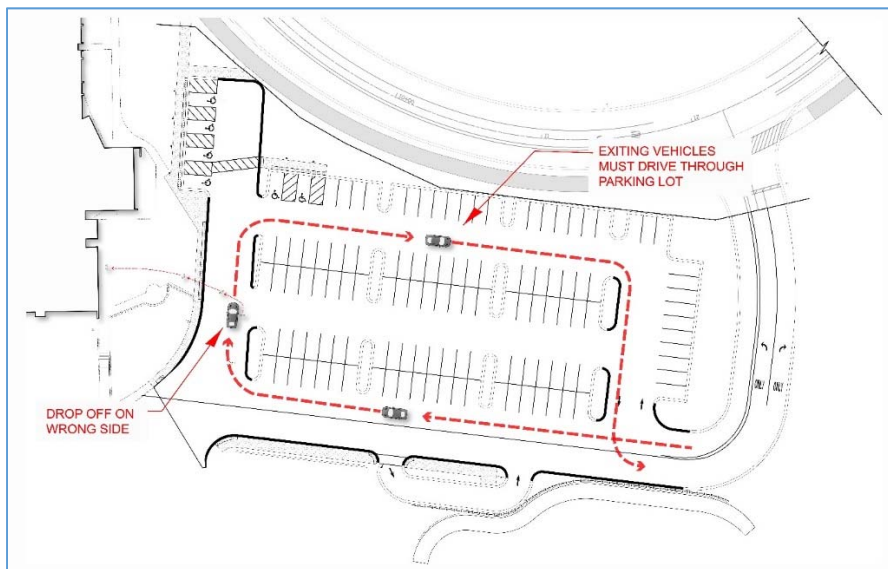


Figure 1: Proposed drop-off is not ideal

5. The path to the book drop off from the front door of the building has been increased in length from 270 feet to 360 feet, or 33%. Additionally, the path to the drop-off is moved east which forces it to cross the steep drive to the east parking lot. The cross slope for this path at the drive crossing is 10% which is much too steep to navigate a wheeled cart loaded with books. A cross slope of less than 2% and a running slope of less than 4% should be maintained for the entire length of the book cart path. An alternate location for the book drop-off is needed.
  - a. One option would be to relocate the book drop off to the south end of the parking lot on the north side of the proposed landscape islands. This would afford a shorter route and address the slope issues cited above. However, it would result in a loss of parking stalls, with the number of stalls lost depending on the arrangement.
6. The main access road merges with two important side drives in a very steep area. Because the parking lot is pushed east by approximately 90 feet, the lanes converge at the steepest part of the site with a slope of 10%. It would be safer to have the elevation difference between the east and north parking lots handled in a straight, isolated section of drive that has no other roadways merging into it (like the current condition).

Parking Lot Design

1. The design for the proposed parking lot does not meet the minimum standards required by the Village of Barrington's Off-Street Parking and Loading ordinance. Specifically:
  - a. Several parking stalls and access aisles at the south end of the new lot exceed the maximum 6% slope required in Chapter 4, part 10, section E. (see figure 2)
  - b. A large area at the north end of the parking lot is under a 1% slope which does not meet the minimum slope required in Chapter 4, part 10, section E. (see figure 2)

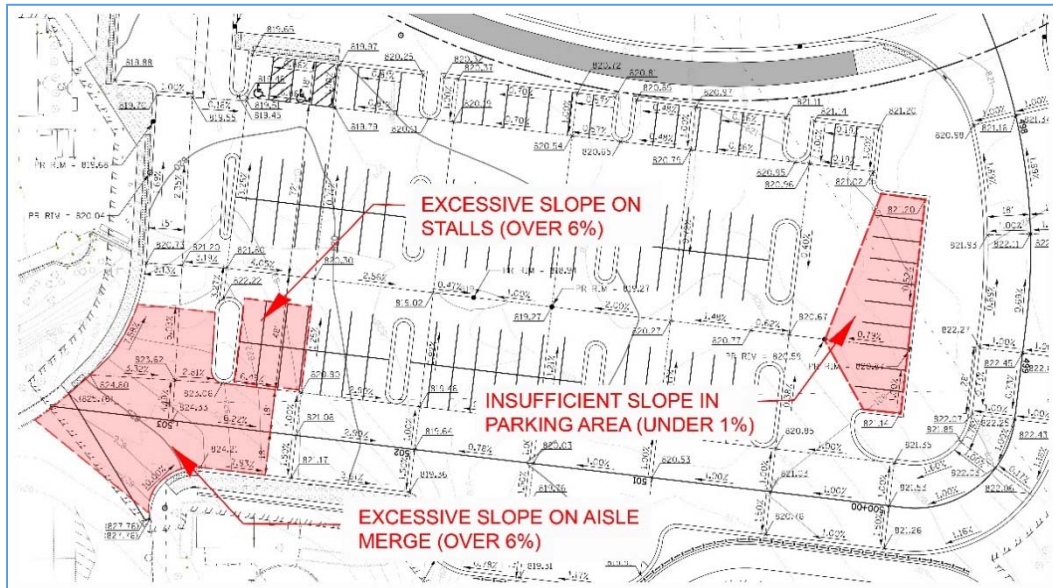


Figure 2: Non-conforming slopes in parking lot

- c. The inside curb radii for the entry and exit into the book drop-off lane are only 7.5 feet which do not meet the minimum radius of 15 feet required in Chapter 4, part 10, Section B, note #6. (see figure 3)

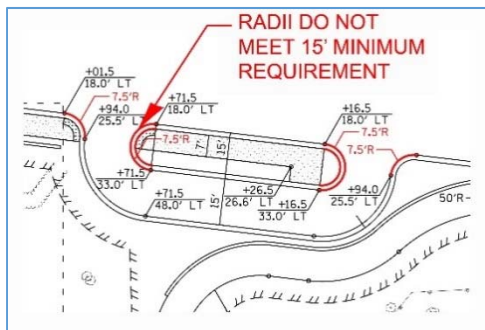


Figure 3: Parking Lot Curb Radii

- d. The parking lot is not set back from the front yard as required in Chapter 9, part 2, section M. This ordinance requires that parking lots be located outside of the front yard which for this project would be established by the existing library building at 25 feet. (see figure 4). The setback is intended to provide room for perimeter parking lot landscaping which would screen parked cars

from the adjacent public right-of-way. This is a requirement typical of most municipal codes and is intended to preserve property values (including the value of the subject property) by screening nuisance views.

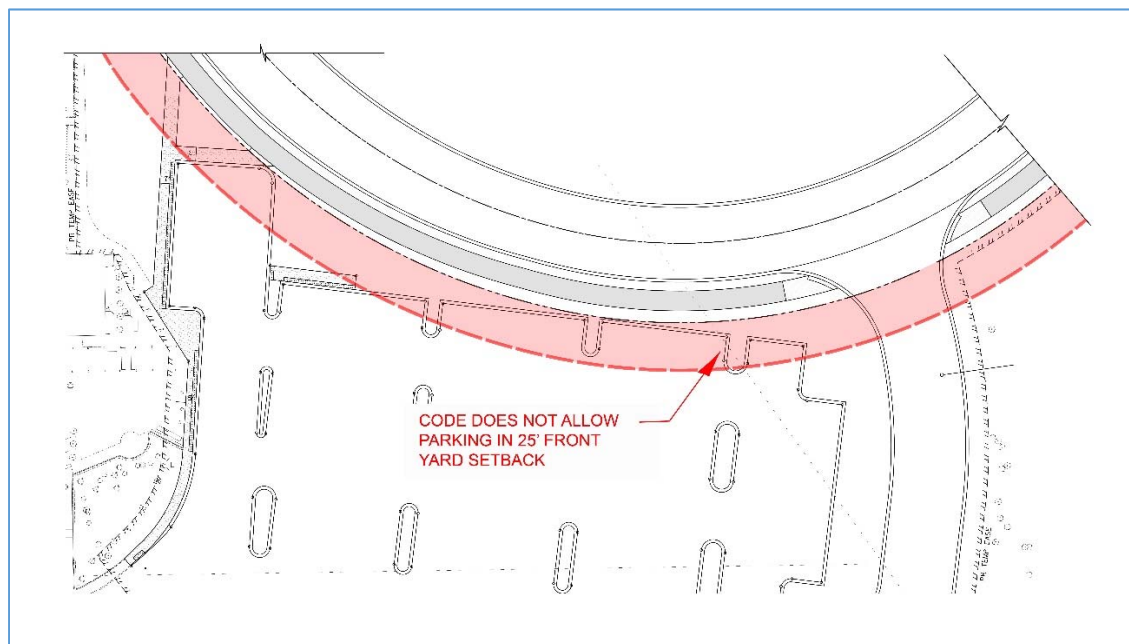


Figure 4: Required Parking Lot Front Yard Setback

- e. The Village's ordinance requires internal planting islands with a total square footage exceeding 10% of the paved area of the lot. Each of the islands is required to be a minimum of 300 square feet and must have at least 2 shade trees and accompanying shrubs or perennial groundcovers. The proposed parking lot islands do not meet these requirements (see figure 5). The requirements are typical of most municipal codes and are intended to preserve property values (including the value of the subject property) by breaking up the monotony of paved spaces. The tree cover is also important as it shades dark pavements during the summer to reduce the urban heat island effect that produces smog.
  - i. Since the proposed lot is 57,178 square feet, 5,718 square feet of planted islands are required. Only 3,574 square feet are provided.
  - ii. Two of the planted islands are smaller than 300 square feet.
  - iii. Two of the islands do not contain the minimum number of trees.

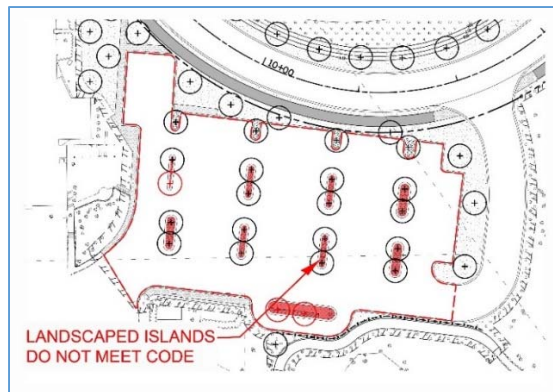


Figure 5: Internal parking lot planting islands are non-conforming

2. The proposed parking lot places the accessible stalls in a dead-end parking lot. It is important to note that drivers with permits are allowed to use both the open handicap stall and the striped access aisle for that stall. When the disabled person is the driver, they may need to park in the access aisle. Because there is no back-out aisle beyond the last handicap stall, the access aisle for this stall will not be available for parking. (see figure 6).

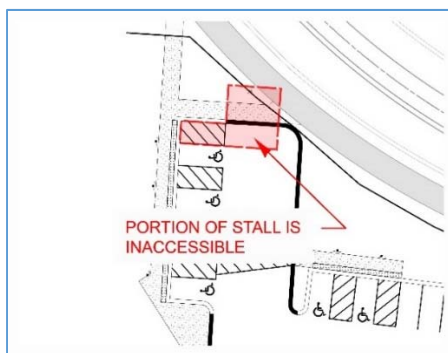


Figure 6: Last stall is not fully accessible

3. A portion of the parking lot drive lane and the adjacent sidewalk serving the book drop-off extend onto the Village's property at the water tower. The improvements should be moved completely onto the Library's property, or the Village should grant ownership or a permanent easement to the Library. (see figure 7)

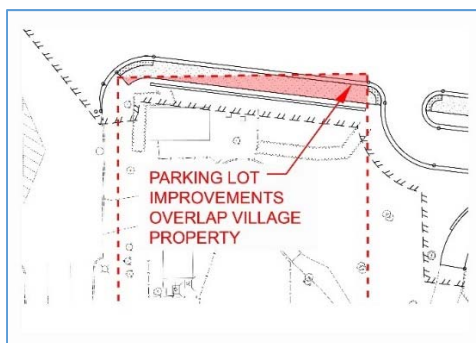


Figure 7: Library improvements are proposed on Village Property



Landscaping

1. A significant number of existing mature trees are proposed to be removed with the construction of the new parking lot. This includes a total of 282 trees in the forested area north of the existing parking lot with a cumulative caliper size of 2,398 inches and an average caliper size of 8.5 inches. It also includes 57 trees in the existing parking lot area with a cumulative caliper size of 597 inches and an average caliper size of 10.5 inches. Importantly, the Village's plans do not show any vegetation removal to the west of the Library building, but this area will certainly be impacted by construction and contains some of the nicest plant material on the property. Because the relocation of the right-of-way will involve moving the overhead power lines 20 feet closer to the building, most of the mature vegetation will be impacted. This includes 8 trees with a combined caliper size of 94 inches and an average caliper size of 11.75 inches.

The Village's plans call for replacing all of the lost plant material with 28 new trees in the parking lot. The caliper of these trees is not indicated, but it can be assumed that they are no larger than 3 inches. By any measure, the loss of the existing plant material will not be replaced by the Village's current plans.

I would recommend that the Village be held to replacing all of the trees lost in the existing parking lot and the area west of the building as measured in total caliper inches. The 691 inches could be replaced with 230 3-inch caliper trees, or 346 2-inch caliper trees, etc... If the replacement of all of the trees is not practical, a monetary value for the remaining calipers could be established and added to the purchase price. The Chicago Park District and other agencies have established a value of \$250 per caliper inch for trees lost in such circumstances. Since the current plan of 28 trees only represents 84 caliper inches, the remaining 607 caliper inches would be valued at \$151,750.

It is our determination that the proposed parking lot and entry road design do not meet the minimum standards established by the Village of Barrington, nor are they functionally equivalent to the existing facilities. We recommend that the Village allow the Library's consultant team to meet with their engineers to develop and review alternative layouts for the Library's consideration.

Sincerely,  
**Conservation Design Forum**



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