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ERIN HILLS – UNIT 4D
SUBDIVISION OBSERVATION REPORT

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HR GREEN JOB NO. 86120056

Erin Hills – Unit 4D Subdivision Observation Report

HR Green has performed a review of the available documents for the subdivision improvements located in the Erin Hills – Unit 4D subdivision and field observation of the work completed by the developer. Subsequently, HR Green has compiled a punchlist of unfinished items that were part of the proposed improvements per the available subdivision documents.

The Erin Hills – Unit 4D Subdivision Observation Report includes the following items:

- Punchlist identifying the outstanding and deficient subdivision improvement items
- Detention Basin Verification and Exhibit A
- Parcel Identification (Exhibit B)
- Engineer's Opinion of Probable Cost (E.O.P.C.) (Exhibit C)
- Location Map (Exhibit D)

The following documents were used in preparing the punchlist scope of work:

- Plat of Subdivision
- Improvement Plans for Erin Hills – Unit 4D, dated August 9, 2004, prepared by Branecki-Virgilio & Associates
- Pavement cores performed through HR Green
- Photographs

The following documents were unavailable:

- Landscaping plans
- Record drawings
- Developer agreements
- Soil borings
- Meeting minutes
- Daily field reports

I. PUNCHLIST

It is recommended that acceptance of this subdivision be contingent upon the completion of the noted outstanding and deficient items, and subsequent observation and approval by the Village of Homer Glen.

Roadway

Roadway improvements were observed for compliance with the approved subdivision improvement plans. The subdivision pavement includes the Hot-Mix Asphalt (HMA) binder course without the HMA surface course. HR Green had pavement cores taken at random locations on the roadways to identify the actual binder course and aggregate base course thicknesses.

The following table includes the planned pavement depths and actual pavement depths at locations randomly chosen on the roadways.

Roadway	Plan Surface Depth	Actual Surface Depth	Plan Binder Depth	Actual Binder Depth	Plan Agg. Base Cse. Depth	Actual Agg. Base Cse. Depth
Dublin Drive	2"	0"	2"	1"	9"	6"
Erin Drive	2"	0"	2"	2"	9"	8"
Erin Lane	2"	0"	2"	2"	9"	8"
Shannon Drive	2"	0"	2"	No Core Taken (Limited Area)	9"	No Core Taken (Limited Area)

Note: Surface course remains unpaved.

Pavement distress is evident in various areas due to the lack of plan pavement depths along with the exposure to inadequate drainage from the pavement into the gutter. The difference between the binder course elevations and the gutter elevations will require between 2" to 2.5" of HMA overlay thickness throughout Erin Hills – Unit 4D. The pavement distress can be resolved by removing the existing binder course pavement and underlying aggregate/subgrade material and replacement with 12" of new aggregate base course and 2" of binder course. Following the pavement patching would be the HMA surface course overlay to complete the roadway improvements. Cold milling the existing surface course pavement to establish butt joints at various improvement limit locations will also be necessary.

The following pavement improvements are recommended prior to acceptance of the subdivision by the Village of Homer Glen.

Roadway	Pavement Patching (2" HMA Binder Course with 12" Aggregate Base Course, Type B)	HMA Surface Course, Mix 'C', N50	HMA Surface Removal – Butt Joint
Dublin Drive	576 SY (370' X 14')	530 Tons (3,791 SY at 2.5")	31 SY (28' X 10')
Erin Drive	781 SY (25' X 15', 50' X 7', 200' X 28', 100' X 7')	392 Tons (3,111 SY at 2.25")	31 SY (28' X 10')

Erin Lane	N/A	80 Tons (716 SY at 2" depth)	N/A
Shannon Drive	NA	70 Tons (622 SY at 2" depth)	31 SY (28' X 10')
TOTALS:	1,357 SY	1,072 Tons	93 SY

Note: Due to binder course elevation deficiencies and roadway settlement, HR Green provided estimated average surface course thicknesses necessary to finish paving the roadway according to plan.

Prior to the pavement improvements, combination concrete curb and gutter replacement will be necessary. The curb and gutter is to be removed and replaced. Each section shall be cut to full depth, removed and replaced with dowel bars, proper form work and finishing techniques.

The following table includes sections of curb and gutter determined to be unacceptable because of heaving, settlement and/or damage.

Roadway	Combination Concrete Curb and Gutter Removal and Replacement
Dublin Drive	100 FT Lot 262/263: 10' Lot 265: 10' Lot 270/271: 10' Lot 272: 10' Park site parking lot: 50' Northeast corner of cul-de-sac: 10'
Erin Drive	10 FT Lot 272: 5' Lot 289: 5'
Erin Lane	40 FT Lot 280: 20' Lot 280/290: 10' Lot 281: 10'
Shannon Drive	N/A
TOTAL:	150 FT

Storm Sewer Appurtenances

Storm Sewer structures were observed for compliance with the approved subdivision improvement plans. It is recommended that all storm sewer structures be cleaned in addition to the correction of any deficiencies prior the Village of Homer Glen taking ownership and maintenance responsibilities of the storm sewer system.

It is recommended that the following defects be repaired prior to Village acceptance of the subdivision.

Item No.	Structure #	Defect/Corrective Action
1.	INL 104-2	▪ Clean out debris
2.	INL 107-1	▪ Clean out debris ▪ Frame adjustment due to curb and gutter repair
3.	INL 108	▪ Clean out debris
4.	INL 202-1	▪ Clean out debris
5.	INL 202-1.1	▪ Clean out debris
6.	INL 302-1	▪ Clean out debris
7.	INL 302-1.1	▪ Clean out debris
8.	INL 303-1	▪ Clean out debris
9.	INL 303-1.1	▪ Clean out debris
10.	CB 101	▪ Clean out debris
11.	CB 104-1	▪ Clean out debris ▪ Frame adjustment due to curb and gutter repair
12.	CB 107	▪ Clean out debris ▪ Frame adjustment due to curb and gutter repair
13.	CB 202	▪ Clean out debris ▪ Remove filter fabric
14.	CB 302	▪ Clean out debris
15.	CB 401	▪ Clean out debris
16.	CB 503 (Restrictor)	▪ Clean out debris
17.	CB 602 (Restrictor)	▪ Clean out debris

18.	MH 102	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench ▪ Include steps
19.	MH 103	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench ▪ Remove filter fabric
20.	MH 104	<ul style="list-style-type: none"> ▪ Replace cracked grate (hazardous) ▪ Clean out debris ▪ Provide concrete bench ▪ Remove filter fabric
21.	MH 105	<ul style="list-style-type: none"> ▪ Backfill sunken area next to manhole in rear yard ▪ Clean out debris ▪ Provide concrete bench ▪ Remove filter fabric
22.	MH 106	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench ▪ Remove filter fabric
23.	MH 201	<ul style="list-style-type: none"> ▪ Could not locate. Assume Lid is buried. Adjust frame to final grade. ▪ Clean out debris (assumption) ▪ Provide concrete bench (assumption)
24.	MH 201-A	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
25.	MH 203	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
26.	EX MH 205	<ul style="list-style-type: none"> ▪ Frame appears to be set too high. Adjust to match final grade.
27.	MH 301	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench ▪ Remove filter fabric
28.	MH 301-A	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
29.	MH 303	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
30.	MH 304	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
31.	MH 501	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
32.	MH 502	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
33.	MH 601	<ul style="list-style-type: none"> ▪ Clean out debris ▪ Provide concrete bench
34.	ES 200	<ul style="list-style-type: none"> ▪ Clean out debris
35.	ES 300	<ul style="list-style-type: none"> ▪ Clean out debris

36.	ES 400	▪ Clean out debris
37.	ES 500	▪ Secure grate ▪ Clean out debris
38.	ES 504	▪ Clean out debris
39.	ES 600	▪ Clean out debris
40.	ES 603	▪ Clean out debris
41.	ES 700	▪ Clean out debris
42.	ES 701	▪ Clean out debris

Sanitary Sewer Appurtenances

Sanitary Sewer manholes were observed for compliance with the approved subdivision improvement plans. It is HR Green’s understanding that the sanitary sewer system is owned and maintained by Illinois American Water. These improvements are not owned and maintained by the Village of Homer Glen, however, it would be beneficial to observe the sanitary sewer manholes to identify any defects to the structures that could impact other public infrastructure improvements and threaten the health and safety of the public.

A lift station exists within the Erin Hills – Unit 4D subdivision on Lot 290. The lift station is owned and maintained by Illinois American Water.

It is recommended that the following defects be coordinated with Illinois American Water for review and correction prior to Village acceptance of the subdivision.

Item No.	Structure #	Defect/Corrective Action
1.	Drop MH 4	▪ Replace broken frame
2.	MH 3	▪ Frame appears to be set too high. Adjust to match final grade.
3.	MH 5	▪ Replace broken frame

Note: The letter “S” is marked in the curb to identify sanitary sewer service crossing locations.

Watermain Appurtenances

Watermain fire hydrants, valve boxes and water service buffalo boxes were observed for compliance with the approved subdivision improvement plans. It is HR Green’s understanding that the water supply system is owned and maintained by Illinois American Water. These improvements are not owned and maintained by the Village of Homer Glen, however, it would be beneficial to observe the watermain appurtenances to identify any defects that could impact other public infrastructure improvements and threaten the health and safety of the public.

HR Green was not responsible to determine if the valves serving water service lines, fire hydrants or watermain mainline were operable (keyable). Assumptions were made based on the visual condition of the appurtenances and the recommended associated repairs. It is recommended to have the Village of Homer Glen/Illinois American Water determine if every valve within the subdivision, which may not be identified in the punch list, is functioning properly prior to performing corrections to water main appurtenances to establish any adjustments to the scope of work.

It is recommended that the following defects be coordinated with Illinois American Water for review and correction prior to Village acceptance of the subdivision.

Item No.	Appurtenance #	Defect/Corrective Action
1.	FH 25+28, RT	▪ Replace cracked auxiliary valve box
2.	FH 22+67, RT	▪ Auxiliary valve box appears to be set too low. Adjust valve box to match final grade.
3.	FH 19+11, LT	▪ Auxiliary valve box appears to be set too low. Adjust valve box to match final grade.
4.	FH 2+31, RT	▪ Auxiliary valve box appears to be set too low. Adjust valve box to match final grade.
5.	Valve Box 21+10 RT	▪ Valve box appears to be set too high. Lower to match final grade.
6.	B-Box Lot 261	▪ B-Box is leaning and needs to be repaired/replaced
7.	B-Box Lot 262	▪ B-Box is leaning and needs to be repaired/replaced
8.	B-Box Lot 263	▪ B-Box is leaning, missing cap and needs to be repaired/replaced
9.	B-Box Lot 264	▪ Could not locate. Assume damaged and replacement will be necessary.
10.	B-Box Lot 268	▪ B-Box is leaning and needs to be repaired/replaced
11.	B-Box Lot 270	▪ B-Box is leaning, missing cap and needs to be repaired/replaced
12.	B-Box Lot 271	▪ B-Box appears to be set too low. Adjust to match final grade.

13.	B-Box Lot 272	<ul style="list-style-type: none"> ▪ B-Box has been knocked over and needs to be replaced
14.	B-Box Lot 273	<ul style="list-style-type: none"> ▪ Could not locate. Assume damaged and replacement will be necessary.
15.	B-Box Lot 274	<ul style="list-style-type: none"> ▪ B-Box has been knocked over and needs to be replaced
16.	B-Box Lot 276	<ul style="list-style-type: none"> ▪ B-Box appears to be set too low. Adjust to match final grade.
17.	B-Box Lot 278	<ul style="list-style-type: none"> ▪ B-Box appears to be set too low. Adjust to match final grade.
18.	B-Box Lot 285	<ul style="list-style-type: none"> ▪ Could not locate. Assume damaged and replacement will be necessary.
19.	B-Box Lot 289	<ul style="list-style-type: none"> ▪ Could not locate. Assume damaged and replacement will be necessary.

Notes:

1. The letter “W” is marked in the curb to identify water service crossing locations.
2. Water service buffalo boxes that appeared higher than future finished surrounding grades have not been identified in the deficiency list, as they can be lowered with minimal effort during the sidewalk and restoration improvements.

Sidewalk

Sidewalk improvements were observed for compliance with the approved subdivision improvement plans. The plans for Erin Hills – Unit 4D include providing an 8’ wide bituminous bike path along the east side of Dublin Drive, the south side of Erin Drive, the south side of Erin Lane and surrounding the detention basins. The proposed bike path exists as concrete pavement along the public/common area located west of detention area #2 (southwest basin) and adjacent to the completed and occupied lots (277 and 280). As sidewalk improvements are to be completed per the subdivision plans prior to Village acceptance, based on the existing conditions, the bike path is being considered sidewalk for the Erin Hills – Unit 4D subdivision’s observation report.

It is critical to adhere to the State of Illinois American’s with Disabilities Act (A.D.A.) requirements set forth for sidewalk approaches made accessible to the handicap. In order to obtain conformance with the plans and the State of Illinois requirements, A.D.A. compliant sidewalk approach improvements have been included in this report where sidewalk approaches are incorrect or not yet installed. In areas where the sidewalk approaches are incorrect, sidewalk removal and replacement will be necessary.

The following table includes recommendations for sidewalk related improvements to be performed prior to Village acceptance of the subdivision.

Roadway	P.C.C. Sidewalk (5" depth)	Sidewalk Removal & Replacement	Detectable Warnings
Dublin Drive	2,656 SF Lot 270: 96' X 8' Lot 271: 96' X 8' Lot 272: 140' X 8'	80 SF Approaches on north and south sides of park site parking area: (2 X 5' X 8')	32 SF Approaches on north and south sides of park site parking area: (2 X 8' X 2')
Erin Drive	5,512 SF Lot 272: 140' X 8' Lot 273: 100' X 8' Lot 274: 98' X 8' Lot 275: 97' X 8' Lot 276: 97' X 8' Lot 278: 83' X 8' Lot 279: 74' X 8'	N/A	N/A
Erin Lane	N/A	N/A	N/A
Shannon Drive	N/A	N/A	N/A
TOTALS:	8,168 SF	80 SF	32 SF

Note: 6" of aggregate base course is to be included for the sidewalk/bike path improvements per the improvement plans.

Street Lighting

Street lighting improvements were not included in the Erin Hills – Unit 4D plans provided to HR Green, however, street lighting exists throughout. A total of five street lights exist and are located at the intersections of Erin Dr. and Dublin Dr., Erin Dr. and Shannon Dr., Erin Dr. and Erin Ln., just north of the public parking area and at the south end of the Dublin Dr. cul-de-sac. Visual day time and night time observations of the street lighting in Erin Hills – Unit 4D indicated that all street lights were functioning and no deficiencies were observed. To attain verification of street lighting compliance with Village ordinances, it is recommended that the Village of Homer Glen have a photometric plan developed and reviewed. No photometric data was included in the subdivision improvement plans for Erin Hills – Unit 4D.

Signage and Pavement Markings

Signage improvements were not included in the Erin Hills – Unit 4D plans provided to HR Green. No street name signs, stop signs or other miscellaneous signage was observed.

Although no signage was included in the plans, it is recommended to have street names signs and stop signs provided at applicable intersection locations as warranted.

Pavement markings for parking stalls located in the parking area at the park site and at the east side of the Dublin Dr. cul-de-sac are shown in the plans. No other pavement markings were shown in the plans.

The following table includes the planned and recommended signage and pavement marking improvements to be performed prior to Village acceptance of the subdivision.

Roadway	Stop Signs	Street Name Signs	Parking Stall Pavement Markings (4" - Yellow)
Dublin Drive	N/A	1 EA (At Erin Dr.)	320 FT (16 EA X 20'/EA)
Erin Drive	1 EA (At Dublin Dr.)	3 EA (At Dublin Dr., Shannon Dr. & Erin Ln.)	N/A
Erin Lane	1 EA (At Erin Dr.)	1 EA (At. Erin Dr.)	N/A
Shannon Drive	1 EA (At Erin Dr.)	1 EA (At. Erin Dr.)	N/A
TOTALS:	3 EA	6 EA	320 FT

Notes:

1. The stop signs should be installed based upon a recommended warrant analysis study. Stop signs are recommended to be type R1-1 (30" X 30") with one post.
2. Street name sign types chosen by the Village are recommended to be in accordance with the Manual on Uniform Traffic Control Devices (M.U.T.C.D.).
3. One post will be necessary to accommodate two street name signs. A total of three posts will be necessary for 2 street name signs at each of the three intersections.
4. Paint pavement markings are recommended to be installed.
5. A handicap parking stall symbol (blue in color – 5 SF) is recommended for south-most parking stall located in the parking area serving the park site.

Restoration and Landscaping

Restoration improvements within the public Right-Of-Way parkway areas are recommended for Village acceptance of the subdivision. The recommended restoration improvements consist of weed removal, placement of topsoil, seed, fertilizer and erosion control blanketing within the parkway areas between the sidewalk and the back of curb

along with the space between the back of the proposed sidewalk and the Right-Of-Way line. Not all areas within the Erin Hills – Unit 4D parkways contain proposed sidewalk. In these areas, it is assumed that restoration would occur between the back of curb and the Right-Of-Way line. Some excavation may be necessary in the parkway areas to accommodate a proper amount of topsoil for adequate turf growth and this work would be performed as part of the topsoil placement preparation. It is recommended that water service buffalo boxes, fire hydrants and utility structures be level with the desired finished restoration grades.

An estimated quantity of topsoil needed to complete the restoration improvements within the parkway has been included in the punchlist. A topsoil stockpile remains on Lot 270. An estimated volume of the topsoil stockpile has been calculated. Furnishing topsoil from outside of the subdivision site will not be necessary as a result of the topsoil stockpile quantity being in excess of the estimated volume required to complete the parkway restoration improvements. It is recommended that the topsoil needed to complete the restoration be pulverized from the stockpile and placed on site. It is recommended that the balance of the stockpiled topsoil no longer needed for the restoration improvements be hauled off site. Upon hauling the topsoil off site, it is recommended that the area remaining be provided with seed, fertilizer and erosion control blanket. HR Green has provided an estimated cost for the removal of the stockpile material.

Landscaping plans for Erin Hills – Unit 4D were unavailable for HR Green to compare the intended landscaping improvements to what currently exists. With the understanding that trees will need to be provided within the parkways prior to Village acceptance of the subdivision, HR Green has included an estimated quantity of trees following Village of Homer Glen tree spacing criteria (40' c-c) as specified in the Village's Subdivision Ordinance.

HR Green has also provided optional areas outside of the parkways to be restored with topsoil, seed, fertilizer and erosion control blanket. The optional areas included are the perimeter areas surrounding detention basins 1 & 2 on Lot 290. The optional areas do not include private properties, only the common areas designated for the detention ponds. These areas consist of weed vegetation throughout. HR Green was not able to determine if any project specific plantings were in place, as the landscape plans were unavailable. If the Village desires native plantings around the ponds, HR Green does have landscape architects on staff and we can provide these native landscape services for additional costs.

The following table includes the recommended restoration and parkway tree improvements necessary to obtain Village acceptance of the subdivision.

Roadway / Area	Restoration (Topsoil, Seed, Fertilizer and Erosion Control Blanket)	Parkway Trees	Topsoil Removal
Dublin Drive	2,629 SY (West side: 830' X 17.5') (East side: 120' X 17.5' & 740' X 9.5')	42 EA (40' spacing within 1,690')	N/A

Erin Drive	2,167 SY (North side: 645' X 17.5') (South side: 95' X 17.5' & 690' X 9.5')	36 EA (40' spacing within 1,430')	N/A
Erin Lane	525 SY (North side: 230' X 17.5') (East side: 40' X 17.5')	7 EA (40' spacing within 270')	N/A
Shannon Drive	914 SY (West side: 215' X 17.5') (East side: 255' X 17.5')	12 EA (40' spacing within 470')	N/A
Lot 270 (Topsoil stockpile location)	1,445 SY (130' X 100')	N/A	6,181 CY (130' X 100' X 15' = 7,222 CY) – (Parkway restoration area at 6" deep = 1,039 CY)
TOTALS:	7,680 SY	97 EA	6,181 CY

Notes:

1. Assume an average of 6" of topsoil placement necessary for restoration.
2. Parkway tree type to be determined by the Village of Homer Glen in accordance with Tree Preservation Ordinance 06-014.

The following table includes the optional restoration areas to be considered by the Village for acceptance of the subdivision.

Optional Areas	Optional Restoration (Topsoil, Seed, Fertilizer and Erosion Control Blanket)	Topsoil Removal (Balance after restoring optional areas)
Detention Basin 1	8,389 SY (590' X 55', 800' X 35', 215' X 70')	5,248 CY 6,181 CY – (Basin 1 restoration volume at 4" deep = 933 CY)
Detention Basin 2	4,217 SY (650' X 25', 620' X 35')	4,779 CY 5,248 CY – (Basin 2 restoration volume at 4" deep = 469 CY)
TOTALS:	12,606 SY	4,779 CY

Notes:

1. Assume 4” topsoil depth for detention basin restoration areas.
2. Topsoil Removal quantities shown are estimated final volumes to be removed from the project site after utilizing the processed topsoil for the optional areas.

Erosion Control

Existing erosion control measures that are commonly used such as perimeter erosion barrier and filter fabric for inlet and pipe protection become no longer applicable after vegetation has developed for areas that were once solely comprised of earth material such as clay or other soils and subject to erosion. In most cases, enough vegetation will develop such that the vegetation itself becomes a means of erosion control. HR Green determined that vegetation growth has become established throughout the Erin Hills – Unit 4D subdivision, which includes the Right-Of-Way, common areas, basins and lots. As a result, the existing perimeter erosion barrier and filter fabric (inlet and pipe protection) measures are recommended to be removed unless otherwise indicated. Filter fabric removal is covered in the storm sewer deficiency list.

The following table includes the perimeter erosion barrier recommended for removal prior to Village acceptance of the subdivision.

Location	Perimeter Erosion Barrier Removal
West side of Dublin Drive (Behind Lots 263-265)	350 FT
Lots 272 - 278	750 FT
Lots 284, 285 and 288	390 FT
Perimeter of Basins 1 & 2 and south of topsoil stockpile	2,335 FT
TOTAL:	3,825 FT

During the erosion control observation, there were areas identified where erosion has occurred in the past, creating several eroded voids within the ground surface at various areas. Some of these areas may not be subject to future erosion issues due to surrounding vegetation but they are assumed as hazardous to pedestrians walking through the areas due to the differential in grades. It is recommended that these areas be corrected by means of re-grading or filling the eroded areas with earth material and restoring the surface with seed, fertilizer and erosion control blanket.

The following table includes the recommended erosion corrections to be performed prior to Village acceptance of the subdivision.

Location	Erosion Corrections
Lot 276	356 SY (80' X 40')
North side of detention basin 1 (northwest of ES 200)	56 SY (50' X 10')
TOTAL:	412 SY

Note: Erosion corrections work includes necessary earth moving operations, necessary furnishing of placement of earth material from on site and placement of vegetation seed and erosion control blanket.

Bike Path Improvements

There is a bituminous bike path on site starting from Erin Ln., travelling south around the south side of detention basins 1 & 2 and ending at Dublin Dr. The layout that exists appears to match what was include in the subdivision improvement plans. HR Green identified two areas where the bike path needs pavement patching. The recommended pavement patching work would consist of the removal and replacement of the 2" plan thickness of the bituminous bike path with HMA surface course.

The following table includes the areas recommended to be patched for improvement to the bike path prior to Village acceptance of the subdivision.

Location	Bike Path Patching
Southeast side of detention basin 2 (Next to MH 601 and CB 602)	22 SY (25' X 8')
East side of detention basin 2	36 SY (40' X 8')
TOTAL:	58 SY

Guardrail Improvements

The improvement plans include proposed guardrail along the east side of Dublin Drive between the park site and the lift station area, which was never installed. The guardrail is proposed along the outside edge of the bike path for the assumed protection from pedestrians travelling off the front slopes serving the detention basin.

The following table includes the proposed guardrail recommended to be installed prior to Village acceptance of the subdivision.

Location	Steel Plate Beam Guardrail, Type A, 6 FT Posts
Dublin Drive (East side of south end)	325 FT

Miscellaneous Machinery, Equipment, Materials and Debris

Existing construction related machinery, equipment, materials and debris remain on Lot 289. Items such as a street sweeper broom attachment, riding lawn mower, trailers, concrete mixer, concrete forms, dumpster, tires, sewer pipe, landscape block, traffic control barricades and concrete rubble reside on the property. These items do not serve any use on the site, are unsightly and potentially hazardous to the public. It is recommended that these items be removed from the subdivision property.

II. DETENTION BASIN VERIFICATION

Existing Drainage Features Summary

HR Green performed topographical survey services on the Erin Hills Unit 4D subdivision on June 6th, 2012. The specific information collected included topography of the subdivision’s storm water detention basins including interconnecting storm sewer pipes and structures adjacent to said detention basins in their existing conditions. The basins were surveyed along their top of bank and down to the surface water elevations. For Erin Hills Unit 4D subdivision, it was found that storm water flow between Basin 1 (drainage area DA #1) into Basin 2 (drainage area DA #2) is controlled by a dual pipe stacked configuration of a 12” diameter storm sewer below an 18” diameter storm sewer. These dual pipes are located between catch basin (CB) #9032 and #9033 as shown with rim and invert elevation information on the attached Basin #1 Exhibit A1. Both CB #9032, #9033 and #9137 were found to have bee-hive grates. For Basin #2, the outlet control was found to be similarly designed by a dual pipe stacked configuration of a 12” diameter storm sewer below an upper 22” diameter storm sewer. These dual pipes are located between catch basin (CB) #9152 and #9153 as shown with rim and invert elevation information on the attached Basin #2 Exhibit A2. The outlet pipe from Basin #2 is a 12” diameter storm sewer that drains directly to Long Run Creek.

Volume Determination Summary

The Erin Hills Unit 4D subdivision's storm water basin contour areas were imported into an Excel spreadsheet to calculate the volume of provided storage using the average end area method. HR Green then assessed whether the storage volume was achieved based upon the comparison to the proposed basin's volume included in the improvement plans.

For Basin #1, the surveyed storage volume is calculated to be 12.12 Ac-ft. The design plans label this basin as providing 14.10 Ac-ft of storage. The corresponding difference between design storage and as-built storage volume provided is approximately 2.0 Ac-ft or a 14% shortage. The design plans call for Basin#1 to have a normal water level (NWL) of 660.80 and a 100-YR high water level (HWL) of 667.8 or 667.30 (listed both ways on the plans). The surveyed NWL was found to be based upon the flared end section (FES) #9088, invert (INV) elevation of 661.0±. The HWL was found to be the ground elevations of 666.70 at the overflow weir near CB #9032.

For Basin #2, the surveyed storage volume is calculated to be 6.00 Ac-ft. The design plans label this basin as providing 6.23 Ac-ft of storage. The corresponding difference between design storage and as-built storage volume provided is approximately 0.2 Ac-ft or a 4% shortage. The design plans call for Basin #2 to have a normal water level (NWL) of 659.00 and a 100-YR high water level (HWL) of 663.00. The surveyed NWL was found to be based upon the flared end section (FES) #9187, invert (INV) elevation of 659.00. The HWL was found to be the ground elevations of 663.20 at the overflow weir along the pond's eastern bank.

Conclusions

Basin #1 is short in volume due to the fact that the outfall pipe was constructed 0.2' high and the overflow weir was constructed 1.1' low. One possible corrective measure would be to raise the basin overflow weir and containment berm to obtain additional volume. A detailed analysis of the original design calculations and existing site conditions would be necessary before this measure could be recommended. HR Green can provide this service at an additional cost.

Basin #2 is also short in volume by 4% of the proposed design. The NWL and HWL elevations match the proposed design. If corrective measures are deemed necessary adjustments to the overflow weir or outfall pipe can be evaluated. Likewise, a detailed analysis of the original design calculations and existing site conditions would be necessary. HR Green can provide this service at an additional cost.

III. PARCEL IDENTIFICATION

HR Green has researched the specific ownership of both private and public improvement property in the Erin Hills – Unit 4D subdivision. The parcel data was obtained by utilizing 2011 tax records through the Will County Treasurer's Office. There are 30 lots within the subdivision numbered 261 through 290. Please refer to Exhibit B for parcel identification.

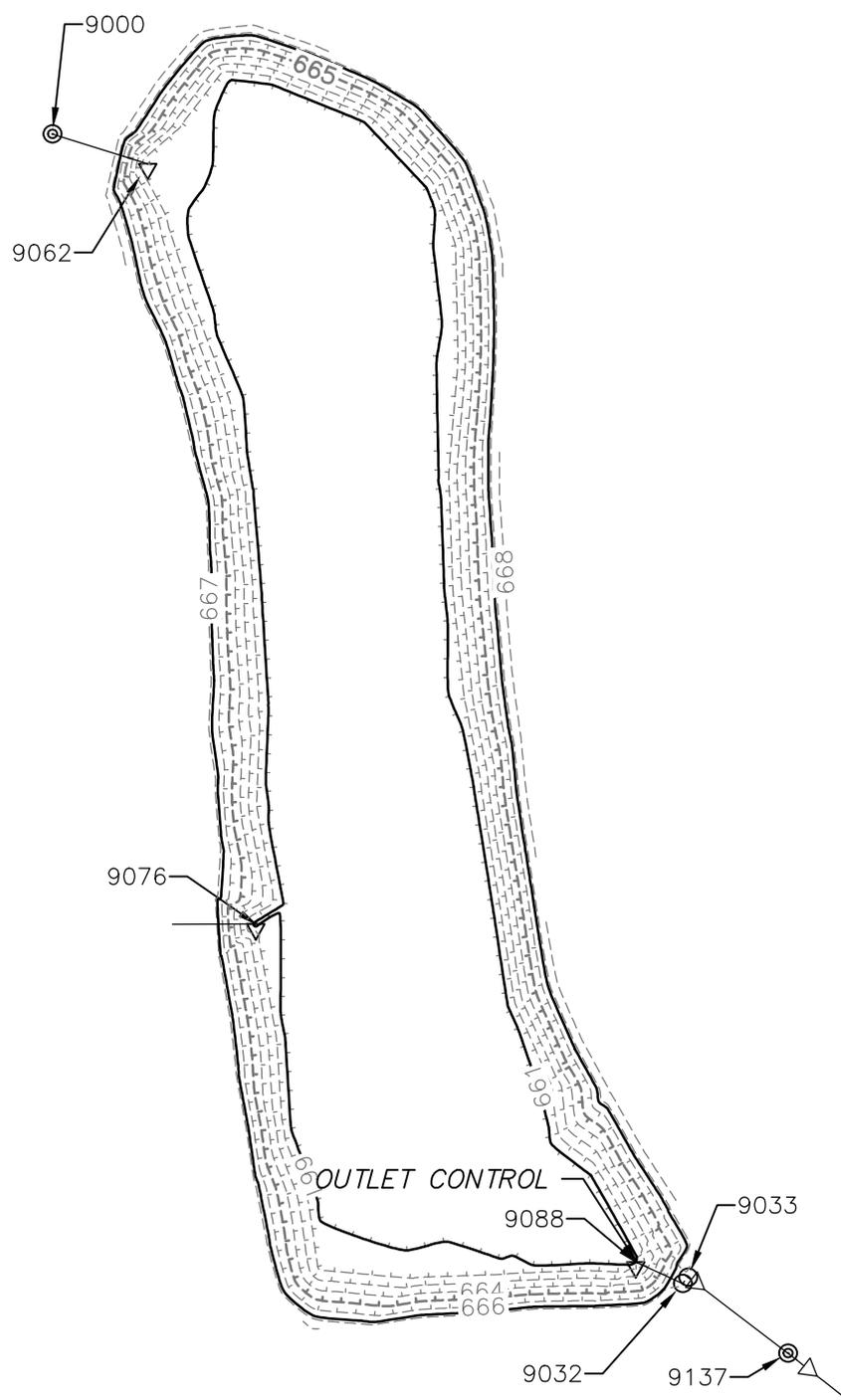
IV. ENGINEER'S OPINION OF PROBABLE COST

The punch list items included in this report have been identified as construction action items with assigned quantities of work and associated unit pricing necessary to correct the deficiencies and complete the outstanding improvements necessary for Village acceptance of the subdivision. HR Green utilized 2012 unit prices for cost estimation purposes. Please refer to Exhibit C for the Engineer's Opinion of Probable Cost.



BASIN #1

- 9000 STORM CATCH BASIN
ENGINEERING PLAN ID=301
RIM=668.81
INV=661.06 SW 36" RCP
- 9062 FLARED END SECTION
ENGINEERING PLAN ID=300
INV=660.97 NE 36" RCP
- 9076 FLARED END SECTION
ENGINEERING PLAN ID=200
INV=660.71 N 36" RCP
- 9088 FLARED END SECTION
ENGINEERING PLAN ID=504
INV=661.06 SW 18" RCP
- 9032 STORM MANHOLE (RESTRICTOR)
ENGINEERING PLAN ID=503
RIM=666.86
INV=660.41 NE 18" RCP
INV=660.51 SE 12" RCP
INV=663.26 SE 18" RCP
- 9033 STORM MANHOLE (RESTRICTOR)
ENGINEERING PLAN ID=502
RIM=666.76
INV=660.46 SW 18" RCP
INV=660.46 NW 12" RCP
INV=663.16 NW 18" RCP



POND VOLUME

Elevation (ft)	Area (sq. ft.)	Area (acres)	Volume (ac-ft)	Cumulative Volume
661	69433	1.59	0.00	0.000
662	80052	1.84	1.71	1.714
663	86972	2.00	1.92	3.631
664	93951	2.16	2.08	5.707
665	100989	2.32	2.24	7.944
666	108083	2.48	2.40	10.344
666.7	113084	2.60	1.78	12.121

EXISTING POND VOLUME=12.12 AC. FT.
 PROPOSED POND VOLUME=14.10 AC. FT.

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Illinois Professional Design Firm # 184-001322



323 Alana Drive,
 New Lenox, Illinois 60451
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 www.secgroupinc.com

ERIN HILLS UNIT 4D
 BASIN #1

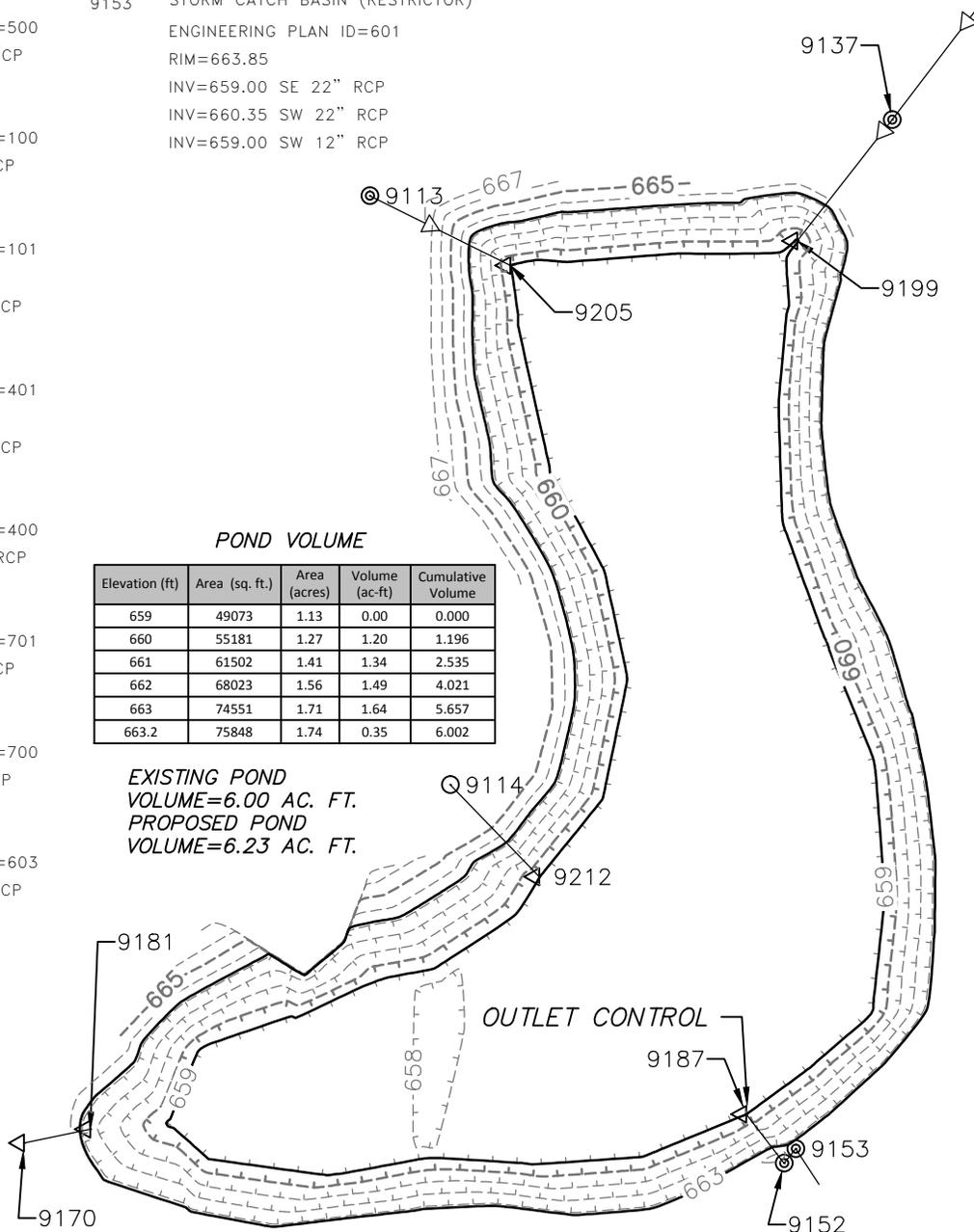
DATE: 6/20/2012		
HORIZ. SCALE: NOT TO SCALE		
DWN. BY: BDE	DSN. BY: N/A	CHK. BY: MD
PROJECT NO. 86120056		
SHEET NO. 1 OF 1		

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|------|-------------------------|------|--------------------------------|
| | BASIN #2 | 9152 | STORM CATCH BASIN (RESTRICTOR) |
| 9137 | STORM CATCH BASIN | | ENGINEERING PLAN ID=602 |
| | ENGINEERING PLAN ID=501 | | RIM=663.95 |
| | RIM=663.69 | | INV=659.05 NW 22" RCP |
| | INV=659.67 NE 18" RCP | | INV=660.65 NE 22" RCP |
| | INV=659.67 SW 18" RCP | | INV=659.05 NE 12" RCP |
| 9199 | FLARED END SECTION | 9153 | STORM CATCH BASIN (RESTRICTOR) |
| | ENGINEERING PLAN ID=500 | | ENGINEERING PLAN ID=601 |
| | INV=658.89 NE 18" RCP | | RIM=663.85 |
| 9205 | FLARED END SECTION | | INV=659.00 SE 22" RCP |
| | ENGINEERING PLAN ID=100 | | INV=660.35 SW 22" RCP |
| | INV=659.08 W 36" RCP | | INV=659.00 SW 12" RCP |
| 9113 | STORM MANHOLE | | |
| | ENGINEERING PLAN ID=101 | | |
| | F/L=668.21 | | |
| | INV=659.51 SE 36" RCP | | |
| 9114 | STORM CATCH BASIN | | |
| | ENGINEERING PLAN ID=401 | | |
| | F/L=665.85 | | |
| | INV=660.25 SE 18" RCP | | |
| 9212 | FLARED END SECTION | | |
| | ENGINEERING PLAN ID=400 | | |
| | INV=659.04 NW 18" RCP | | |
| 9181 | FLARED END SECTION | | |
| | ENGINEERING PLAN ID=701 | | |
| | INV=662.33 W 12" RCP | | |
| 9170 | FLARED END SECTION | | |
| | ENGINEERING PLAN ID=700 | | |
| | INV=662.49 E 12" RCP | | |
| 9187 | FLARED END SECTION | | |
| | ENGINEERING PLAN ID=603 | | |
| | INV=659.00 SE 22" RCP | | |

POND VOLUME

Elevation (ft)	Area (sq. ft.)	Area (acres)	Volume (ac-ft)	Cumulative Volume
659	49073	1.13	0.00	0.000
660	55181	1.27	1.20	1.196
661	61502	1.41	1.34	2.535
662	68023	1.56	1.49	4.021
663	74551	1.71	1.64	5.657
663.2	75848	1.74	0.35	6.002

EXISTING POND VOLUME=6.00 AC. FT.
 PROPOSED POND VOLUME=6.23 AC. FT.



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Illinois Professional Design Firm # 184-001322



323 Alana Drive,
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 www.secgroupinc.com

ERIN HILLS UNIT 4D
 BASIN #2

DATE:
 6/20/2012
 HORIZ. SCALE:
 NOT TO SCALE
 DWN. BY: DSN. BY: CHK. BY:
 BDE N/A MD
 PROJECT NO.
 86120056
 SHEET NO.
 1 OF 1



EXHIBIT B Erin Hills - Unit 4D Parcel Identification

Lot Number	Permanent Index Number (PIN)	Property Owner	Property Address	Property Street	Property City	Property State	Property Zip	Owner Address	Owner Street	Owner City	Owner State	Owner Zip
261	16-05-03-109-015-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
262	16-05-03-109-016-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
263	16-05-03-109-017-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
264	16-05-03-109-018-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
265	16-05-03-109-019-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
266	16-05-03-109-020-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
267	16-05-03-109-021-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
268	16-05-03-109-022-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
269	16-05-03-109-023-0000	CYSCON JOHN CARLA	13758	S DUBLIN DR	HOMER GLEN	IL	60491	13758	S DUBLIN DR	HOMER GLEN	IL	60491
270	16-05-03-109-026-0000	VILLAGE OF HOMER GLEN						14933	FOUNDERS CROSSING	HOMER GLEN	IL	60491
271	16-05-03-109-025-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
272	16-05-03-109-027-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
273	16-05-03-109-028-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
274	16-05-03-109-029-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
275	16-05-03-109-030-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
276	16-05-03-109-031-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
277	16-05-03-109-032-0000	MAES JOHN F CAROLE L	13623	S ERIN DR	HOMER GLEN	IL	60491	13623	S ERIN DR	HOMER GLEN	IL	60491
278	16-05-03-109-033-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
279	16-05-03-109-034-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
280	16-05-03-109-035-0000	SULLIVAN GERALD E FOSTER STACY A REV TR	14003	S ERIN LN	HOMER GLEN	IL	60491	14003	S ERIN LN	HOMER GLEN	IL	60491
281	16-05-03-108-002-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
282	16-05-03-106-016-0000	PECOR FMLY SELF- DECL OF TRUST %PECOR RAYMOND JAMES	13564	S ERIN DR	HOMER GLEN	IL	60491	13558	S ERIN DR	HOMER GLEN	IL	60491
283	16-05-03-106-019-0000	STATE BANK OF COUNTRYSIDE TR 05-2778	13600	S ERIN DR	HOMER GLEN	IL	60491	13526	S ERIN DR	HOMER GLEN	IL	60491
284	16-05-03-106-018-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
285	16-05-03-106-017-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
286	16-05-03-106-015-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
287	16-05-03-105-034-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
288	16-05-03-105-035-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
289	16-05-03-105-033-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491
290	16-05-03-109-024-0000	FINNEGAN FARMS LLC TR 03-2559						13526	S ERIN DR	HOMER GLEN	IL	60491

Notes:

1. Lot 290 is Identified as open space and detention according to the subdivision improvement plans.
2. Subdivision plat recorded on 07/06/2005.
3. Information based upon 2011 property tax records.
4. Will County's current available documentation does not reflect recent property activity since 2011. Current information will be available as provided by Will County.



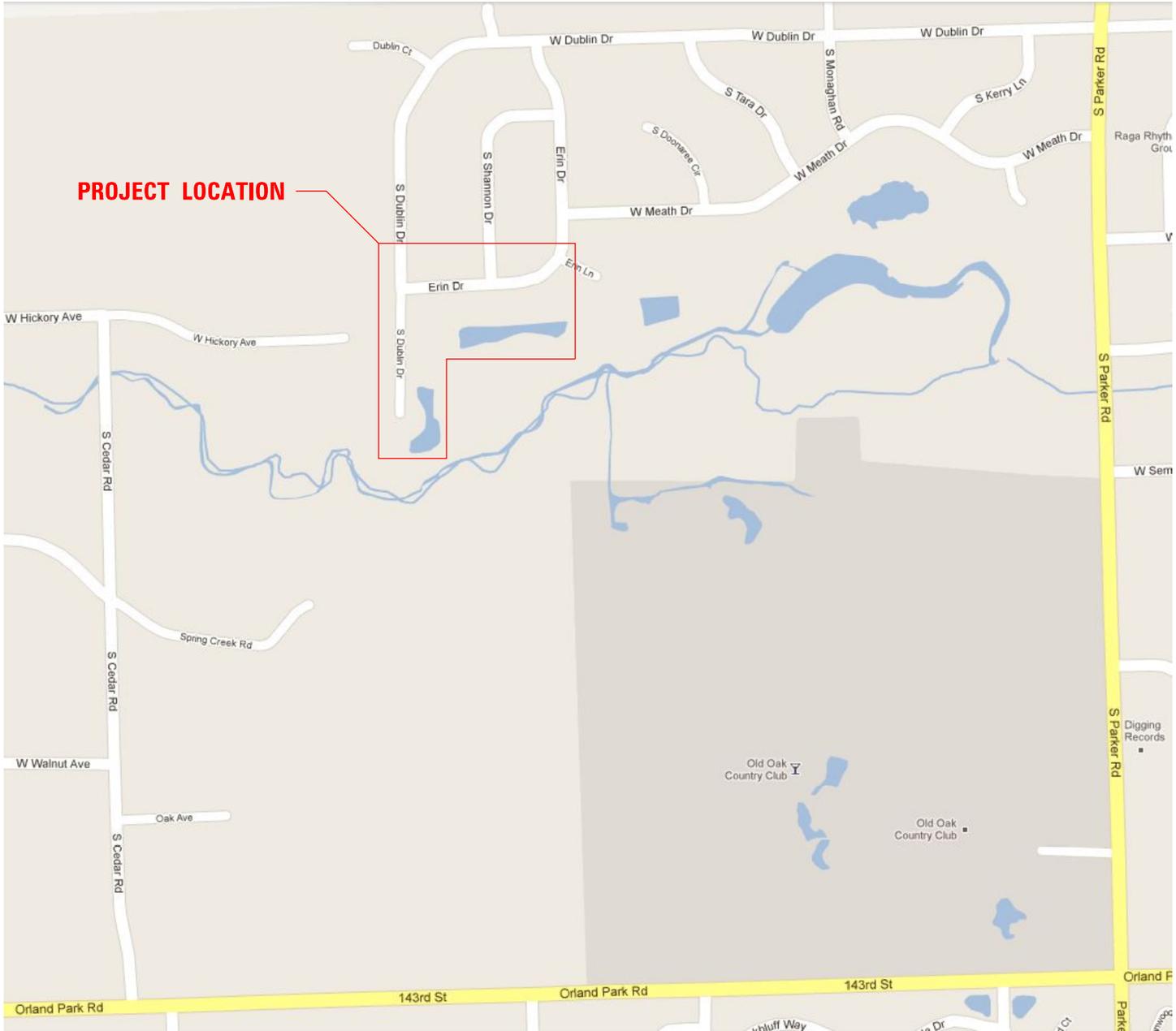
EXHIBIT C
Erin Hills - Unit 4D - Engineer's Opinion of Probable Cost (July, 2012)

ROADWAY NAME		DUBLIN DRIVE	ERIN DRIVE	ERIN LANE	SHANNON DRIVE	VARIOUS AREAS (PUBLIC AND PRIVATE LOTS)	TOTAL	UNIT COST	ESTIMATED COST
ROADWAY LIMITS		ERIN HILLS UNIT 4C LIMIT TO SOUTH END	DUBLIN DRIVE TO ERIN HILLS UNIT-4A LIMIT	ERIN DRIVE TO ERIN HILLS UNIT 4C LIMIT	ERIN HILLS UNIT 4B LIMIT TO ERIN DRIVE				
LENGTH (FOOT)		750	1,000	230	200		2,180		
WIDTH (FOOT)		28	28	28	28				
EXTRA AREA (SQ YD)		1,458					1,458		
AREA (SQ YD)		3,791	3,111	716	622		8,240		
BITUMINOUS MATERIALS (PRIME COAT)	GAL	379	311	72	62		824	\$2.00	\$1,648.00
AGGREGATE (PRIME COAT)	TON	8	6	1	1		16	\$20.00	\$320.00
HOT-MIX ASPHALT SURFACE COURSE, MIX 'C', N50	TON	530	392	80	70		1,072	\$70.00	\$75,040.00
HMA BINDER COURSE REMOVAL AND REPLACEMENT (2")	SQ YD	576	781				1,357	\$12.00	\$16,284.00
AGGREGATE BASE COURSE REMOVAL AND REPLACEMENT, TYPE B (12")	SQ YD	576	781				1,357	\$18.00	\$24,426.00
BIKE PATH PATCHING (2" SURFACE COURSE)	SQ YD					58	58	\$35.00	\$2,030.00
HMA SURFACE REMOVAL - BUTT JOINT	SQ YD	31	31		31		93	\$15.00	\$1,395.00
COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FT	100	10	40			150	\$30.00	\$4,500.00
PORTAND CEMENT CONCRETE SIDEWALK (5")	SQ FT	2,656	5,512				8,168	\$6.00	\$49,008.00
SIDEWALK REMOVAL AND REPLACEMENT (5")	SQ FT	80					80	\$7.00	\$560.00
DETECTABLE WARNINGS	SQ FT	32					32	\$30.00	\$960.00
STREET NAME SIGNS	EACH	1	3	1	1		6	\$225.00	\$1,350.00
R1-1 STOP SIGNS (30" X 30")	EACH		1	1	1		3	\$250.00	\$750.00
SIGN POSTS	EACH		2	2	2		6	\$125.00	\$750.00
PAVEMENT MARKINGS - LINE 4"	FT	320					320	\$0.75	\$240.00
PAVEMENT MARKINGS - LETTERS AND SYMBOLS	SQ FT	5					5	\$5.00	\$25.00
CLEANING INLETS	EACH					9	9	\$100.00	\$900.00
CLEANING CATCH BASINS	EACH					8	8	\$225.00	\$1,800.00
CLEANING MANHOLES	EACH					15	15	\$185.00	\$2,775.00
CLEANING END SECTIONS	EACH					9	9	\$100.00	\$900.00
CONCRETE BENCH FOR MANHOLE	EACH					15	15	\$350.00	\$5,250.00
FRAMES TO BE ADJUSTED	EACH					6	6	\$250.00	\$1,500.00
STEP INSTALLATION FOR STORM SEWER STRUCTURE	EACH					1	1	\$150.00	\$150.00
BACKFILL STRUCTURE	EACH					1	1	\$300.00	\$300.00
TYPE 8 GRATE REPLACEMENT	EACH					1	1	\$225.00	\$225.00
TYPE 1 FRAME REPLACEMENT	EACH					2	2	\$375.00	\$750.00
VALVE BOX REPLACEMENT	EACH					1	1	\$200.00	\$200.00
VALVE BOX ADJUSTMENT	EACH					4	4	\$150.00	\$600.00
WATER SERVICE BUFFALO BOX REPLACEMENT	EACH					11	11	\$325.00	\$3,575.00
WATER SERVICE BUFFALO BOX ADJUSTMENT	EACH					3	3	\$125.00	\$375.00
STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FT POSTS	FT	325					325	\$25.00	\$8,125.00
TOPSOIL PLACEMENT	SQ YD	2,629	2,167	525	914	1,445	7,680	\$6.00	\$46,080.00
SEEDING, CLASS 1A	ACRE	0.54	0.45	0.11	0.19	0.30	1.59	\$3,000.00	\$4,770.00
FERTILIZER	POUND	146	122	30	51	81	430	\$5.00	\$2,150.00
EROSION CONTROL BLANKET	SQ YD	2,629	2,167	525	914	1,445	7,680	\$2.50	\$19,200.00
PARKWAY TREE	EACH	42	36	7	12		97	\$380.00	\$36,860.00
EROSION CORRECTIONS	SQ YD					412	412	\$6.50	\$2,678.00
PERIMETER EROSION BARRIER REMOVAL	FT					3,825	3,825	\$1.00	\$3,825.00
REMOVAL OF MISCELLANEOUS ITEMS	L SUM					1	1	\$10,000.00	\$10,000.00
TOPSOIL REMOVAL	CU YD					6,181	6,181	\$11.00	\$67,991.00
OPTIONAL RESTORATION	SQ YD					12,606	12,606	\$8.50	\$107,151.00

Notes:

1. Bituminous Materials (Prime Coat) = 0.1 Gal/SY.
2. Aggregate (Prime Coat) = 0.002 Ton/SY.
3. Filter fabric removal assumed to be included in cleaning of drainage structures.
4. Fertilizer includes Nitrogen, Phosphorous and Potassium nutrient types at 90lb/acre per nutrient type.
5. Price for Step Installation for Storm Sewer Structure is per structure, not per step.
6. Backfill Structure consists of filling sunken area next to structure and restoring area.
7. PCC Sidewalk (5") includes 6" of aggregate base course. Any excavation for the sidewalk is incidental to the pay item.
8. Topsoil Placement includes weed removal, incidental excavation, on-site pulverizing and placement of topsoil (6" average depth) for restoration areas.
9. Topsoil Removal quantity is the estimated remaining quantity of topsoil upon completing the Topsoil Placement work. The balance of topsoil removal upon completing the Optional Restoration work is estimated to be 4,779 CY. Associated revised cost for Topsoil Removal = 4,779 CY X \$11/CY = \$52,569.00 in lieu of \$67,991.00 (per 6,181 CY).
10. The Village may be able to coordinate with area contractors for the removal and disposal of the excess topsoil stockpile material at significantly lower costs, as the material may benefit other projects.
11. Optional Restoration unit price includes weed removal, on-site pulverizing and placement of topsoil (4"), seeding, fertilizer and erosion control blanket.
12. 2012 unit prices are utilized for the Engineer's Opinion of Probable Cost.

SUB TOTAL:	\$507,416.00
CONTINGENCY (10%):	\$50,741.60
PREPARATION OF CONTRACT PROPOSALS FOR BIDDING, SUBSEQUENT CONTRACT AWARD AND CONSTRUCTION OBSERVATION (6%):	\$33,489.46
TOTAL:	\$591,647.06



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 Illinois Professional Design Firm
 # 184-001322

**VILLAGE OF HOMER GLENN
 ERIN HILLS UNIT 4D
 LOCATION MAP**



SHEET ORIENTATION

DATE: 6/29/2012		
HORIZ. SCALE: N.T.S.		
DWN. BY: RCB	DSN. BY: MJA	CHK. BY: MJA
PROJECT NO. 86120056		
SHEET NO.		

Exhibit D