

Shade Tree Commission of  
Radnor Township  
Wayne, Pennsylvania

**AGENDA**

Wednesday  
May 27, 2015  
6:30 PM

Ardrossan Development GP # 15-87  
Rye Buffer Berm Grading  
13,000 CY of dirt (keep on site)

404 Cheswick Place GP # 15-63  
Construct a patio, pond, new parking and curbing  
120 CY of dirt (take off site)  
Remove 5 trees 24" -27"  
Replant 15 trees (required)  
Providing 16 trees

Glenmary Road GP # 15-66 (if plans are recorded)  
Construct a single family dwelling  
450 CY of dirt (take off site)  
Remove 3 trees (10", 11", 18") Plant 3 trees  
Remove 1 tree (28") Plant 3 trees (2 large canopy)

131-133 Garrett Avenue 2015-S-03  
Subdivide property into two  
Construct a twin house

Ardrossan Development  
Lot 1-3  
Construct SFD

413 Chestnut Lane GP # 15-88  
Construct addition, deck & patio  
85 CY of dirt (take off site)

609 Portledge Drive GP # 15-89  
Construct an addition  
90 CY of dirt (take off site)

Radnor High School GP # 15-90  
Replace Turf Field & expand  
1,200 CY of dirt (keep on site)

404 Boxwood Road GP # 15-91  
Construct a swimming pool  
200 CY of dirt (keep on site)

- Pool previously approved for this site – never proceeded – new design

245 Abrahams Lane GP # 15-92  
Construct a swimming pool  
165 CY of dirt (keep on site)

211 Orchard Way C # 15-04  
Remove 42" Oak  
Remove 4 trees 6" -18" – as permitted by Code  
Replant 10 trees 6 regular – 4 large canopy

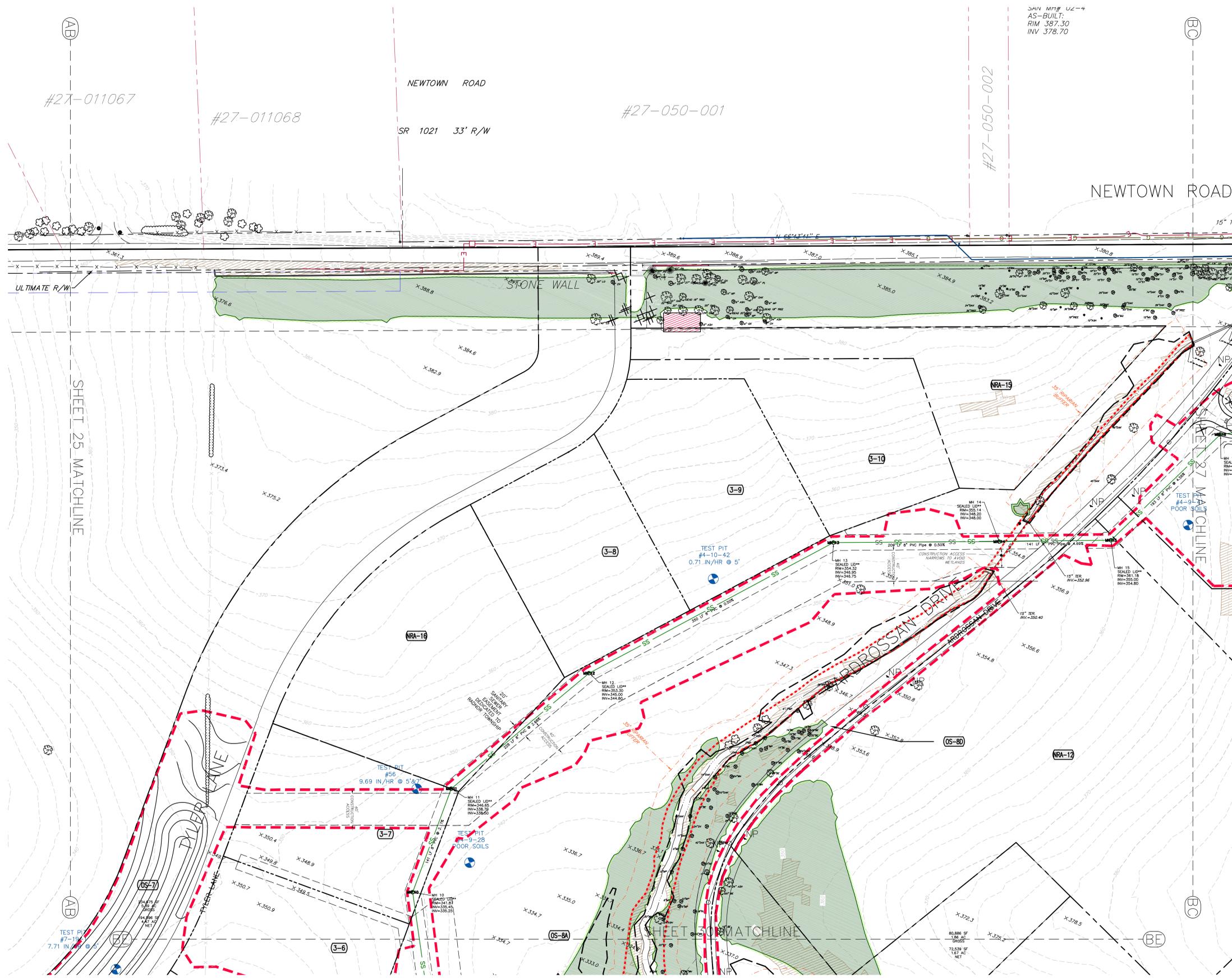
***Hazardous Tree Removals***  
***Approved for removal by Township Arborist***

205 Garden Place  
34" Tulip Poplar  
Decay area @ 35' height and decay in root flare with wood decay fungi present

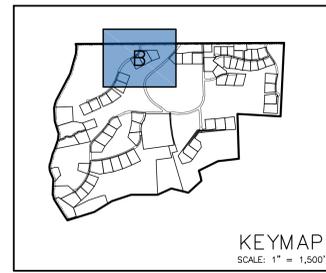
401 Huston Road  
36" Pin Oak  
Completely dead, bark peeling off trunk

117 Wooded Lane  
36" White Ash  
Signs of decay in main crotch, slight decline in canopy, large girdling root and lean towards house

Villanova University  
42" Ash  
100% dead  
36" Beech  
90% dead and hazard



JAN M1# 04-4  
AS-BUILT:  
RIM 387.30  
INV 378.70



**RESOLUTION TO SOIL LIMITATIONS:**  
BASED ON THE EXISTING SOIL TYPES AND IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEDOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEDOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

SOILS INFORMATION					
SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO WATER	DEPTH TO BEDROCK
B/E	BRANDYWINE LOAM	25 TO 40 PERCENT SLOPES	A	6.6+	5.83
Ch	CHEWACLA SILT LOAM	NOT RATED	C	1.50	6.6+
GaA	GLENELG CHANNERY SILT LOAM	0 TO 3 PERCENT SLOPES	B	6.6+	4.98
GaB	GLENELG CHANNERY SILT LOAM	3 TO 8 PERCENT SLOPES	B	6.6+	4.16
GaB2	GLENELG CHANNERY SILT LOAM	8 TO 15 PERCENT SLOPES	B	6.6+	6.6+
GaC	GLENELG CHANNERY SILT LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.16
GaC2	GLENELG CHANNERY SILT LOAM	25 TO 35 PERCENT SLOPES	B	6.6+	6.6+
GaD	GLENELG CHANNERY SILT LOAM	35 TO 45 PERCENT SLOPES	B	6.6+	4.16
GaD2	GLENELG CHANNERY SILT LOAM	45 TO 60 PERCENT SLOPES	B	6.6+	6.6+
GaE	GLENELG CHANNERY SILT LOAM	60 TO 75 PERCENT SLOPES	B	6.6+	4.98
GaE2	GLENELG CHANNERY SILT LOAM	75 TO 90 PERCENT SLOPES	B	6.6+	4.98
GaF	GLENELG CHANNERY SILT LOAM	90 TO 100 PERCENT SLOPES	B	6.6+	4.98
GbB	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	1.57
GbB2	GLENVILLE SILT LOAM	8 TO 15 PERCENT SLOPES	C	1.73	6.62
GaB	GLENVILLE VERY STONY SILT LOAM	0 TO 8 PERCENT SLOPES	C	1.73	2.42
Me	MADE LAND SCHIST AND GNEISS MATERIALS	NOT RATED	B	4.98	5.41
MqB2	MANOR LOAM	3 TO 8 PERCENT SLOPES	B	6.6+	7.11
MqD2	MANOR LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.49
MqF	MANOR SOILS	35 TO 60 PERCENT SLOPES	B	6.6+	7.11
We	WEHAKEE SILT LOAM	NOT RATED	D	0.26	6.6+
WoA	WORSHAM SILT LOAM	0 TO 3 PERCENT SLOPES	D	0.26	6.6+
WoB	WORSHAM SILT LOAM	3 TO 8 PERCENT SLOPES	D	0.26	6.6+

**SYMBOL LEGEND**

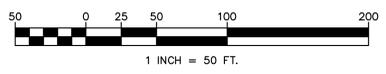
○	IRON PIN FOUND
□	CONCRETE MONUMENT FOUND
□	MARBLE MONUMENT FOUND
□	EXISTING AIR CONDITIONER
□	EXISTING GAS VALVE
□	EXISTING GAS METER
□	EXISTING ELECTRIC METER
□	EXISTING CLEAOUT
□	ROOF OVERHANG
□	EXISTING TREE
□	EXISTING UTILITY POLE
○	EXISTING SPOT ELEVATION
○	EXISTING DOOR SILL ELEVATION
○	SOIL PERC TEST LOCATION
○	PROPOSED TEST PIT LOCATION
○	PROPOSED TYPE "M" INLET
○	PROPOSED LOT
○	PROPOSED OPEN SPACE LOT
○	PROPOSED NON-RESIDENTIALLY APPROVED LOT
○	PROPOSED FIRE HYDRANT
○	PROPOSED STORMWATER MANAGEMENT SYSTEM

**LINE TYPE LEGEND**

---	EXISTING PROPERTY LINE
---	EXISTING RIGHT OF WAY
---	EXISTING FENCE
---	EXISTING EASEMENT
---	EXISTING CALCULATED FLOODPLAIN
---	EXISTING FEMA FLOODPLAIN
---	EXISTING RIPARIAN BUFFER
---	EXISTING STREAM
---	EXISTING SOILS
---	EXISTING WETLAND
---	EXISTING TREE LINE
---	EXISTING WOODED AREAS
---	EXISTING 2' CONTOUR
---	EXISTING 10' CONTOUR
---	EXISTING ELECTRIC LINE
---	EXISTING GAS LINE
---	EXISTING WATER LINE
---	EXISTING SANITARY LINE
---	EXISTING STORM PIPES
---	EXISTING SLOPES 20% AND GREATER IMPERVIOUS TO BE REMOVED
---	PROPOSED PROPERTY LINE
---	PROPOSED RIGHT OF WAY
---	PROPOSED BUILDING SETBACK
---	PROPOSED EASEMENT
---	PROPOSED CENTERLINE
---	PROPOSED BUFFER
---	PROPOSED OPEN SPACE
---	PROPOSED WATER LINE
---	PROPOSED SANITARY LINE
---	PROPOSED STORM PIPES
---	LIMIT OF DISTURBANCE
---	PHASE 1 BOUNDARY

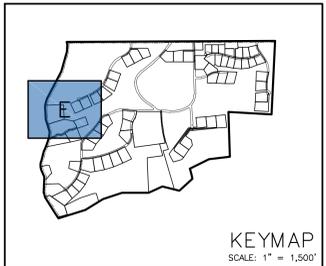
**NOTE:**  
A GRADING PERMIT PLAN SHOWING GRADING, STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL SHALL BE SUBMITTED TO AND APPROVED BY THE TOWNSHIP PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS.

**NOTE:**  
THESE GRADING PERMIT PLANS ARE FOR THE ROADWAY AND INFRASTRUCTURE IMPROVEMENTS FOR PHASE 1 ONLY AS OUTLINED WITHIN THE LIMIT OF DISTURBANCE LINE SHOWN ON THESE PLANS.



Stamp: 2014-2015-2016-2017-2018-2019-2020-2021-2022-2023-2024-2025-2026-2027-2028-2029-2030-2031-2032-2033-2034-2035-2036-2037-2038-2039-2040-2041-2042-2043-2044-2045-2046-2047-2048-2049-2050-2051-2052-2053-2054-2055-2056-2057-2058-2059-2060-2061-2062-2063-2064-2065-2066-2067-2068-2069-2070-2071-2072-2073-2074-2075-2076-2077-2078-2079-2080-2081-2082-2083-2084-2085-2086-2087-2088-2089-2090-2091-2092-2093-2094-2095-2096-2097-2098-2099-2100-2101-2102-2103-2104-2105-2106-2107-2108-2109-2110-2111-2112-2113-2114-2115-2116-2117-2118-2119-2120-2121-2122-2123-2124-2125-2126-2127-2128-2129-2130-2131-2132-2133-2134-2135-2136-2137-2138-2139-2140-2141-2142-2143-2144-2145-2146-2147-2148-2149-2150-2151-2152-2153-2154-2155-2156-2157-2158-2159-2160-2161-2162-2163-2164-2165-2166-2167-2168-2169-2170-2171-2172-2173-2174-2175-2176-2177-2178-2179-2180-2181-2182-2183-2184-2185-2186-2187-2188-2189-2190-2191-2192-2193-2194-2195-2196-2197-2198-2199-2200-2201-2202-2203-2204-2205-2206-2207-2208-2209-2210-2211-2212-2213-2214-2215-2216-2217-2218-2219-2220-2221-2222-2223-2224-2225-2226-2227-2228-2229-2230-2231-2232-2233-2234-2235-2236-2237-2238-2239-2240-2241-2242-2243-2244-2245-2246-2247-2248-2249-2250-2251-2252-2253-2254-2255-2256-2257-2258-2259-2260-2261-2262-2263-2264-2265-2266-2267-2268-2269-2270-2271-2272-2273-2274-2275-2276-2277-2278-2279-2280-2281-2282-2283-2284-2285-2286-2287-2288-2289-2290-2291-2292-2293-2294-2295-2296-2297-2298-2299-2300-2301-2302-2303-2304-2305-2306-2307-2308-2309-2310-2311-2312-2313-2314-2315-2316-2317-2318-2319-2320-2321-2322-2323-2324-2325-2326-2327-2328-2329-2330-2331-2332-2333-2334-2335-2336-2337-2338-2339-2340-2341-2342-2343-2344-2345-2346-2347-2348-2349-2350-2351-2352-2353-2354-2355-2356-2357-2358-2359-2360-2361-2362-2363-2364-2365-2366-2367-2368-2369-2370-2371-2372-2373-2374-2375-2376-2377-2378-2379-2380-2381-2382-2383-2384-2385-2386-2387-2388-2389-2390-2391-2392-2393-2394-2395-2396-2397-2398-2399-2400-2401-2402-2403-2404-2405-2406-2407-2408-2409-2410-2411-2412-2413-2414-2415-2416-2417-2418-2419-2420-2421-2422-2423-2424-2425-2426-2427-2428-2429-2430-2431-2432-2433-2434-2435-2436-2437-2438-2439-2440-2441-2442-2443-2444-2445-2446-2447-2448-2449-2450-2451-2452-2453-2454-2455-2456-2457-2458-2459-2460-2461-2462-2463-2464-2465-2466-2467-2468-2469-2470-2471-2472-2473-2474-2475-2476-2477-2478-2479-2480-2481-2482-2483-2484-2485-2486-2487-2488-2489-2490-2491-2492-2493-2494-2495-2496-2497-2498-2499-2500-2501-2502-2503-2504-2505-2506-2507-2508-2509-2510-2511-2512-2513-2514-2515-2516-2517-2518-2519-2520-2521-2522-2523-2524-2525-2526-2527-2528-2529-2530-2531-2532-2533-2534-2535-2536-2537-2538-2539-2540-2541-2542-2543-2544-2545-2546-2547-2548-2549-2550-2551-2552-2553-2554-2555-2556-2557-2558-2559-2560-2561-2562-2563-2564-2565-2566-2567-2568-2569-2570-2571-2572-2573-2574-2575-2576-2577-2578-2579-2580-2581-2582-2583-2584-2585-2586-2587-2588-2589-2590-2591-2592-2593-2594-2595-2596-2597-2598-2599-2600-2601-2602-2603-2604-2605-2606-2607-2608-2609-2610-2611-2612-2613-2614-2615-2616-2617-2618-2619-2620-2621-2622-2623-2624-2625-2626-2627-2628-2629-2630-2631-2632-2633-2634-2635-2636-2637-2638-2639-2640-2641-2642-2643-2644-2645-2646-2647-2648-2649-2650-2651-2652-2653-2654-2655-2656-2657-2658-2659-2660-2661-2662-2663-2664-2665-2666-2667-2668-2669-2670-2671-2672-2673-2674-2675-2676-2677-2678-2679-2680-2681-2682-2683-2684-2685-2686-2687-2688-2689-2690-2691-2692-2693-2694-2695-2696-2697-2698-2699-2700-2701-2702-2703-2704-2705-2706-2707-2708-2709-2710-2711-2712-2713-2714-2715-2716-2717-2718-2719-2720-2721-2722-2723-2724-2725-2726-2727-2728-2729-2730-2731-2732-2733-2734-2735-2736-2737-2738-2739-2740-2741-2742-2743-2744-2745-2746-2747-2748-2749-2750-2751-2752-2753-2754-2755-2756-2757-2758-2759-2760-2761-2762-2763-2764-2765-2766-2767-2768-2769-2770-2771-2772-2773-2774-2775-2776-2777-2778-2779-2780-2781-2782-2783-2784-2785-2786-2787-2788-2789-2790-2791-2792-2793-2794-2795-2796-2797-2798-2799-2800-2801-2802-2803-2804-2805-2806-2807-2808-2809-2810-2811-2812-2813-2814-2815-2816-2817-2818-2819-2820-2821-2822-2823-2824-2825-2826-2827-2828-2829-2830-2831-2832-2833-2834-2835-2836-2837-2838-2839-2840-2841-2842-2843-2844-2845-2846-2847-2848-2849-2850-2851-2852-2853-2854-2855-2856-2857-2858-2859-2860-2861-2862-2863-2864-2865-2866-2867-2868-2869-2870-2871-2872-2873-2874-2875-2876-2877-2878-2879-2880-2881-2882-2883-2884-2885-2886-2887-2888-2889-2890-2891-2892-2893-2894-2895-2896-2897-2898-2899-2900-2901-2902-2903-2904-2905-2906-2907-2908-2909-2910-2911-2912-2913-2914-2915-2916-2917-2918-2919-2920-2921-2922-2923-2924-2925-2926-2927-2928-2929-2930-2931-2932-2933-2934-2935-2936-2937-2938-2939-2940-2941-2942-2943-2944-2945-2946-2947-2948-2949-2950-2951-2952-2953-2954-2955-2956-2957-2958-2959-2960-2961-2962-2963-2964-2965-2966-2967-2968-2969-2970-2971-2972-2973-2974-2975-2976-2977-2978-2979-2980-2981-2982-2983-2984-2985-2986-2987-2988-2989-2990-2991-2992-2993-2994-2995-2996-2997-2998-2999-3000-3001-3002-3003-3004-3005-3006-3007-3008-3009-3010-3011-3012-3013-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SHEET 25 MATCHLINE



KEYMAP  
SCALE: 1" = 1,500'

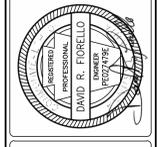
RESOLUTION TO SOIL LIMITATIONS:  
BASED ON THE EXISTING SOIL TYPES AND IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEDOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEDOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

SOILS INFORMATION table with columns: SYMBOL, NAME, %SLOPE, HYDROLOGIC GROUP, DEPTH TO WATER, DEPTH TO BEDROCK. Lists various soil types like BRANDYWINE LOAM, CHEWACLA SILT LOAM, etc.

SYMBOL LEGEND table listing symbols for features like IRON PIN FOUND, CONCRETE MONUMENT FOUND, MARBLE MONUMENT FOUND, etc.

LINE/TYPE LEGEND table listing line styles for features like EXISTING PROPERTY LINE, EXISTING RIGHT OF WAY, EXISTING FENCE, etc.

CALL BEFORE YOU DIG  
3 WORKING DAYS NOTICE FOR  
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Pennsylvania One Call System, Inc.  
1-800-242-7776



MOMENEE & ASSOCIATES, INC.  
CIVIL ENGINEERS AND LAND SURVEYORS  
107 THAMES LANE, WILMINGTON, DE 19807  
PHONE: (610) 357-3026 FAX: (610) 427-9909

PHASE GRADING PERMIT PLANS  
THE ARROSSAN FARM  
RADNOR TOWNSHIP + DELAWARE COUNTY + PENNSYLVANIA  
ONE-CALL: 203-0820  
DRAWN BY: JRM  
CHECKED BY: DBF



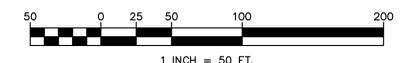
DATE: SEPTEMBER 5, 2014  
SHEET NO. 29 OF 93  
SCALE: 1" = 50'  
FILE NO.: 06-012



NOTE:  
A GRADING PERMIT PLAN SHOWING GRADING, STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL SHALL BE SUBMITTED TO AND APPROVED BY THE TOWNSHIP PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS.

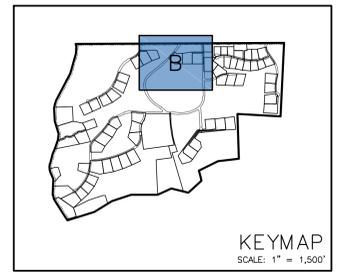
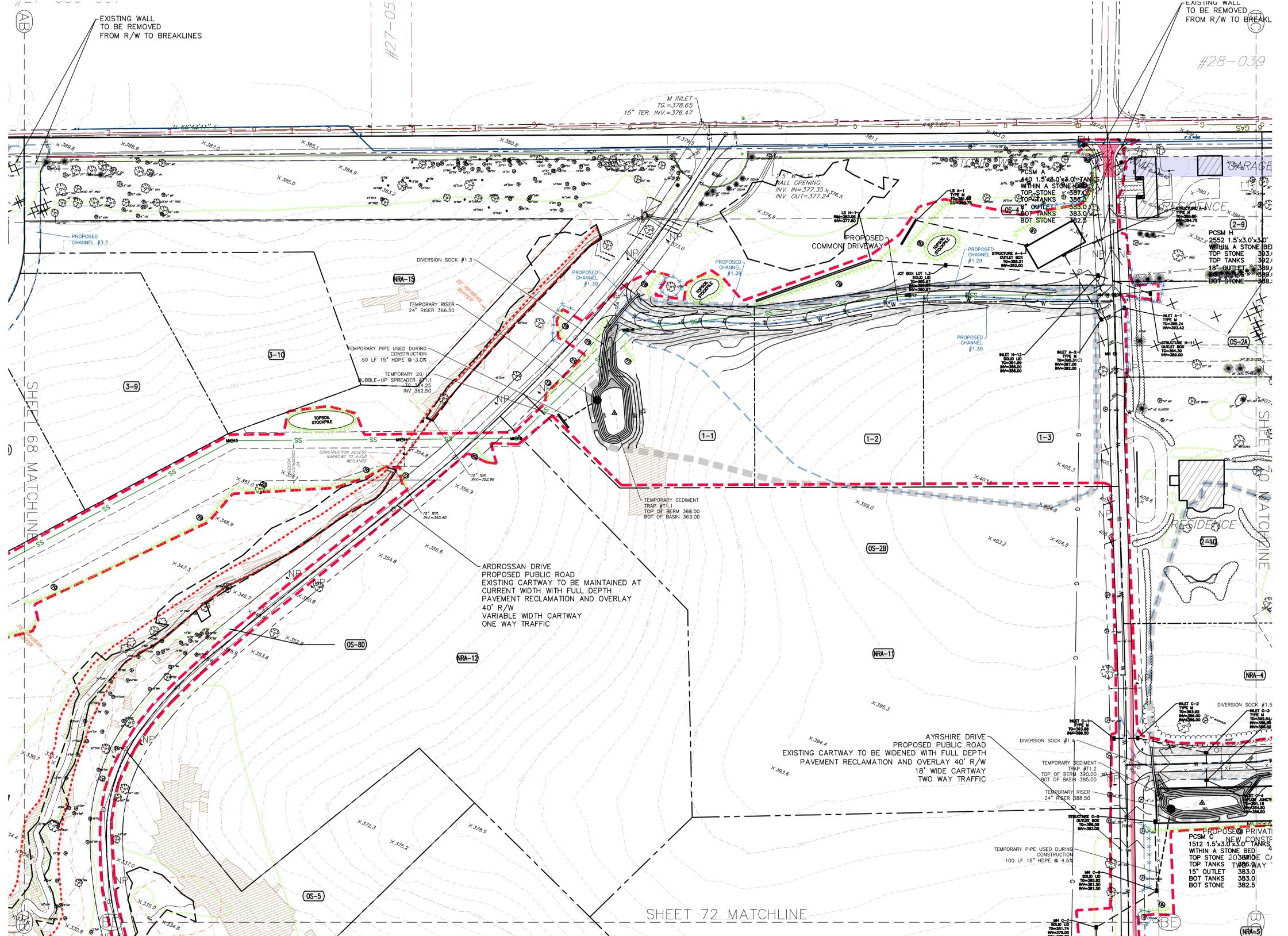
NOTE:  
THESE GRADING PERMIT PLANS IS FOR THE ROADWAY AND INFRASTRUCTURE IMPROVEMENTS FOR PHASE 1 ONLY AS OUTLINED WITHIN THE LIMIT OF DISTURBANCE LINE SHOWN ON THESE PLANS.

NOTE:  
THE REMOVAL OF ALL BUILDINGS ON SITE IS NOT PART OF PHASE I



PHASE 1 BOUNDARY





**SOILS INFORMATION**

SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO SH TO WATER	DEPTH TO BEDROCK
Brc	BRANDYWINE LOAM	25 TO 40 PERCENT SLOPES	A	6.6+	5.83
Ch	CHEWACLA SILT LOAM	NOT RATED	C	1.50	6.6+
GcA	GLENELG CHANNERY SILT LOAM	0 TO 3 PERCENT SLOPES	B	6.6+	4.98
GcB	GLENELG CHANNERY SILT LOAM	3 TO 6 PERCENT SLOPES	B	6.6+	4.16
GcB2	GLENELG CHANNERY SILT LOAM	3 TO 6 PERCENT SLOPES	B	6.6+	6.6+
GcC	GLENELG CHANNERY SILT LOAM	6 TO 15 PERCENT SLOPES	B	6.6+	4.16
GcC2	GLENELG CHANNERY SILT LOAM	6 TO 15 PERCENT SLOPES	B	6.6+	6.6+
GcC3	GLENELG CHANNERY SILT LOAM	6 TO 15 PERCENT SLOPES	B	6.6+	4.98
GcD	GLENELG CHANNERY SILT LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.16
GcD2	GLENELG CHANNERY SILT LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	6.6+
GcD3	GLENELG CHANNERY SILT LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.98
GcE	GLENELG CHANNERY SILT LOAM	25 TO 35 PERCENT SLOPES	B	6.6+	4.98
GnB	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	1.57
GnB2	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	6.62
GsB	GLENVILLE VERY STONY SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	2.42
Me	MADE LAND SCHIST AND ONES MATERIALS	NOT RATED	B	4.98	5.41
MgB2	MANOR LOAM	3 TO 8 PERCENT SLOPES	B	6.6+	7.11
MgD2	MANOR LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.49
MgF	MANOR SOILS	35 TO 60 PERCENT SLOPES	B	6.6+	7.11
We	WEHADKEE SILT LOAM	NOT RATED	D	0.26	6.6+
WcA	WORSHAM SILT LOAM	0 TO 3 PERCENT SLOPES	D	0.26	6.6+
WcB	WORSHAM SILT LOAM	PERCENT SLOPES	D	0.26	6.6+

NOTES: IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

**EROSION AND SEDIMENTATION CONTROL PLAN - PHASE I**

#	(IN)	SLOPE (%)	LOCATION	LENGTH ABOVE	SIZE	TOTAL	AVG	TOT SLOPE	FILTER SOCK
19	WEST LOT 1-4			24'	SS	8%		405	
19b	WEST LOT NRA-5			32'	SS	5%		530	
70	SOUTH LOT 3-10			32'	SS	7%		540	
71	SOUTH LOT NRA-15			32'	SS	7%		500	
72	SOUTH LOT NRA-15			32'	SS	9%		390	
73	WEST LOT 1-1			24'	SS	8%		380	
74	WEST LOT 1-1			32'	SS	9%		350	
75	WEST LOT 1-1			32'	SS	9%		350	
76	WEST LOT 1-1			32'	SS	8%		405	
77	WEST LOT 1-1			24'	SS	8%		310	
78	NORTH LOT 1-1			32'	SS	5%		645	
79	NORTH LOT 1-2			32'	SS	6%		520	
80	NORTH LOT 1-2			24'	SS	8%		410	
80b	NORTH LOT 1-2			24'	SS	6%		405	
81	NORTH LOT 1-3			24'	SS	6%		335	
82	WEST LOT 2-9			12'	SS	2%		20	
83	WEST LOT 2-9			12'	SS	2%		20	

NOTE: THESE GRADING PERMIT PLANS ARE FOR THE ROADWAY AND INFRASTRUCTURE IMPROVEMENTS FOR PHASE I ONLY AS OUTLINED WITHIN THE LIMIT OF DISTURBANCE LINE SHOWN ON THESE PLANS.

**SYMBOL LEGEND**

- Iron pin found
- Concrete monument found
- Marble monument found
- Existing air conditioner
- Existing gas valve
- Existing gas meter
- Existing electric meter
- Existing cleanout
- Roof overhang
- Existing tree
- Existing utility pole
- Existing spot elevation
- Existing door sill elevation
- Soul perc test location
- Proposed test pit location
- Proposed type 'M' inlet
- Proposed lot
- Proposed open space lot
- Proposed non-residentially approved lot
- Proposed fire hydrant
- Proposed stormwater management system
- Proposed sign

**LINE TYPE LEGEND**

- Existing property line
- Existing right of way
- Existing fence
- Existing easement
- Existing calculated floodplain
- Existing FEMA floodplain
- Existing riparian buffer
- Existing stream
- Existing wooded areas
- Existing tree line
- Existing 2' contour
- Existing 10' contour
- Existing electric line
- Existing gas line
- Existing water line
- Existing sanitary line
- Existing storm pipes
- Existing slopes 14 to 20%
- Existing slopes 20% and greater
- Impervious to be removed

**PROPOSED**

- Proposed property line
- Proposed right of way
- Proposed building setback
- Proposed easement
- Proposed centerline
- Proposed buffer
- Proposed open space
- Proposed grading
- Proposed water line
- Proposed sanitary line
- Proposed storm pipes
- Compost filter sock
- Tree protection
- Limit of disturbance
- Erosion control blanket
- Construction entrance
- NPDES permit boundary
- PCSM drainage area boundary
- Vegetated swale drainage area

SPRING NUMBER: 2012-203-0820

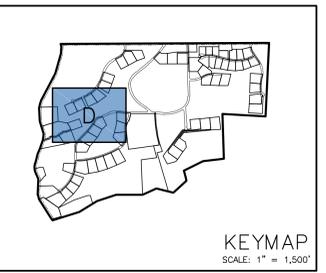
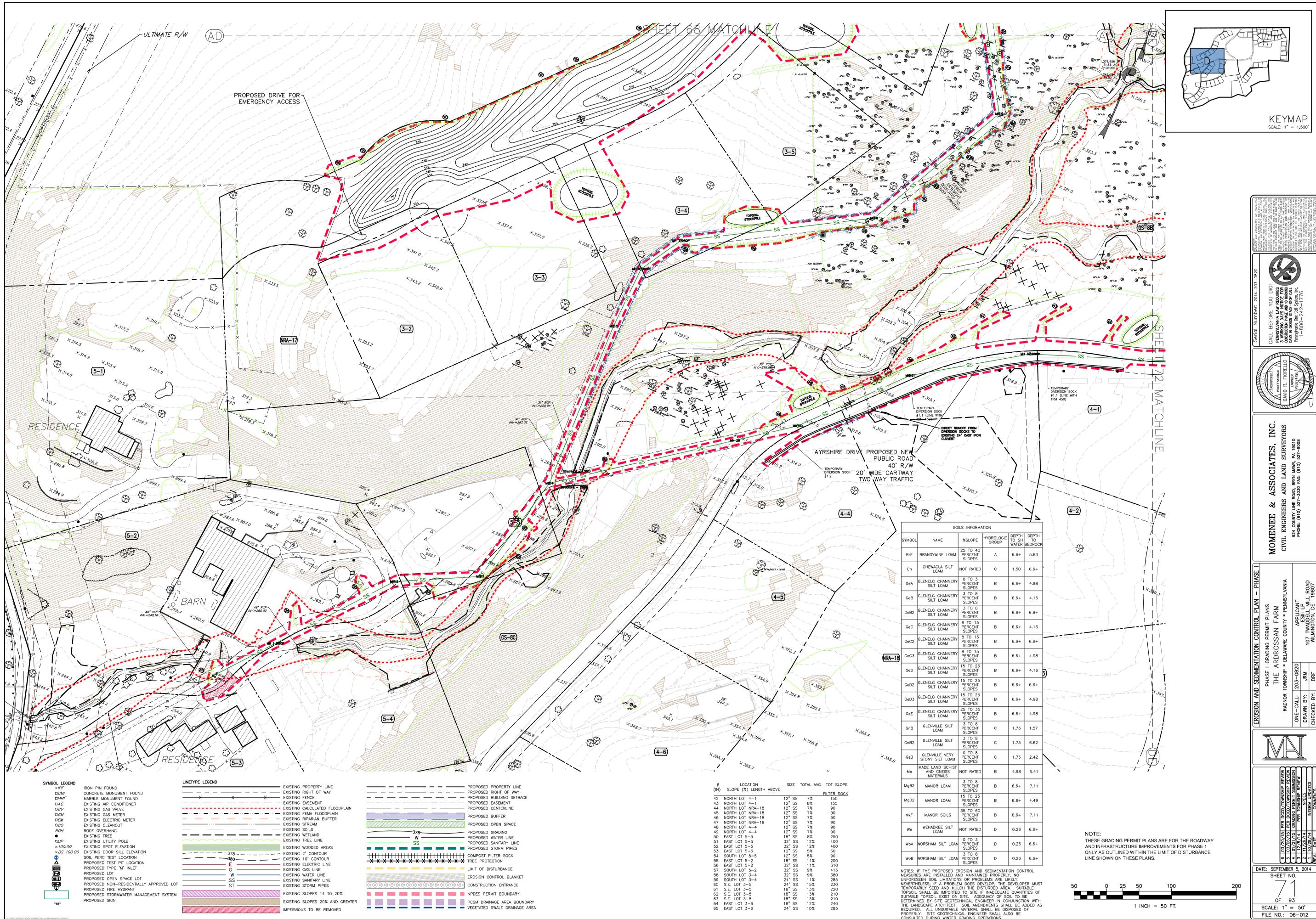
CALL BEFORE YOU DIG  
PENNSYLVANIA LAW REQUIRES  
3 WORKING DAYS NOTICE FOR  
UTILITY LOCATIONS  
DATE: 08/26/14  
1-800-242-1776

DAVID R. FIORELLI  
REGISTERED PROFESSIONAL ENGINEER  
NO. 147274

**MOMENEE & ASSOCIATES, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
107 THAMES LANE, SUITE 100  
WILMINGTON, DE 19807  
PHONE: (610) 957-3030 FAX: (610) 427-9909

EROSION AND SEDIMENTATION CONTROL PLAN - PHASE I  
PHASE GRADING PERMIT PLANS  
THE ARDROSSAN FARM  
RADNOR TOWNSHIP + DELAWARE COUNTY + PENNSYLVANIA  
APPLICANT: ARDROSSAN FARM  
ONE-CALL: 203-0820  
DRAWN BY: JRM  
CHECKED BY: DRF

DATE: SEPTEMBER 5, 2014  
SHEET NO. 09 OF 93  
SCALE: 1" = 50'  
FILE NO.: 06-012



SYMBOL LEGEND		LINETYPE LEGEND	
○	IRON PIN FOUND	---	EXISTING PROPERTY LINE
□	CONCRETE MONUMENT FOUND	---	EXISTING RIGHT OF WAY
□	MARBLE MONUMENT FOUND	---	EXISTING FENCE
□	EXISTING AIR CONDITIONER	---	EXISTING EASEMENT
□	EXISTING GAS VALVE	---	EXISTING CALCULATED FLOODPLAIN
□	EXISTING GAS METER	---	EXISTING FEMA FLOODPLAIN
□	EXISTING ELECTRIC METER	---	EXISTING RIPARIAN BUFFER
□	EXISTING CLEANOUT	---	EXISTING STREAM
□	ROOF OVERHANG	---	EXISTING SOILS
□	EXISTING TREE	---	EXISTING WETLAND
□	EXISTING UTILITY POLE	---	EXISTING TREE LINE
□	EXISTING SPOT ELEVATION	---	EXISTING WOODED AREAS
□	EXISTING DOOR SILL ELEVATION	---	EXISTING 2' CONTOUR
□	EXISTING DOOR SILL ELEVATION	---	EXISTING 10' CONTOUR
□	PROPOSED TEST PIT LOCATION	---	EXISTING ELECTRIC LINE
□	PROPOSED TEST PIT LOCATION	---	EXISTING GAS LINE
□	PROPOSED TYPE 'M' INLET	---	EXISTING WATER LINE
□	PROPOSED LOT	---	EXISTING SANITARY LINE
□	PROPOSED OPEN SPACE LOT	---	EXISTING STORM PIPES
□	PROPOSED NEW-RESIDENTIALLY APPROVED LOT	---	EXISTING SLOPES 14 TO 20%
□	PROPOSED FIRE HYDRANT	---	EXISTING SLOPES 20% AND GREATER
□	PROPOSED STORMWATER MANAGEMENT SYSTEM	---	IMPERVIOUS TO BE REMOVED
□	PROPOSED SIGN	---	

#	LOCATION (N)	SLOPE (%)	LENGTH ABOVE	SIZE	TOTAL AVG	TOT SLOPE
42	NORTH LOT 4-1	12"	SS	7%	150	
43	NORTH LOT 4-1	12"	SS	8%	150	
44	NORTH LOT NRA-18	12"	SS	7%	90	
45	NORTH LOT NRA-18	12"	SS	7%	90	
46	NORTH LOT NRA-18	12"	SS	7%	90	
47	NORTH LOT NRA-18	12"	SS	7%	90	
48	NORTH LOT 4-4	12"	SS	7%	90	
49	NORTH LOT 4-4	12"	SS	7%	90	
50	EAST LOT 5-5	18"	SS	8%	250	
51	EAST LOT 5-5	32"	SS	12%	400	
52	EAST LOT 5-5	32"	SS	12%	400	
53	EAST LOT 5-5	12"	SS	5%	50	
54	SOUTH LOT 3-5	12"	SS	5%	90	
55	EAST LOT 5-2	18"	SS	11%	200	
56	EAST LOT 5-2	32"	SS	11%	310	
57	SOUTH LOT 3-2	32"	SS	9%	415	
58	SOUTH LOT 3-4	32"	SS	9%	380	
59	SOUTH LOT 3-4	24"	SS	11%	285	
60	S.E. LOT 3-5	24"	SS	15%	230	
61	S.E. LOT 3-5	18"	SS	13%	220	
62	S.E. LOT 3-5	18"	SS	13%	210	
63	S.E. LOT 3-5	18"	SS	13%	210	
64	EAST LOT 3-6	18"	SS	12%	240	
65	EAST LOT 3-6	24"	SS	10%	285	

SOILS INFORMATION						
SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO SH TO WATER	DEPTH TO BEDROCK	
BfE	BRANDYWINE LOAM	25 TO 40 PERCENT SLOPES	A	6.6+	5.83	
Ch	CHEWACLA SILT LOAM	NOT RATED	C	1.50	6.6+	
GaA	GLENELG CHANNERY SILT LOAM	0 TO 3 PERCENT SLOPES	B	6.6+	4.98	
GaB	GLENELG CHANNERY SILT LOAM	3 TO 8 PERCENT SLOPES	B	6.6+	4.16	
GaB2	GLENELG CHANNERY SILT LOAM	3 TO 8 PERCENT SLOPES	B	6.6+	6.6+	
GaC	GLENELG CHANNERY SILT LOAM	8 TO 15 PERCENT SLOPES	B	6.6+	4.16	
GaC2	GLENELG CHANNERY SILT LOAM	8 TO 15 PERCENT SLOPES	B	6.6+	6.6+	
GaC3	GLENELG CHANNERY SILT LOAM	8 TO 15 PERCENT SLOPES	B	6.6+	4.98	
GaD	GLENELG CHANNERY SILT LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.16	
GaD2	GLENELG CHANNERY SILT LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	6.6+	
GaD3	GLENELG CHANNERY SILT LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.98	
GaE	GLENELG CHANNERY SILT LOAM	25 TO 35 PERCENT SLOPES	B	6.6+	4.98	
GnB	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	1.57	
GnB2	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	6.62	
GsB	GLENVILLE VERY STONY SILT LOAM	0 TO 4 PERCENT SLOPES	C	1.73	2.42	
Me	MADE LAND SCHIST AND GNEISS MATERIALS	NOT RATED	B	4.98	5.41	
MpB2	MANOR LOAM	3 TO 8 PERCENT SLOPES	B	6.6+	7.11	
MpD2	MANOR LOAM	15 TO 25 PERCENT SLOPES	B	6.6+	4.49	
MkF	MANOR SILT	35 TO 60 PERCENT SLOPES	B	6.6+	7.11	
We	WEHAKKEE SILT LOAM	NOT RATED	D	0.26	6.6+	
WaA	WORSHAM SILT LOAM	0 TO 3 PERCENT SLOPES	D	0.26	6.6+	
WbB	WORSHAM SILT LOAM	3 TO 8 PERCENT SLOPES	D	0.26	6.6+	

NOTE: THESE GRADING PERMIT PLANS ARE FOR THE ROADWAY AND INFRASTRUCTURE IMPROVEMENTS FOR PHASE 1 ONLY AS OUTLINED WITHIN THE LIMIT OF DISTURBANCE LINE SHOWN ON THESE PLANS.

DATE: SEPTEMBER 5, 2014  
SHEET NO. 71  
OF 93  
SCALE: 1" = 50'  
FILE NO.: 06-012

EROSION AND SEDIMENTATION CONTROL PLAN - PHASE 1

PHASE GRADING PERMIT PLANS  
THE ARROSSAN FARM  
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

ONE-CALL: 203-0820  
DRAWN BY: JRM  
CHECKED BY: DRE

APPLICANT  
107 THAMES LANE  
WILMINGTON, DE 19807

DATE: SEPTEMBER 5, 2014  
SHEET NO. 71  
OF 93  
SCALE: 1" = 50'  
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EROSION AND SEDIMENTATION CONTROL PLAN - PHASE 1

PHASE GRADING PERMIT PLANS  
THE ARROSSAN FARM  
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

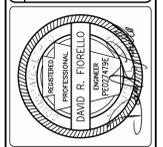
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DATE: SEPTEMBER 5, 2014  
SHEET NO. 71  
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Spring Number: 2014-203-0820

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PENNSYLVANIA LAW REQUIRES  
3 WORKING DAYS NOTICE FOR  
UTILITY LOCATIONS TO BE  
MADE IN PENNSYLVANIA  
1-800-242-1776



**MOMENIE & ASSOCIATES, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS

107 THAMES LANE  
WILMINGTON, DE 19807  
PHONE: (610) 957-3030 FAX: (610) 427-9909

**CONSTRUCTION TIMING AND SEQUENCE:**

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH PHASE SHALL BE COMPLETED BEFORE ANY FOLLOWING PHASE IS INITIATED, OR AS INDICATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH PHASE. PRIOR TO THE START OF EARTH MOVING ACTIVITIES, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE PENNSYLVANIA ONE-CAL PROCEDURES RELATED TO CONSTRUCTION ACTIVITIES. IN ADDITION TO THESE BASIC REQUIREMENTS, THE CONTRACTOR MUST HAVE THE LOCATION OF ALL PERMANENT STORMWATER SYSTEMS WITHIN 50-FOET OF THE PROPOSED LIMITS OF DISTURBANCE FOR ANY ACTIVE PHASE OF CONSTRUCTION, BE VERIFIED AND FIELD MARKED.

EACH LOT IS BEING SOLD TO INDIVIDUAL BUYERS AND WILL BE DEVELOPED SEPARATELY FROM THIS PLAN. EACH BUYER WILL BE RESPONSIBLE FOR THE DEVELOPMENT OF THEIR LOT. AN INDIVIDUAL GRADING AND EROSION CONTROL PLAN IS TO BE DEVELOPED FOR EACH LOT AND THE IMPROVEMENTS PROPOSED FOR THAT LOT. EACH PLAN IS TO BE SUBMITTED TO RADNOR TOWNSHIP FOR APPROVAL PRIOR TO ANY EARTH DISTURBANCE BEING PERMITTED ON THAT LOT.

**PHASE I**  
1. NOTIFY THE TOWNSHIP & DELAWARE COUNTY CONSERVATION DISTRICT THAT CONSTRUCTION IS GOING TO COMMENCE. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES THE OPERATOR SHALL NOTIFY ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, INCLUDING BUT NOT LIMITED TO: THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, AND A REPRESENTATIVE FROM THE DELAWARE COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. ANTICIPATED DATE: SPRING 2016.

2. INSTALL EROSION AND SEDIMENTATION CONTROL DEVICES AS LISTED BELOW:  
A. INSTALL TREE PROTECTION FENCING WHERE INDICATED ON PLANS. THE LIMIT OF DISTURBANCE AND TREE PROTECTION FENCING IS TO BE FIELD DELINEATED PRIOR TO THE START OF ANY EARTH DISTURBANCE.  
B. INSTALL SILT FENCE/SEDIMENT BARRIERS WHERE INDICATED ON PLANS. ADDITIONAL SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADE OF ANY DISTURBANCE AREAS AS NEEDED THROUGHOUT THE ENTIRE PROJECT. INSTALL TEMPORARY DIVERSION SOCKS #1 AND 1.2 TO DIVERT RUNOFF TO THE EXISTING CULVERT AS SHOWN ON THE PLANS.  
C. INSTALL STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN FOR ACCESS FROM DARRY-PAOLI ROAD. THIS ENTRANCE IS TO BE USED DURING THE INSTALLATION OF THE EROSION AND SEDIMENTATION CONTROL DEVICES AND ALL SUBSEQUENT CONSTRUCTION ACTIVITIES FOR THE SANITARY SEWER INSTALLATION.

3. CLEAR AND GRUB THOSE AREAS NECESSARY FOR ACCESS TO AND CONSTRUCTION OF THE SANITARY SEWERS. CLEARING AND GRUBBING SHALL BE STRICTLY LIMITED TO THESE AREAS.

4. REMOVE PORTIONS OF WALL ALONG NEWTON ROAD DESIGNATED FOR REMOVAL AT SCOTT LANE AND AYRSHIRE DRIVE. STOCKPILE STONE FOR LATER REUSE. CLEAR AND GRUB AREAS NECESSARY FOR INSTALLATION OF STABILIZED CONSTRUCTION ACCESS, AND INSTALL STABILIZED CONSTRUCTION ACCESS FOR SCOTT #1 AND AYRSHIRE DRIVE.

5. STRIP TOPSOIL AS NECESSARY FOR THE CONSTRUCTION OF TEMPORARY SEDIMENT TRAPS #1.1, T1.2, AND T1.4 AND TEMPORARY SEDIMENT BASIN #3. UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SURROUND STOCKPILE WITH SILT FENCE. TEMPORARILY SEED ALL STOCKPILED TOPSOIL WITHIN 3 DAYS.

6. EXCAVATE FOR SEDIMENT TRAPS #1.1, T1.2, AND T1.4, AND SEDIMENT BASIN #3.3 AND THE TEMPORARY LEVEL SPREADERS T1.1, 1.3, AND 1.4. ONLY LIMITED CLEARING AND GRUBBING IS PERMITTED FOR ACCESS TO SEDIMENT INSTALLATIONS.

7. CRITICAL STAGE - UPON SUBSTANTIAL COMPLETION OF CONSTRUCTION ACTIVITIES AND PERMANENT STABILIZATION WITHIN THE RESPECTIVE CONTRIBUTORY AREAS OF THE PERMANENT STORMWATER SYSTEMS & H, EXCAVATE FOR AND INSTALL THE PERMANENT STORMWATER MANAGEMENT SYSTEMS AND LEVEL SPREADERS AS INDICATED ON THE PLANS AS FOLLOWS:  
A. EXCAVATE TO THE BOTTOM OF THE PERMANENT SYSTEM AS INDICATED ON THE PLANS. EXCAVATION SHALL BE DONE IN A MANNER THAT DOES NOT DISTURB THE SOIL STRUCTURE OF THE INFILTRATION ZONE.  
B. PLACE THE FILTER FABRIC IN THE EXCAVATION AND TACK IT UP TO THE SIDES. ALLOW SUFFICIENT FABRIC TO OVERLAP THE TOP OF THE BED. PROVIDE OPENING IN FABRIC FOR OUTFLOW PIPE.  
C. PLACE 6" OF AASHTO NO. 57 AGGREGATE IN THE BOTTOM OF THE BED AND EVENLY DISTRIBUTE ON THE BOTTOM. CARE SHALL BE TAKEN TO ENSURE THAT THE FILTER FABRIC IN THE BED IS NOT TORN DURING INSTALLATION. INSTALL STONE TO THE NOTED UNIFORM DEPTH.

8. CLEAR AND GRUB AREAS FOR ROADWAY CONSTRUCTION, SANITARY SEWER INSTALLATION AND STORMWATER MANAGEMENT SYSTEMS G AND H INSTALLATION. UTILIZE TOPSOIL STOCKPILES AS INDICATED ON THE PLAN, IMMEDIATELY STABILIZE THE STOCKPILES UPON COMPLETION.

9. INSTALL ALL UTILITY MAINS AND STUBS FOR INDIVIDUAL HOUSING UNITS. FINAL GRADE ROADWAYS AND INSTALL CURB AND SUBBASE AFTER ALL UTILITIES HAVE BEEN INSTALLED WITHIN THE ROADWAY BED.

10. INSTALL ROADWAY B.C.B.C. PAVING AND INTERNAL SITE SIDEWALKS.

11. UPON SUBSTANTIAL COMPLETION OF THE ROADWAY AND STORMWATER SYSTEM INSTALLATIONS FINAL GRADE ALL AREAS DESIGNATED TO BECOME LAWN AND RESPAED TOPSOIL. SEED THESE AREAS TO REESTABLISH PERMANENT VEGETATION. STABILIZE SLOPES IN EXCESS OF 3:1 WITH EROSION CONTROL, BLANKETS, SEED AND MULCH AS NECESSARY.

12. INSTALL LANDSCAPING, AND EMERGENCY ACCESS PATHWAY AS INDICATED PRIOR TO FINAL GRADING.

13. FINAL GRADE THE REMAINDER OF THE SITE AS INDICATED ON PLAN. PLACE TOPSOIL AND FINAL GRADE THOSE AREAS INTENDED TO BE VEGETATED. STABILIZE SLOPES IN EXCESS OF 4:1 WITH SOO OR EROSION CONTROL NETTING AND MULCH. SEED ALL DENUDED AREAS IMMEDIATELY.

14. CRITICAL STAGE - UPON SUBSTANTIAL COMPLETION OF CONSTRUCTION ACTIVITIES AND PERMANENT STABILIZATION WITHIN THE RESPECTIVE CONTRIBUTORY AREAS OF THE PERMANENT STORMWATER SYSTEMS & H, EXCAVATE FOR AND INSTALL THE PERMANENT STORMWATER MANAGEMENT SYSTEMS AND LEVEL SPREADERS AS INDICATED ON THE PLANS AS FOLLOWS:  
A. EXCAVATE TO THE BOTTOM OF THE PERMANENT SYSTEM AS INDICATED ON THE PLANS. EXCAVATION SHALL BE DONE IN A MANNER THAT DOES NOT DISTURB THE SOIL STRUCTURE OF THE INFILTRATION ZONE.  
B. PLACE THE FILTER FABRIC IN THE EXCAVATION AND TACK IT UP TO THE SIDES. ALLOW SUFFICIENT FABRIC TO OVERLAP THE TOP OF THE BED. PROVIDE OPENING IN FABRIC FOR OUTFLOW PIPE.  
C. PLACE 6" OF AASHTO NO. 57 AGGREGATE IN THE BOTTOM OF THE BED AND EVENLY DISTRIBUTE ON THE BOTTOM. CARE SHALL BE TAKEN TO ENSURE THAT THE FILTER FABRIC IN THE BED IS NOT TORN DURING INSTALLATION. INSTALL STONE TO THE NOTED UNIFORM DEPTH.

15. CLEAR AND GRUB AREAS FOR ROADWAY CONSTRUCTION, SANITARY SEWER INSTALLATION AND STORMWATER MANAGEMENT SYSTEMS A, C, D, AND F. STRIP TOPSOIL WITHIN LIMITS OF CONSTRUCTION AND STOCKPILE FOR REUSE. SURROUND STOCKPILES WITH SILT FENCE AND SEED IF NOT TO BE REUSED WITHIN 3 DAYS.

16. STRIP TOPSOIL ALONG AREAS OF SANITARY SEWER CONSTRUCTION AND STOCKPILE FOR REUSE. SURROUND STOCKPILES WITH SILT FENCE AND SEED IF NOT TO BE REUSED WITHIN 3 DAYS. BEGIN INSTALLATION OF SANITARY SEWER INCLUDING CONSTRUCTION OF SANITARY SEWER LINES FROM EX MH#9-2 TO MH-19 (INCLUDES MH-9, MH-10, MH-11, MH-12, MH-13, MH-14, MH-15, MH-16, MH-17, MH-18, MH-19), CONSTRUCTION OF SANITARY SEWER LINES FROM MH-4 TO MH-45 (INCLUDES MH-21, MH-22, MH-23, MH-24, MH-25, MH-26, MH-27, MH-28, MH-29, MH-30, MH-31, MH-32, MH-33, MH-34, MH-35, MH-36, MH-37, MH-38, MH-39, MH-40, MH-41, MH-42, MH-43, MH-44, MH-45), CONSTRUCTION OF SANITARY SEWER LINES FROM MH-38 TO MH-53 (INCLUDES MH-38, MH-39, MH-40, MH-41, MH-42, MH-43, MH-44, MH-45), CONSTRUCTION OF SANITARY SEWER LINES FROM MH-54 TO MH-57 (INCLUDES MH-54 AND MH-55) AND CONSTRUCTION OF SANITARY SEWER LINES FROM MH-43 TO MH-57 (INCLUDES MH-56 AND MH-57) WITH STUBS PLUGGED FOR FUTURE CONNECTION TO MH-58). INSTALLATION OF SEWER LINES SHALL BE IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

17. CLEAR AND GRUB AREAS FOR AYRSHIRE DRIVE, AND BINNEY LANE CONSTRUCTION. STRIP TOPSOIL WITHIN LIMITS OF CONSTRUCTION AND STOCKPILE FOR REUSE. SURROUND STOCKPILES WITH SILT FENCE AND SEED IF NOT TO BE REUSED WITHIN 3 DAYS.

18. BOX OUT AREAS FOR WIDENING AND INSTALL SUBBASE. COMMENCE FULL DEPTH RECLAMATION AND RECONSTRUCTION OF AYRSHIRE DRIVE AND AYRSHIRE DRIVE AND INSTALL B.C.B.C. PAVING.

19. CONCURRENT WITH THE PHASE I CONSTRUCTION ACTIVITIES, INSTALL PLANTED BUFFER IN THE DESIGNATED AREA OF PHASE III.  
a. INSTALL EROSION AND SEDIMENT CONTROLS IN AREA OF BERM CONSTRUCTION.  
b. STRIP TOPSOIL ALONG BERM CONSTRUCTION AND STOCKPILE FOR REUSE. SURROUND STOCKPILES WITH SILT FENCE AND SEED IF NOT TO BE REUSED WITHIN 3 DAYS.  
c. CONSTRUCT BERM WITH MATERIALS EXCAVATED FROM PIPELINE TRENCHES, STORMWATER MANAGEMENT AREA EXCAVATIONS AND EXCESS ROAD GRADING SOLS. CONFINE TRAFFIC VEHICLES TO DISTING ROADSWAYS AND TEMPORARY CONSTRUCTION ACCESS AS NOTED ON PLAN.  
d. UPON COMPLETION OF BERM, COVER WITH STOCKPILE TOPSOIL AND INSTALL PLANTINGS. REFER TO LANDSCAPE PLAN FOR INSTALLATION DETAILS.

20. UPON SUBSTANTIAL COMPLETION OF THE ROADWAY AND INFRASTRUCTURE INSTALLATIONS FINAL GRADE ALL AREAS DESIGNATED TO BECOME LAWN AND RESPAED TOPSOIL. SEED THESE AREAS TO REESTABLISH PERMANENT VEGETATION. STABILIZE SLOPES IN EXCESS OF 3:1 WITH EROSION CONTROL, BLANKETS, SEED AND MULCH AS NECESSARY.

21. A SITE INSPECTION AND APPROVAL BY BOTH THE COUNTY CONSERVATION DISTRICT AND THE TOWNSHIP ENGINEER IS REQUIRED PRIOR TO THE REMOVAL OR CONVERSION OF SEDIMENT TRAPS AND BASINS. NOTE: NO E&S INSPECTION SHALL BE CONDUCTED UNTIL INSPECTION AND APPROVAL BY A DCCO REPRESENTATIVE AND THE TOWNSHIP ENGINEER'S OFFICE.

22. UPON FINAL STABILIZATION OF THE RESPECTIVE CONTRIBUTORY AREAS, REMOVE SEDIMENT TRAPS #1.1, T1.2, AND T1.4, AND SEDIMENT BASIN #3.3. REMOVE THE TEMPORARY SPREADERS AND ASSOCIATED TEMPORARY CONVEYANCE PIPING.

23. CRITICAL STAGE - UPON SUBSTANTIAL COMPLETION OF CONSTRUCTION ACTIVITIES AND PERMANENT STABILIZATION WITHIN THE RESPECTIVE CONTRIBUTORY AREAS OF THE PERMANENT STORMWATER SYSTEMS A, C, D, AND F, EXCAVATE FOR AND INSTALL THE PERMANENT STORMWATER MANAGEMENT SYSTEMS AND LEVEL SPREADERS AND OUTLETS AS INDICATED ON THE PLANS AS FOLLOWS:  
A. EXCAVATE TO THE BOTTOM OF THE PERMANENT SYSTEM AS INDICATED ON THE PLANS. EXCAVATION SHALL BE DONE IN A MANNER THAT DOES NOT DISTURB THE SOIL STRUCTURE OF THE INFILTRATION ZONE.  
B. PLACE THE FILTER FABRIC IN THE EXCAVATION AND TACK IT UP TO THE SIDES. ALLOW SUFFICIENT FABRIC TO OVERLAP THE TOP OF THE BED. PROVIDE OPENING IN FABRIC FOR OUTFLOW PIPE.  
C. PLACE 6" OF AASHTO NO. 57 AGGREGATE IN THE BOTTOM OF THE BED AND EVENLY DISTRIBUTE ON THE BOTTOM. CARE SHALL BE TAKEN TO ENSURE THAT THE FILTER FABRIC IN THE BED IS NOT TORN DURING INSTALLATION. INSTALL STONE TO THE NOTED UNIFORM DEPTH.  
D. PLACE SECOND LAYER OF FILTER FABRIC OVER STONE BASE. ALLOW SUFFICIENT FABRIC TO OVERLAP THE TOP OF THE "STORM TANK" UNITS.

E. INSTALL "STORM TANK" UNITS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PRACTICES. CONNECT INLETS TO "STORM TANK" UNITS. INSTALL SEEPAGE BED INFLOW PIPE. INSTALL PERMANENT LEVEL SPREADER AND CONNECT OUTFLOW PIPE TO THE SPREADER.  
F. COMPLETELY WRAP "STORM TANK" UNITS WITH FILTER FABRIC.

G. BACKFILL AREA BETWEEN EXCAVATION AND "STORM TANK" UNITS WITH AASHTO NO. 57 AGGREGATE. PLACE AASHTO NO. 57 COARSE OVER TOP OF "STORM TANK" UNITS TO A MINIMUM DEPTH OF 12".  
H. COMPLETELY COVER TOP OF AGGREGATE WITH FILTER FABRIC. OVERLAP JOINTS IN FABRIC A MINIMUM OF 12".

24. FINAL GRADE THE REMAINDER OF THE SITE AS INDICATED ON PLAN. PLACE TOPSOIL AND FINAL GRADE THOSE AREAS INTENDED TO BE VEGETATED. STABILIZE SLOPES IN EXCESS OF 4:1 WITH SOO OR EROSION CONTROL NETTING AND MULCH. SEED ALL DENUDED AREAS IMMEDIATELY.

25. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTRIBUTED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTRIBUTED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

26. EXCAVATE FOR SEDIMENT TRAPS #1.1, T1.2, AND T1.4, AND SEDIMENT BASIN #3.3 AND THE TEMPORARY LEVEL SPREADERS T1.1, 1.3, AND 1.4. ONLY LIMITED CLEARING AND GRUBBING IS PERMITTED FOR ACCESS TO SEDIMENT INSTALLATIONS.

27. CRITICAL STAGE - CONSTRUCT SEDIMENT TRAPS #1.1 THROUGH 14.6, TEMPORARY LEVEL SPREADERS, PERMANENT SPREADERS #1-1, PERMANENT INLETS #1-2, R1.2, RAP RAPFRANS, AND THE ASSOCIATED CONVEYANCE PIPING IN ACCORDANCE WITH THE PLANS. INSTALL INLET PROTECTION ON THE INLETS. THE ASSOCIATED CONVEYANCE PIPING SHALL BE STABILIZED AND FUNCTIONING PROPERLY PRIOR TO ANY FURTHER EARTH DISTURBANCE ACTIVITIES. EXCESS SOIL SHALL BE STOCKPILED AND SURROUND BY SILT FENCE AND TEMPORARILY SEED. UPON INSTALLATION OF THE TEMPORARY RISERS, AN IMMEDIATE INSPECTION OF THE RISERS SHALL BE CONDUCTED BY A QUALIFIED SITE REPRESENTATIVE AND THE COUNTY CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING THAT THE PROPER RISER IS RETAINED AND SEALED, PER PLAN. SEDIMENT BASINS AND TRAPS MUST BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES. SEDIMENT TRAPS AND BASIN SHALL BE IN PLACE AND OPERATIONAL PRIOR TO ANY ADDITIONAL DISTURBANCE WITHIN THE CONTRIBUTORY AREA.

28. REMOVE PORTIONS OF WALL ALONG NEWTON ROAD DESIGNATED FOR REMOVAL NECESSARY FOR THE CONSTRUCTION OF THEIR LANE. STOCKPILE STONE FOR LATER REUSE. CLEAR AND GRUB AREAS NECESSARY FOR INSTALLATION OF STABILIZED CONSTRUCTION ACCESS, AND INSTALL STABILIZED CONSTRUCTION ACCESS FOR TYLER LANE. THIS ENTRANCE IS TO BE USED DURING THE INSTALLATION OF THE EROSION AND SEDIMENTATION CONTROL DEVICES AND ALL SUBSEQUENT CONSTRUCTION ACTIVITIES FOR THIS PHASE.

29. CLEAR AND GRUB AREAS FOR AYRSHIRE DRIVE, AND BINNEY LANE CONSTRUCTION. STRIP TOPSOIL WITHIN LIMITS OF CONSTRUCTION AND STOCKPILE FOR REUSE. SURROUND STOCKPILES WITH SILT FENCE AND SEED IF NOT TO BE REUSED WITHIN 3 DAYS.

30. CLEAR AND GRUB THOSE AREAS NECESSARY FOR ACCESS TO AND CONSTRUCTION OF THE SANITARY SEWERS NOT WITHIN THE PROPOSED ROADWAY. CLEARING AND GRUBBING SHALL BE STRICTLY LIMITED TO THESE AREAS. STRIP TOPSOIL WITHIN LIMITS OF CONSTRUCTION AND STOCKPILE FOR REUSE. SURROUND STOCKPILES WITH SILT FENCE AND SEED IF NOT TO BE REUSED WITHIN 3 DAYS.

31. IMPELMENT WETLAND PROTECTION MEASURES AND BEGIN INSTALLATION OF SANITARY SEWER LINES FROM EX MH D01-51 TO MH-71 (INCLUDES, MH-60, MH-61, MH-62, MH-63, MH-64, MH-65, MH-66, MH-67, MH-68, MH-69, MH-70, MH-71). INSTALL LATERAL STUBS SERVING INDIVIDUAL LOTS AND CAP FOR FUTURE USE.

32. CONSTRUCT SANITARY SEWER LINE FROM EX MH D01-54 TO MH-59 (INCLUDES, MH-59).

33. CONCURRENT WITH SANITARY SEWER INSTALLATION, BEGIN INSTALLATION OF THE STORMWATER INFRASTRUCTURE AS INDICATED ON THE PLANS. IMMEDIATELY STABILIZE ROADSIDE SWALES WITH EROSION CONTROL, BLANKETS AS INDICATED ON THE PLANS.

34. INSTALL ALL UTILITY MAINS AND STUBS FOR INDIVIDUAL HOUSING UNITS. FINAL GRADE ROADWAYS AND INSTALL SUBBASE AFTER ALL UTILITIES HAVE BEEN INSTALLED WITHIN THE ROADWAY BED.

35. INSTALL ROADWAY B.C.B.C. PAVING.

36. UPON SUBSTANTIAL COMPLETION OF THE ROADWAY AND STORMWATER SYSTEM INSTALLATIONS FINAL GRADE ALL AREAS DESIGNATED TO BECOME LAWN AND RESPAED TOPSOIL. SEED THESE AREAS TO REESTABLISH PERMANENT VEGETATION. STABILIZE SLOPES IN EXCESS OF 3:1 WITH EROSION CONTROL, BLANKETS, SEED AND MULCH AS NECESSARY.

37. A SITE INSPECTION AND APPROVAL BY BOTH THE COUNTY CONSERVATION DISTRICT AND THE TOWNSHIP ENGINEER IS REQUIRED PRIOR TO THE REMOVAL OR CONVERSION OF SEDIMENT TRAPS AND BASINS. NOTE: NO E&S CONTROLS CAN BE TAKEN OUT UNTIL INSPECTION AND APPROVAL BY A DCCO REPRESENTATIVE AND THE TOWNSHIP ENGINEER'S OFFICE.

CONSTRUCTION PHASE COMPLETED. ANTICIPATED DATE: FALL 2015.

**CONSTRUCTION TIMING AND SEQUENCE (CONTINUED):**

**PHASE II**  
NOTE: THE DEVELOPMENT OF PHASE II IS INDEPENDENT OF THE CONSTRUCTION ACTIVITIES IN OTHER PHASES OF THIS PROJECT AND THE DEVELOPMENT OF PHASE II MAY COMMENCE AT ANY TIME AFTER PHASE I INFRASTRUCTURE CONSTRUCTION IS COMPLETE.

1. NOTIFY THE TOWNSHIP & DELAWARE COUNTY CONSERVATION DISTRICT THAT CONSTRUCTION IS GOING TO COMMENCE. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES THE OPERATOR SHALL NOTIFY ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, INCLUDING BUT NOT LIMITED TO: THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE PCSM PLAN PREPARER, AND A REPRESENTATIVE FROM THE DELAWARE COUNTY CONSERVATION DISTRICT FOR AN ON-SITE PRE-CONSTRUCTION MEETING. ANTICIPATED DATE: SPRING 2016.

2. INSTALL EROSION AND SEDIMENTATION CONTROL DEVICES AS LISTED BELOW:  
A. INSTALL TREE PROTECTION FENCING WHERE INDICATED ON PLANS. THE LIMIT OF DISTURBANCE AND TREE PROTECTION FENCING IS TO BE FIELD DELINEATED PRIOR TO THE START OF ANY EARTH DISTURBANCE.  
B. INSTALL SILT FENCE/SEDIMENT BARRIERS WHERE INDICATED ON PLANS. ADDITIONAL SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADE OF ANY DISTURBANCE AREAS AS NEEDED THROUGHOUT THE ENTIRE PROJECT.  
C. INSTALL STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN FOR ACCESS FROM SCOTT LANE.

3. CLEAR AND GRUB AREAS FOR ROADWAY CONSTRUCTION, SANITARY SEWER INSTALLATION AND STORMWATER MANAGEMENT SYSTEMS G AND H INSTALLATION. UTILIZE TOPSOIL STOCKPILES AS INDICATED ON THE PLAN, IMMEDIATELY STABILIZE THE STOCKPILES UPON COMPLETION.

4. ROUGH GRADE ROADWAYS AND BEGIN INSTALLATION OF THE STORMWATER INFRASTRUCTURE AND SANITARY SEWER MAINS AND LATERAL STUBS AS INDICATED ON THE PLANS. SANITARY SEWER INSTALLATIONS INCLUDES MH-20, MH-21, MH-22, MH-23, MH-24 AND MH-58) AND THE INSTALLATION OF LATERAL STUBS AND PIPES.

5. INSTALL ALL UTILITY MAINS AND STUBS FOR INDIVIDUAL HOUSING UNITS. FINAL GRADE ROADWAYS AND INSTALL CURB AND SUBBASE AFTER ALL UTILITIES HAVE BEEN INSTALLED WITHIN THE ROADWAY BED.

6. INSTALL ROADWAY B.C.B.C. PAVING AND INTERNAL SITE SIDEWALKS.

7. UPON SUBSTANTIAL COMPLETION OF THE ROADWAY AND STORMWATER SYSTEM INSTALLATIONS FINAL GRADE ALL AREAS DESIGNATED TO BECOME LAWN AND RESPAED TOPSOIL. SEED THESE AREAS TO REESTABLISH PERMANENT VEGETATION. STABILIZE SLOPES IN EXCESS OF 3:1 WITH EROSION CONTROL, BLANKETS, SEED AND MULCH AS NECESSARY.

8. INSTALL LANDSCAPING, AND EMERGENCY ACCESS PATHWAY AS INDICATED PRIOR TO FINAL GRADING.

9. FINAL GRADE THE REMAINDER OF THE SITE AS INDICATED ON PLAN. PLACE TOPSOIL AND FINAL GRADE THOSE AREAS INTENDED TO BE VEGETATED. STABILIZE SLOPES IN EXCESS OF 4:1 WITH SOO OR EROSION CONTROL NETTING AND MULCH. SEED ALL DENUDED AREAS IMMEDIATELY.

10. CRITICAL STAGE - UPON SUBSTANTIAL COMPLETION OF CONSTRUCTION ACTIVITIES AND PERMANENT STABILIZATION WITHIN THE RESPECTIVE CONTRIBUTORY AREAS OF THE PERMANENT STORMWATER SYSTEMS & H, EXCAVATE FOR AND INSTALL THE PERMANENT STORMWATER MANAGEMENT SYSTEMS AND LEVEL SPREADERS AS INDICATED ON THE PLANS AS FOLLOWS:  
A. EXCAVATE TO THE BOTTOM OF THE PERMANENT SYSTEM AS INDICATED ON THE PLANS. EXCAVATION SHALL BE DONE IN A MANNER THAT DOES NOT DISTURB THE SOIL STRUCTURE OF THE INFILTRATION ZONE.  
B. PLACE THE FILTER FABRIC IN THE EXCAVATION AND TACK IT UP TO THE SIDES. ALLOW SUFFICIENT FABRIC TO OVERLAP THE TOP OF THE BED. PROVIDE OPENING IN FABRIC FOR OUTFLOW PIPE.  
C. PLACE 6" OF AASHTO NO. 57 AGGREGATE IN THE BOTTOM OF THE BED AND EVENLY DISTRIBUTE ON THE BOTTOM. CARE SHALL BE TAKEN TO ENSURE THAT THE FILTER FABRIC IN THE BED IS NOT TORN DURING INSTALLATION. INSTALL STONE TO THE NOTED UNIFORM DEPTH.

D. PLACE SECOND LAYER OF FILTER FABRIC OVER STONE BASE. ALLOW SUFFICIENT FABRIC TO OVERLAP THE TOP OF THE "STORM TANK" UNITS.  
E. INSTALL "STORM TANK" UNITS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED PRACTICES. CONNECT INLETS TO "STORM TANK" UNITS. INSTALL SEEPAGE BED INFLOW PIPE. INSTALL PERMANENT LEVEL SPREADER AND CONNECT OUTFLOW PIPE TO THE SPREADER.  
F. COMPLETELY WRAP "STORM TANK" UNITS WITH FILTER FABRIC.

G. BACKFILL AREA BETWEEN EXCAVATION AND "STORM TANK" UNITS WITH AASHTO NO. 57 AGGREGATE. PLACE AASHTO NO. 57 COARSE OVER TOP OF "STORM TANK" UNITS TO A MINIMUM DEPTH OF 12".  
H. COMPLETELY COVER TOP OF AGGREGATE WITH FILTER FABRIC. OVERLAP JOINTS IN FABRIC A MINIMUM OF 12".

21. FINAL GRADE THE REMAINDER OF THE SITE AS INDICATED ON PLAN. PLACE TOPSOIL AND FINAL GRADE THOSE AREAS INTENDED TO BE VEGETATED. STABILIZE SLOPES IN EXCESS OF 4:1 WITH SOO OR EROSION CONTROL NETTING AND MULCH. SEED ALL DENUDED AREAS IMMEDIATELY.

22. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTRIBUTED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTRIBUTED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

23. INSPECT SEDIMENT BARRIERS WEEKLY AND AFTER EACH RUNOFF EVENT. REPLACE AND REPAIR SEDIMENT BARRIERS AS NECESSARY. INSTALL ROCK FILTER OUTLETS AT ANY POINT WHERE SILT FENCING IS UNDERMINED.

24. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION, THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

25. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:  
A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.  
B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.  
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

26. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

27. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:  
A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.  
B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.  
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

28. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

29. INSPECT SEDIMENT BARRIERS WEEKLY AND AFTER EACH RUNOFF EVENT. REPLACE AND REPAIR SEDIMENT BARRIERS AS NECESSARY. INSTALL ROCK FILTER OUTLETS AT ANY POINT WHERE SILT FENCING IS UNDERMINED.

30. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION, THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

31. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:  
A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.  
B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.  
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

32. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

33. INSPECT SEDIMENT BARRIERS WEEKLY AND AFTER EACH RUNOFF EVENT. REPLACE AND REPAIR SEDIMENT BARRIERS AS NECESSARY. INSTALL ROCK FILTER OUTLETS AT ANY POINT WHERE SILT FENCING IS UNDERMINED.

34. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION, THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

35. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:  
A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.  
B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.  
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

36. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

37. INSPECT SEDIMENT BARRIERS WEEKLY AND AFTER EACH RUNOFF EVENT. REPLACE AND REPAIR SEDIMENT BARRIERS AS NECESSARY. INSTALL ROCK FILTER OUTLETS AT ANY POINT WHERE SILT FENCING IS UNDERMINED.

38. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION, THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

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A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.  
B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.  
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

40. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

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43. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:  
A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.  
B. ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE REOCCURENCE OF THE NON-COMPLIANCE.  
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

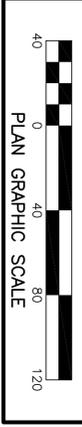
44. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY, OR ANY STAGE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

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46. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION, THE INSPECTION LOG WILL BE

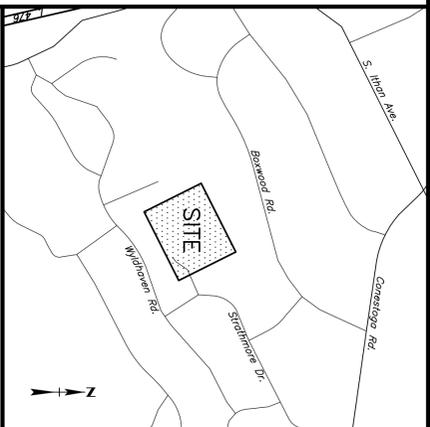
1. (DESIGN ENGINEER), HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL THE DESIGN STANDARDS AND CRITERIA OF THE RADNOR TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

1. (APPLICANT), HEREBY ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED STORMWATER MANAGEMENT SITE PLAN MUST BE APPROVED BY THE MUNICIPALITY AND THAT A REVISION EROSION & SEDIMENT CONTROL PLAN MUST BE SUBMITTED TO THE CONSERVATION DIVISION.



LEGEND

---	EX. BOUNDARY
---	EX. ADJACENT OWNER
---	EX. RIGHT-OF-WAY
---	EX. CONTIGUOUS 1'-INTERVAL
---	EX. CONTIGUOUS 5'-INTERVAL
---	EX. BLDG. STRUCK LINE
---	EX. BUILDING
---	EX. EDGE OF PAVING
---	EX. CURB



- GENERAL NOTES:
- OWNER/APPLICANT: PROSPERITY HOMES INC, 404 CHESWICK PLACE, ROSEMONT, PA 19010
  - PROPERTY INFORMATION: MAP NUMBER 36-07-04340-50, MFD NUMBER 36-39-0011000, MFD NUMBER 36-39-0011000, SITE ADDRESS: 404 CHESWICK PLACE, ROSEMONT, PA 19010 (3.9862 ACRES), TOTAL LOT AREA = 433,000 SF (9.9862 ACRES)
  - BOUNDARY AND TOPOGRAPHY AS SHOWN TAKEN FROM DEEDS AND FROM A FIELD SURVEY PERFORMED BY PROTRACT ENGINEERING IN FEBRUARY 2015.
  - PROTRACT ENGINEERING, INC. DOES NOT GUARANTEE THE STRUCTURES SHOWN ON THE EXISTING ASSESSOR'S ATTACHMENT ENGINEERING, INC. GUARANTEE THAT ALL SUBSURFACE STRUCTURES SHOWN ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. WE SHOWN TO COMPLY WITH ACT 187, THE ALL UNDERGROUND UTILITIES BEFORE THE START OF WORK.
  - ZONING INFORMATION: ZONED R-1 RESIDENCE DISTRICT
- | REGULATIONS             | REQUIRED | EXISTING | PROPOSED |
|-------------------------|----------|----------|----------|
| MIN LOT AREA            | 1.20 AC  | 9.99 AC  | 9.99 AC  |
| MIN LOT WIDTH (AT BLDG) | 120 FT   | 725 FT   | 725 FT   |
| MIN SIDE YARD           | 25 FT    | 83.9 FT  | 83.9 FT  |
| MIN REAR YARD           | 40 FT    | 150.1 FT | 150.1 FT |
| MIN REAR YARD CLEARANCE | 30 FT    | 157.8 FT | 157.8 FT |
| MAX INTERLUDES COVERAGE | 22 %     | 32 %     | 32 %     |

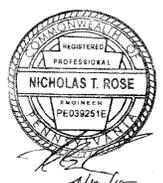
SITE PLAN  
PREPARED FOR  
**404 CHESWICK PLACE**

**ProTract**  
Engineering, Inc.

64 East Moreland Avenue, P.O. Box 58  
Hatboro, Pennsylvania 19040

Phone (215)442-9230  
Fax (215)442-9238

Township	RADNOR		
County	DELAWARE		
Date	3-25-15		
Scale	1"=40'		
Sheet Number	1 of 3		
No.	04-10-15	STORMWATER MANAGEMENT	DBR
Date		Description	By
	H2226	BASE.DWG	EMS/NTR



**VOLUME REDUCTION CALCULATIONS:**

WATER QUALITY VOLUME (WQV)  
 $WQV = [(Pmp)(A)/12]$  WHERE P=1 INCH; A=AREA TO BMP(AC)  
 $R_v = 0.054(0.009)(1)$ ; WHERE I= (IMP AREA/A)(100)

A=0.087 AC; I=(288/2925)(100) = 9.1;  
 $R_v = 0.054(0.009)(9.1) = 0.0043$   
 $WQV = [(1)(0.15)(0.0043)/12] = 0.0005$  AC-FT ~ 74 CF

GROUNDWATER RECHARGE (GW)  
 $GW = (K)(MP \text{ AREA})$   
 $GW = (K)(285 \text{ SF}) = 22 \text{ CF (CAN BE PART OF THE WQV)}$

REQUIRED VOLUME = 74 CF

STONE LINED SWALE  
 $1.33' \text{ (AVG) } \times 4.25' \text{ (AVG) } \times 50' \times 0.4 = 113 \text{ CF}$   
 $1.33' \text{ (AVG) } \times 4.25' \text{ (AVG) } \times 50' \times 0.4 = 113 \text{ CF}$   
 PROPOSED STRUCTURAL VOLUME = 35+113 = 148 CF

**CALCULATION FOR RUNOFF (STUDY AREA = 0.087 ACRES):**

PRE-DEVELOPMENT 50-YR FLOW Q-CIA  
 $C = [(530)(0.9) + (2395)(0.25)]/2925 = 0.45$ ; I = 7.50  
 $Q = 0.45 \times 7.50 \times 0.087 \text{ AC} = 0.23 \text{ CFS}$

POST-DEVELOPMENT 100-YR NON-INTERCEPTED AREA FLOW  
 $C = 0.9$ ; I = 8.19; A = 0.006 AC  
 $Q = 0.90 \times 8.19 \times 0.006 \text{ AC} = 0.004 \text{ CFS}$

NON-INTERCEPTED POST-DEVELOPMENT FLOW RUNOFF IS LESS THAN ALLOWABLE PRE-DEVELOPMENT FLOW



**LEGEND**

- EX. BOUNDARY
- EX. ADJACENT OWNER
- EX. RIGHT-OF-WAY
- EX. CONTOUR 1'-INTERNAL
- EX. CONTOUR 5'-INTERNAL
- EX. BLOS. SETBACK LINE
- EX. BUILDING
- EX. EDGE OF PAVING
- EX. CURB
- EX. WATERLINE
- EX. SANITARY PIPE
- EX. STORM PIPE
- PROP. STORM PIPE
- PROP. CURB
- PROP. CONTOUR
- PROP. SILT FENCE
- EX. PAVING TO BE REMOVED
- XXXXXX PROP. FLAGSTONE PAVERS (SEE DETAILS 2 & 4)
- XXXXXX PROP. COLORED CONCRETE BLOCKS (SEE DETAILS 1 & 1A)

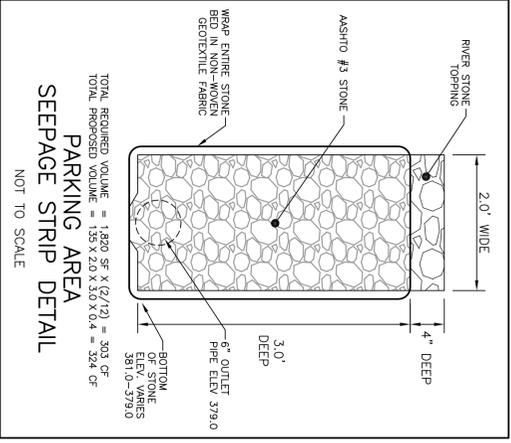
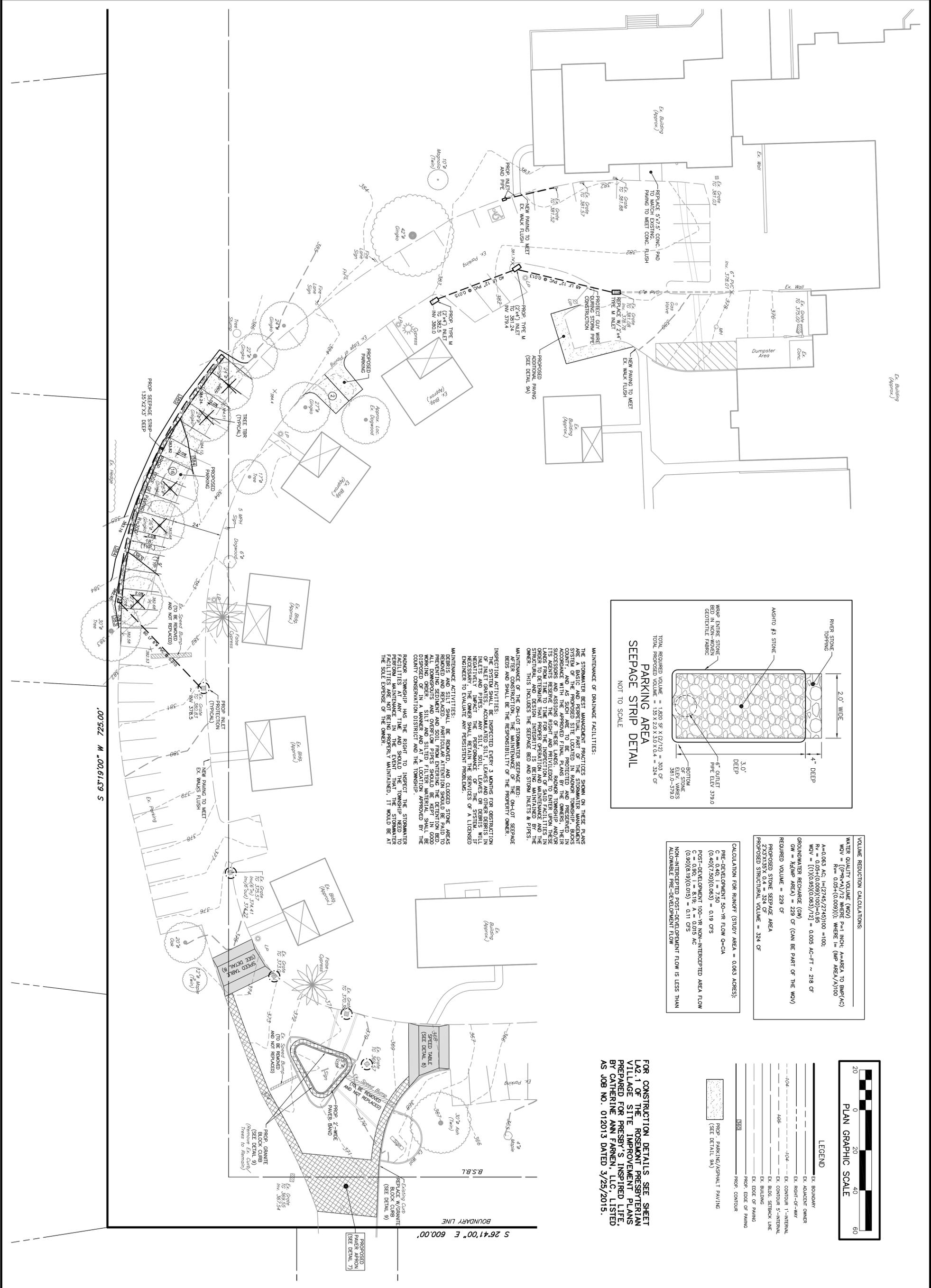
S 26°41'00" E 600.00'

FOR CONSTRUCTION DETAILS SEE SHEET LA2.1 OF THE ROSEMONT PRESBYTERIAN VILLAGE SITE IMPROVEMENT PLANS PREPARED FOR PRESBY'S INSPIRED LIFE, BY CATHERINE ANN FARMEN, LLC, LISTED AS JOB NO. 012013 DATED 3/25/2015.

OUTDOOR PATIO CONSTRUCTION AND STORMWATER PLAN  
 PREPARED FOR  
**404 CHESWICK PLACE**  
**ProTract Engineering, Inc.**  
 64 East Moreland Avenue, P.O. Box 58  
 Hatboro, Pennsylvania 19040  
 Phone (215)442-9230  
 Fax (215)442-9238

Township	RADNOR	County	DELAWARE	Date	3-25-15	Scale	1"=10'	Sheet Number	1	04-10-15	STORMWATER MANAGEMENT	DBR
No.	Date	Description	By									
Project Number	H2226	CAD File Name	BASE.DWG	File Number	---	Drafter/Engineer	EMS/NTR					





**VOLUME REDUCTION CALCULATIONS:**

WATER QUALITY VOLUME (WQV)  
 $WQV = [(P-R)(A)/12]$  WHERE P=1 INCH, A=AREA TO BURF(CF)  
 $R = 0.05+(0.009)(I)$  WHERE I= (IMP AREA/A)/100  
 $A = 0.063 \text{ AC} = (2745/2745)100 = 100$   
 $R = 0.05+(0.009)(100) = 0.95$   
 $WQV = [(1)(0.95)(0.063)/12] = 0.005 \text{ AC-FT} \approx 218 \text{ CF}$

GROUNDWATER RECHARGE (GW)  
 $GW = K(IMP \text{ AREA}) = 229 \text{ CF (CAN BE PART OF THE WQV)}$

REQUIRED VOLUME = 229 CF

PROPOSED STONE SEEPAGE AREA  
 $2.3 \times 135 \times 0.4 = 324 \text{ CF}$

PROPOSED STRUCTURAL VOLUME = 324 CF

**CALCULATION FOR RUNOFF (STUDY AREA = 0.063 ACRES):**

PRE-DEVELOPMENT 50-YR FLOW Q=CIA  
 $C = 0.48; I = 1.50$   
 $Q = (0.48)(1.50)(0.063) = 0.19 \text{ CFS}$

POST-DEVELOPMENT 100-YR NON-INTERCEPTED AREA FLOW  
 $C = 0.90; I = 6.18; A = 0.057 \text{ AC}$   
 $Q = (0.90)(6.18)(0.057) = 0.31 \text{ CFS}$

NON-INTERCEPTED POST-DEVELOPMENT FLOW IS LESS THAN ALLOWABLE PRE-DEVELOPMENT FLOW

**MAINTENANCE OF DRAINAGE FACILITIES:**

THE STORMWATER BEST MANAGEMENT PRACTICES SHOWN ON THESE PLANS ARE A BASIC AND PERPETUAL PART OF THE STORMWATER MANAGEMENT SYSTEM FOR THE PROJECT. THE RESPONSIBILITY FOR THE MAINTENANCE OF THIS SYSTEM SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. IN ACCORDANCE WITH THE APPROVED FINAL PLANS BY THE OWNERS, THEIR SUCCESSORS AND ASSIGNS OF THESE LANDS, THE TOWNSHIP AND/OR LANDS FROM TIME TO TIME FOR THE INSPECTION OF SAID FACILITIES IN ORDER TO DETERMINE THAT PROPER OPERATION AND MAINTENANCE AND THE OWNER, THIS INCLUDES THE SEEPAGE BED AND STORM INLETS & PIPES.

**MAINTENANCE OF THE ON-LOT STORMWATER SEEPAGE BED:** ON-LOT SEEPAGE BEDS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

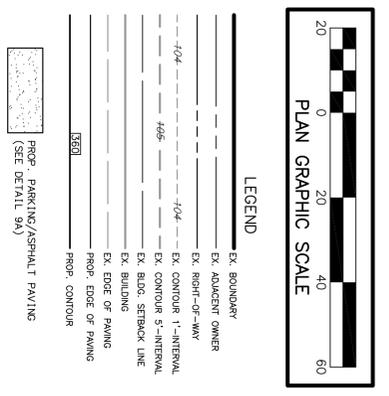
**INSPECTION ACTIVITIES:**

THE SYSTEM SHALL BE INSPECTED EVERY 3 MONTHS FOR OBSTRUCTION OF INLET GRATES, ACCUMULATED SLIT, LEAVES AND OTHER DEBRIS IN NEARBY AND ADJACENT AREAS. THE SEEPAGE BEDS SHALL BE MAINTAINED AND INSPECTED THE SEEPAGE BEDS SHALL BE MAINTAINED AS NECESSARY. THE OWNER SHALL RETAIN THE SERVICES OF A LICENSED ENGINEER TO EVALUATE ANY PERSISTENT PROBLEMS.

**MAINTENANCE ACTIVITIES:**

DEBRIS AND SLIT SHALL BE REMOVED, AND CLOGGED STONE AREAS SHALL BE CLEANED. THE SEEPAGE BEDS SHALL BE MAINTAINED TO PREVENT SEDIMENT AND SOIL FROM ENTERING THE DEFLECTION BED. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER. A SILT AND SLOTTED FILTER MATERIAL SHALL BE MAINTAINED IN THE SEEPAGE BEDS.

THE TOWNSHIP HAS THE RIGHT TO INSPECT THE STORMWATER FACILITIES AT ANY TIME AND SHOULD THE TOWNSHIP NEED TO PERFORM MAINTENANCE IN THE EVENT THAT THE STORMWATER FACILITIES ARE NOT BEING PROPERLY MAINTAINED, IT WOULD BE AT THE SOLE EXPENSE OF THE OWNER.



FOR CONSTRUCTION DETAILS SEE SHEET LA2.1 OF THE ROSEMONT PRESBYTERIAN VILLAGE SITE IMPROVEMENT PLANS PREPARED FOR PRESBY'S INSPIRED LIFE, BY CATHERINE ANN FARNEN, LLC, LISTED AS JOB NO. 012013 DATED 3/25/2015.

DRIVEWAY, PARKING AND STORMWATER PLAN

PREPARED FOR

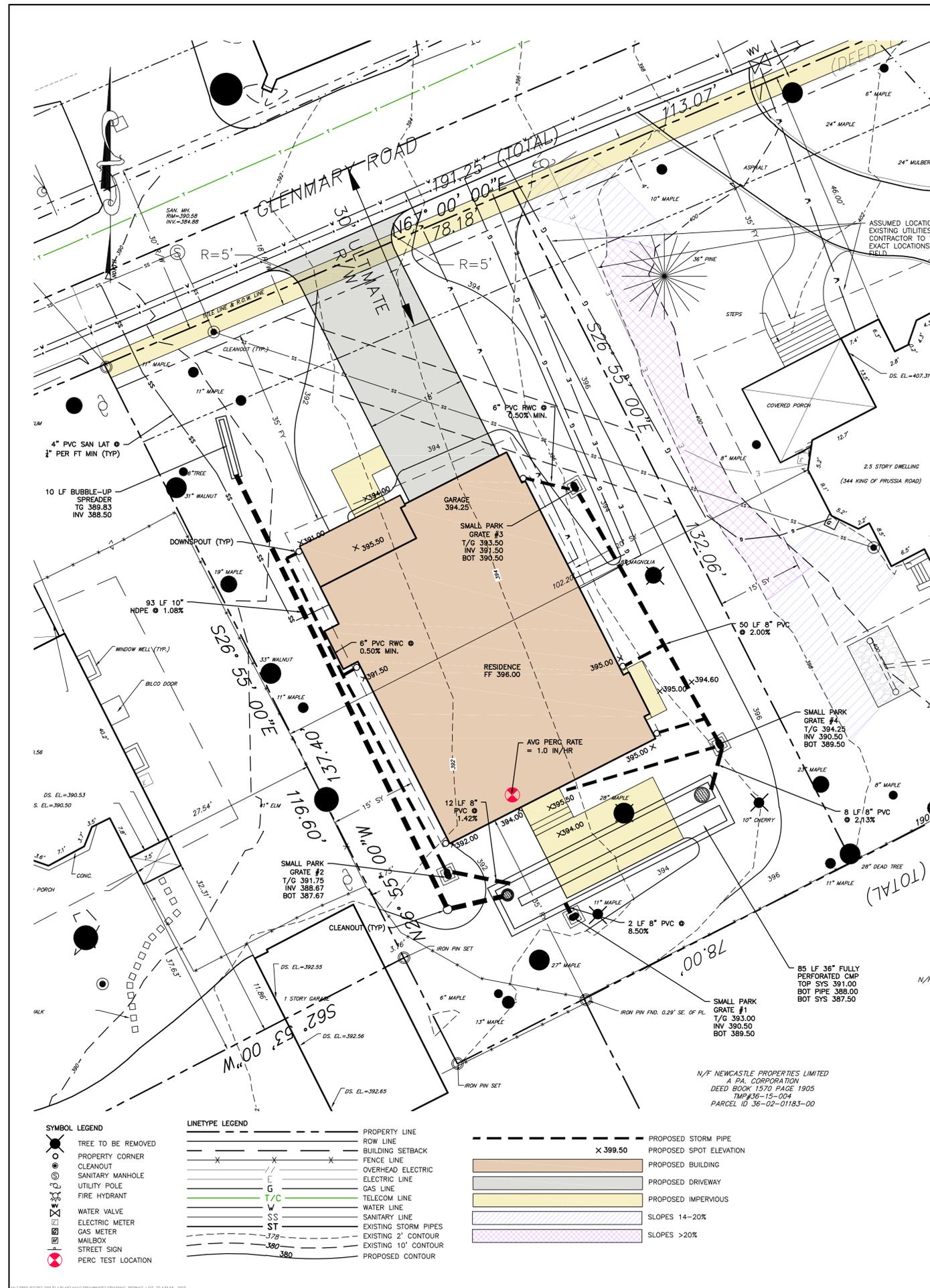
**404 CHESWICK PLACE**

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No.	Date	Description	DBR
1	04-10-15	STORMWATER MANAGEMENT	
Project Number		CAD File Name	File Number
H2226		BASE.DWG	---
		Drafter/Engineer	EMS/NTR



**STORMWATER MANAGEMENT FACILITY MAINTENANCE PLAN**

THE STORMWATER MANAGEMENT SYSTEM ON LOT 2 CONSISTS OF A SUBSURFACE DETENTION/RECHARGE BASIN. THE BASIN IS COMPRISED OF FULLY PERFORATED CORRUGATED METAL PIPE WITHIN A STONE BED SURROUNDED BY FILTER FABRIC. AN INTERNAL CONTROL RISER ALLOWS CONTROLLED DISCHARGE OF FLOWS FROM THE SYSTEM. WATER RUNOFF IS DIRECTED TO THE INFILTRATION BED VIA ROOF DRAINS, A SERIES OF INLETS, AND PIPING WHICH CAPTURE AND COLLECT RUNOFF FROM THE BUILDING, PORTIONS OF THE DRIVEWAY, AND SOME YARD AREAS. THE INLETS ARE PROVIDED WITH A ONE FOOT SLUMP BELOW THE INLET AND OUTLET PIPES SO THAT DEBRIS CAN BE COLLECTED PRIOR TO FLOWING INTO THE SUBSURFACE INFILTRATION BED.

THE SYSTEM IS DESIGNED TO PROMOTE GROUNDWATER RECHARGE. A CONTROL STRUCTURE WITHIN THE SYSTEM DISCHARGES TO A PROPOSED BUBBLE-UP SPREADER WHERE THE DISCHARGE MAY BE DISSIPATED TO GRADE IN AN UN-CONCENTRATED MANNER. AN ACCESS MANHOLE WITH A LADDER IS PROVIDED AT THE END OF THE SUBSURFACE PIPE SYSTEM TO FACILITATE ACCESS AND MAINTENANCE OF THE SYSTEM.

THE RESPONSIBILITY FOR THE CONTINUED OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITIES ON THIS LOT IS THAT OF THE PROPERTY OWNER.

MAINTENANCE OF THE FACILITIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT IMPEDE THE FLOW OF WATER DRAINING TO THE STORMWATER MANAGEMENT BASIN.
2. ALL ROOF DOWNSPOUTS, INLETS, CURB OPENINGS AND OTHER WATER WAYS SHALL BE KEPT OPEN AND OPERATION TO PASS THE FLOW OF WATER TO THE BASIN AS INTENDED.
3. GRASS AND LANDSCAPING IN THE VICINITY OF ALL INLETS SHALL BE KEPT TRIM AND FREE FROM DEBRIS ACCUMULATION, AND DOWNSPOUTS AND INLETS SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER TO AND WITHIN THEM.
4. INLET SUMPS SHALL BE CLEANED OF ACCUMULATED DEBRIS BEFORE ANY DEBRIS CAN BE DISCHARGED INTO THE SYSTEMS. INLET STRUCTURES SHALL BE INSPECTED AT LEAST MONTHLY TO INSURE THAT THEY ARE CLEAN AND REMAIN OPERATIONAL.
5. SUBSURFACE PIPES SHALL BE INSPECTED ON AN ANNUAL BASIS TO INSURE THAT THEY ARE CLEAN AND OPERATIONAL. ANY ACCUMULATED DEBRIS AND SILT SHALL BE REMOVED IN A TIMELY MANNER. THE SUBSURFACE PIPES SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER WITHIN THEM.
6. PROMPT REMEDIAL MEASURES ARE TO BE TAKEN IN THE EVENT OF ANY BLOCKAGE OR MALFUNCTION OF THE SYSTEM.

THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT TAKE ANY MEASURES TO DISRUPT OR IN ANY WAY IMPAIR THE EFFECTIVENESS OF THE BASIN OR ITS CONTROLS. THIS INCLUDES ALTERATION OF GRADES IN ANY MANNER THAT WOULD DIVERT RUNOFF AWAY FROM INLET COLLECTION POINTS.

**CARE OF EXISTING TREES:**

1. TREE PROTECTION FENCING SHALL BE INSTALLED TO PROTECT ALL EXISTING TREES FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES, AND OTHERS. MAINTAIN PROTECTION FENCING FOR THE DURATION OF PROJECT.
2. SELECTIVELY PRUNE EXISTING TREES AT THE EDGE OF ALL TREE PROTECTION ZONES, AND OTHER EXISTING TREES AFFECTED BY CONSTRUCTION, UNDER LANDSCAPE ARCHITECT'S DIRECTION. REMOVE SUCKER SHOTS, DEAD, RUBBING AND DAMAGED BRANCHES.
3. ANY EXCAVATION NEAR ADJACENT ROOT SYSTEMS WILL REQUIRE ROOT PRUNING OF AFFECTED TREE(S).
4. FERTILIZE PRUNED EXISTING TREES WITH 3 TO 4 LBS. OF LIQUID FERTILIZER PER 1,000 SQUARE FEET OF DRIP AREA, OR 5 GALLONS OF LIQUID FERTILIZER PER CALIPER INCH OF TRUNK DIAMETER.
5. FERTILIZE IN EARLY SPRING BEFORE GROWTH BEGINS.
6. FERTILIZE BEGINNING 2' FROM TRUNK AT INTERVALS 2' TO 3' ON CENTER IN A GRID-LIKE PATTERN TO A DEPTH OF 6-18" WITHIN THE DRIPLINE AND BEYOND WHERE POSSIBLE. INJECTION FERTILIZATION METHOD SHALL BE ACCEPTABLE SUBJECT TO LANDSCAPE ARCHITECT'S APPROVAL.

**NOTES:**

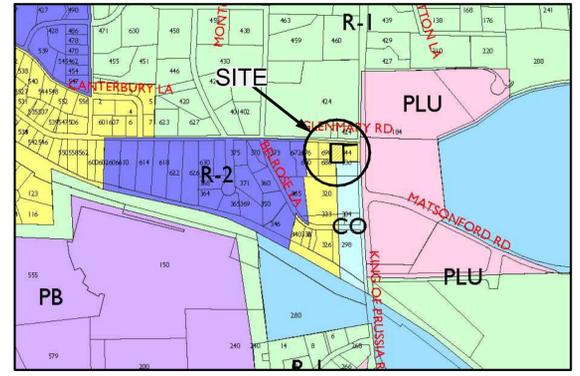
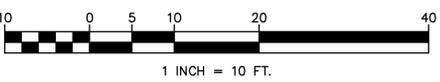
- 1.) THE STORMWATER MANAGEMENT FACILITIES ON LOT 2 ARE DESIGNED FOR THE MAXIMUM ALLOWABLE IMPERVIOUS COVER ON SITE OF 3,678 SF.
- 2.) THE MAINTENANCE OF THE ON-SITE STORMWATER MANAGEMENT FACILITIES IS THE RESPONSIBILITY OF THE OWNER.
- 3.) THE TOWNSHIP ENGINEER'S OFFICE SHALL BE NOTIFIED 48 HOURS PRIOR TO THE CONSTRUCTION OF THE SEEPAGE BED AND PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
- 4.) ON-SITE TREES ARE TO BE SAVED AND PRESERVED WHEREVER POSSIBLE.
- 5.) ALL WOODY VEGETATION TO BE RETAINED WITHIN TWENTY-FIVE FEET OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT THE DRIPLINES.
- 6.) GRADE CHANGES AROUND THE DRIPLINES OF TREES TO BE RETAINED SHALL BE MINIMIZED. TREATMENT OF THE TREES PRIOR TO CONSTRUCTION TO PROTECT THE ROOT SYSTEM SHALL BE PERFORMED.
- 7.) ALL DISTURBED ROOTS MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION. TREE LIMBS MUST BE CUT BACK IN PROPORTION TO THE ROOT AREA LOSS.
- 8.) ON-SITE TREES TO BE SAVED SHALL BE PREPARED FOR CONSTRUCTION BY APPROPRIATE CROWN AND DEEP ROOTING FERTILIZATION AND PROTECTED BY APPROPRIATE FENCING. ALL TREES ARE TO BE DEEP ROOT FERTILIZED USING 16-32-16 SLOW RELEASE, WATER DISPENSABLE @ 15 LBS. PER 100 GALLON OR EQUAL.
- 9.) STORMWATER INFILTRATION TESTS WERE PERFORMED ON THE PREMISES BY DELAWARE VALLEY SEPTICS, INC ON NOVEMBER 21, 2013. THE AVERAGE INFILTRATION RATE IS 1.0 IN/HR.

**OPERATION AND MAINTENANCE NOTES:**

1. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT SYSTEM AND OTHER DRAINAGE FACILITIES SHALL BE THE OBLIGATION OF THE PROPERTY OWNER.

**INFILTRATION BMP NOTES:**

- 1) INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL/SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (I.E. CLEANING THE SOIL/SEDIMENT FROM FABRIC, STONE, BED ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
- 2) ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
- 3) THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
- 4) INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEM SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES AND DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THE SYSTEM. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.
- 5) AFTER THE INFILTRATION BED IS COMPLETELY INSTALLED, ALL HEAVY CONSTRUCTION EQUIPMENT SHALL BE RESTRICTED FROM THE INFILTRATION BEDS TO ELIMINATE IMPACTS WHICH MAY COMPROMISE IT. IN THE EVENT ANY IMPACTS COMPROMISE THE FUNCTIONALITY OF THE INFILTRATION BEDS, IT MUST BE IMMEDIATELY REPAIRED OR REPLACED TO DESIGN SPECIFICATIONS.



**ZONING DISTRICT R-3**

LOT AREA	10,000 S.F. MIN.
LOT WIDTH @ BLDG.	70 FEET MIN.
BUILDING AREA	25% MAX.
FRONT YARD	35 FEET MIN.
SIDE YARD	35 FEET AGG. (15 FEET MIN.)
REAR YARD	35 FEET MIN.
IMPERVIOUS SURFACE	35% MAX.
RIPARIAN BUFFER	30' MIN.

FOR MORE DETAILED INFORMATION YOUR ATTENTION IS CALLED TO THE ZONING CODE OF RADNOR TOWNSHIP, LATEST EDITION.

**GENERAL NOTES:**

1. BOUNDARY AND TOPOGRAPHIC SURVEY FROM A PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY OF 344 KING OF PRUSSIA ROAD AND 690 GLENMARRY ROAD" PREPARED BY MOMENEE SURVEY GROUP INC DATED MAY 16, 2013, FILE #13-146
2. THE REFERENCED SURVEY PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON MAY 14, 2013 AND DEPICTS CONDITIONS ON THAT DATE.
3. SUBDIVISION FROM A PLAN ENTITLED "2-LOT SUBDIVISION PLAN - 344 KING OF PRUSSIA ROAD", PREPARED BY MOMENEE & ASSOCIATES, INC., DIVISION NUMBER 21, 2013, LAST REVISED MARCH 10, 2014. FILE NO. 13-146.
4. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
5. PA. ONE CALL NUMBER FOR 344 KING OF PRUSSIA ROAD IS: 20131220185. ONE CALL NUMBER FOR 690 GLENMARRY ROAD IS 20131220197.
6. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD 1988 OBTAINED VIA VRS NETWORK.
7. THIS SURVEY AND PLAN WAS COMPLETED WITHOUT THE AVAILABILITY OF A CURRENT TITLE REPORT AND SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED IN A FULL AND ACCURATE TITLE REPORT.
8. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0036F EFFECTIVE DATE NOVEMBER 18, 2004, PREMISES IS LOCATED IN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
9. THE STORMWATER MANAGEMENT DETENTION AND COLLECTION SYSTEM AND INLETS ARE TO BE OWNED AND MAINTAINED BY THE HOME OWNER. ROOF DRAINS ARE TO BE TIED INTO THE STORMWATER MANAGEMENT DETENTION SYSTEM.
10. THE STORMWATER MANAGEMENT SYSTEM HAS BEEN DESIGNED TO ACCOUNT FOR THE MAXIMUM ALLOWABLE IMPERVIOUS SURFACE ON LOT 2 (3,678 SF).
11. A GENERAL EASEMENT IS HEREBY CREATED OVER THE STORMWATER MANAGEMENT SYSTEM THAT PERMITS INGRESS AND EGRESS BY RADNOR TOWNSHIP.

<b>LOT AREA:</b>	
GROSS AREA	= 10,509 SF
ROAD RIGHT OF WAY	= 365 SF
NET AREA	= 10,144 SF (0.233 AC)

<b>PROPOSED IMPERVIOUS COVERAGE:</b>	
HOUSE	= 2,210 S.F.
PORCH	= 154 S.F.
DRIVEWAY	= 672 S.F.
PATIO, WALKS & MISC.	= 424 S.F.
TOTAL IMPERVIOUS COVERAGE	= 3,460 S.F. 32.92%
MAXIMUM ALLOWABLE	= 3,678 S.F. (35%)

**TREES TO BE REMOVED**

- 28" MAPLE
- 18" MAGNOLIA
- 11" MAPLE
- 10" CHERRY

**TREE REPLACEMENT FORMULA:**

6 - 18 INCH DBH REMOVED	= 1 REPLACEMENT TREE
19 - 29 INCH DBH REMOVED	= 3 REPLACEMENT TREES, 2 BEING LARGE CANOPY TREES
30 INCH DBH & GREATER REMOVED	= 6 REPLACEMENT TREES, 4 BEING LARGE CANOPY TREES

**TOTAL TREES BEING REMOVED:**

6 - 18 INCH DBH	= 3
19 - 29 INCH DBH	= 1
30 INCH DBH & GREATER	= 0
TOTAL	= 0

**REPLACEMENT TREES REQUIRED**

	= 6, 2 BEING LARGE CANOPY TREES
--	---------------------------------

NOTE: SHOULD ANY ADDITIONAL TREES BE REMOVED, ADDITIONAL REPLACEMENT TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE RADNOR TOWNSHIP ORDINANCE NO. 2012-05.

**TREE REPLACEMENT NOTES:**

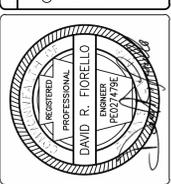
- 1) REPLACEMENT TREES WILL BE SELECTED FROM THE LIST OF TOWNSHIP APPROVED TREES PRIOR TO THE ISSUANCE OF A GRADING PERMIT.
- 2) TREES TO BE PLANTED OUTSIDE OF REQUIRED SITE LINE.

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THE EXISTING CONDITIONS ARE AS SHOWN AND THAT THIS DRAINAGE PLAN COMPLIES WITH ALL THE DESIGN STANDARDS AND CRITERIA OF THE RADNOR TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

DAVID R. FIORELLO, P.E. DATE

Serial Number: 2013-12-0185

CALL BEFORE YOU DIG!  
3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE STOP CALL  
Pennywood One Call System, Inc.  
1-800-242-1776



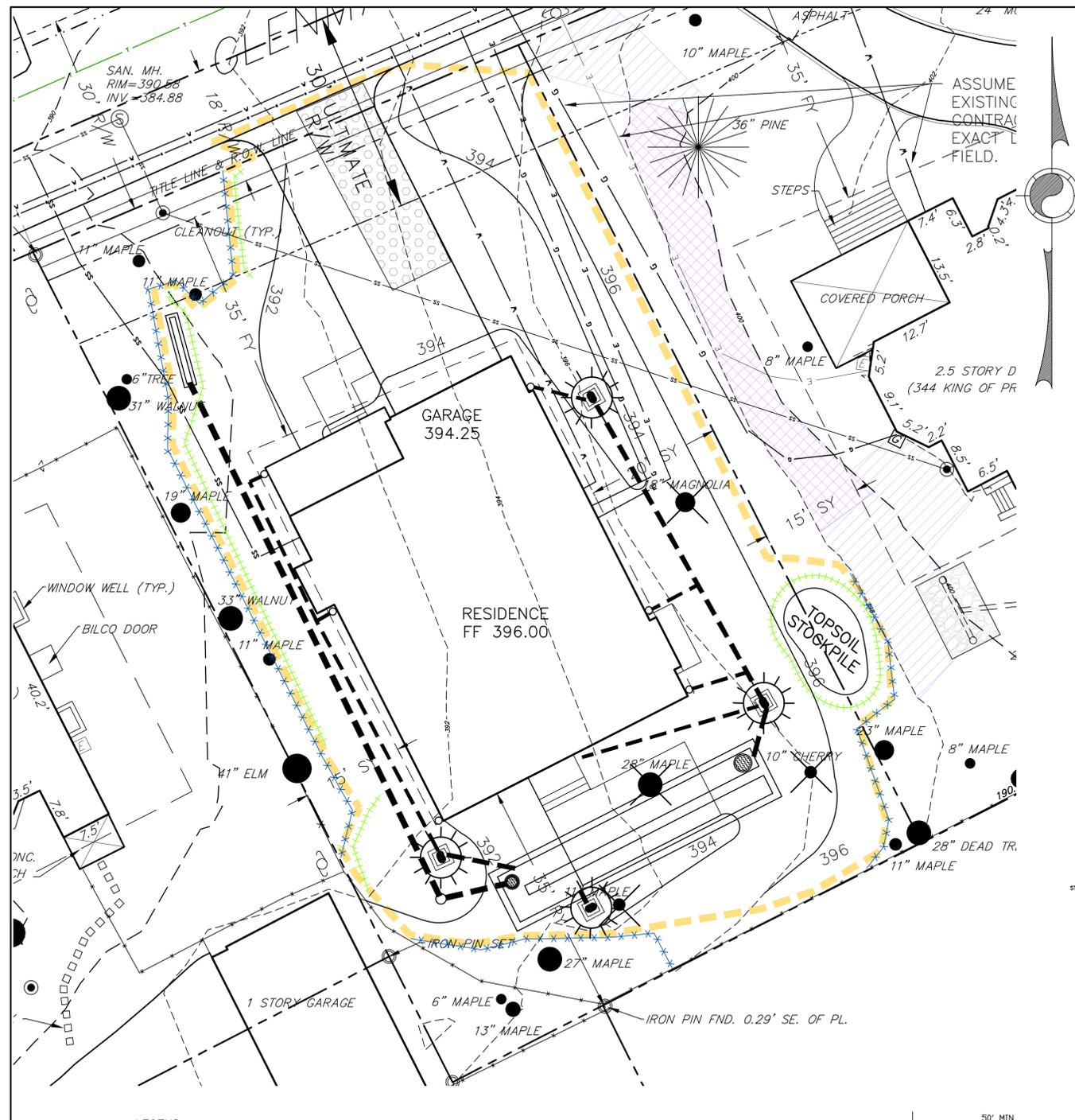
**MOMENEE & ASSOCIATES, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
924 COUNTY LINE ROAD, BRN MNR, PA 19010  
PHONE: (610) 527-3030 FAX: (610) 527-9008

**GRADING & UTILITY PLAN**  
GRADING PERMIT PLAN  
344 KING OF PRUSSIA ROAD - LOT 2  
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA  
OWNER/APPLICANT: LOMBARDI STATE REALTY, LLC  
DRAWN BY: BDM  
CHECKED BY: DRF



DATE: NOVEMBER 3, 2014
SHEET NO. 1
OF 3
SCALE: 1" = 10'
FILE NO.: 13-146

REV.	DATE	COMMENTS



**MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL STRUCTURES**

STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCES ARE TO BE CONSTRUCTED PER THE DETAIL. THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED SO THAT THE SURROUNDING ACTIVITY DOES NOT BECOME INEFFECTIVE. ANY BUILDUP OF MUD OR SOIL ON THE STREET SHALL BE CLEANED AT THE END OF EACH WORKING DAY.

INLET SILT TRAPS: INLET SILT TRAPS SHALL BE CONSTRUCTED PER THE DETAIL AND CLEANED AFTER EACH STORM EVENT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER.

SILT FENCE: SILT FENCE SHALL BE INSTALLED PER THE DETAIL WITH ROCK FILTER OUTLETS PROVIDED EVERY 100 FEET AND AT EXISTING AND GRADED LOW POINTS. SEDIMENT SHALL BE REMOVED FROM SILT FENCES WHEN IT REACHES 1/2 THE FENCE HEIGHT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER. SILT FENCING WHICH HAS BEEN UNDERMINED OR TOPPED WILL BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY.

SEDIMENT DISPOSAL: SILT REMOVED FROM TEMPORARY SEDIMENT CONTROL STRUCTURES SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED AREAS LOCATED OUTSIDE OF FLOOD PLAINS, WETLANDS, STEEP SLOPES AND DRAINAGE SWALES.

DUST CONTROL: DUST AND OTHER PARTICULATES SHALL BE KEPT WITHIN TOLERABLE LIMITS BY USING WATER. APPLICATION SHALL BE AS NEEDED OR AS DIRECTED BY THE TOWNSHIP ENGINEER OR THE CONSERVATION DISTRICT.

**PLACING TOPSOIL OR TOPSOIL MIXTURE**

**PREPARATION OF AREAS TO BE TOPSOILED**

GRADE THE AREAS TO BE COVERED BY TOPSOIL. USING ACCEPTABLE METHODS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE PLACING THE TOPSOIL. REMOVE STONES AND OTHER FOREIGN MATERIAL 2 INCHES OR LARGER IN DIMENSION. REMOVE AND SATISFACTORILY DISPOSE OF UNSUITABLE AND SURPLUS MATERIAL.

**PLACING AND SPREADING TOPSOIL**

PLACE TOPSOIL ON THE PREPARED AREAS AND, UNLESS OTHERWISE INDICATED, SPREAD AND COMPACT TO A 4-INCH UNIFORM DEPTH ± 1 1/2 INCHES. COMPACT WITH A ROLLER WEIGHING NOT OVER 120 POUNDS PER FOOT WIDTH OF ROLLER OR BY OTHER ACCEPTABLE METHODS, AS DIRECTED. REMOVE OVERDEPTH TOPSOIL, UNLESS OTHERWISE AGREED UPON IN WRITING. DO NOT PLACE TOPSOIL IN A WET OR FROZEN CONDITION.

**SEEDING SPECIFICATIONS:**

- WHERE DENUDED AREAS ARE DESIRED TO BE LAWN:
- PERFORM ALL CULTURAL OPERATION AT RIGHT ANGLES TO THE SLOPE.
  - APPLY LIME ACCORDING TO TEST OR AT THE RATE OF 25 LBS. OF GROUND LIMESTONE PER 1,000 SQ. FT.
  - APPLY FERTILIZER ACCORDING TO SOIL TEST OR WORK IN DEPTH 20 LBS. OF 0-20-20 OR EQUIVALENT PER 1,000 SQ. FT. AND AT THE TIME OF SEEDING, WORK INTO THE SURFACE 10 LBS. OF 10-10-10 OR EQUIVALENT PER 1,000 SQ. FT. OR OTHER APPROVED MIXTURE.
  - SMOOTH AND FIRM SEEDS PRIOR TO SEEDING.
  - SEED USING A MIXTURE OF 60% PENNSTAR KENTUCKY BLUEGRASS, 30% PENNLAWN RED FESCUE AND 10% PENNFINE PERENNIAL RYEGRASS AT THE RATE OF FIVE (5) POUNDS PER 1,000 SQ. FT. OR OTHER APPROVED MIXTURE.
  - COVER GRASS AND LEGUME SEEDS WITH 1/4" OF SOIL WITH SOIL EQUIPMENT, MULCH, USING 2 BALES/1,000 SQ. FT.
  - MOW AS REQUIRED.
  - WHERE SLOPES EXCEED 25% JUTE NETTING OR OTHER APPROVED (EQUAL) SLOPE STABILIZATION MEASURES SHALL BE UTILIZED. IN ADDITION, THE SEEDING SPECIFICATIONS FOR STEEP SLOPES SHALL BE INCREASED TO INCLUDE 3 LBS/1,000 SQ. FT. OF ANNUAL RYEGRASS FOR RAPID VEGETAL ESTABLISHMENT.

**CONSTRUCTION TIMING AND SEQUENCE**

- NOTE: THE TOWNSHIP ENGINEER SHALL BE NOTIFIED 48 HOURS PRIOR TO THE INSTALLATION OF THE SEEPAGE BED AND PRIOR TO THE START OF ANY EARTHMOVING ACTIVITIES.
- NOTIFY THE TOWNSHIP THAT CONSTRUCTION IS GOING TO COMMENCE. ANTICIPATED DATE: JANUARY 2015.
  - INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AS SHOWN. ALL CONSTRUCTION VEHICLES ENTERING/EXITING THE SITE MUST USE THIS ENTRANCE.
  - INSTALL TREE PROTECTION AS INDICATED ON THE PLAN.
  - INSTALL SILT FENCE AS SHOWN ON THE PLAN AND ON THE DOWNHILL SLOPE OF ANY EXCAVATION OR ANTICIPATED DISTURBANCE.
  - PRIOR TO EARTH DISTURBANCE, NOTIFY THE TOWNSHIP ENGINEER THAT CONSTRUCTION IS GOING TO BEGIN.
  - ONCE THE EROSION AND SEDIMENT CONTROLS ARE IN PLACE AND FUNCTIONING, CLEAR AND GRUB THE AREAS AS NECESSARY WITHIN THE LIMITS OF DISTURBANCE OF EXISTING VEGETATION. STRIP TOPSOIL FROM AREAS OF CONSTRUCTION AND STOCKPILE SUITABLE MATERIAL FOR FUTURE USE. UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SURROUND TOPSOIL WITH SILT FENCE AND SEED TO ESTABLISH TEMPORARY VEGETATIVE COVER.
  - UPON APPROVAL FROM THE TOWNSHIP ENGINEER, EXCAVATE FOR AND INSTALL THE PERMANENT STORMWATER MANAGEMENT SYSTEM AND LEVEL SPREADER. CONNECT THE SYSTEM TO THE LEVEL SPREADER.
  - EXCAVATE FOR AND BEGIN TO CONSTRUCT THE FOUNDATIONS FOR THE NEW BUILDING. UPON COMPLETION OF FOUNDATION WALLS, BACKFILL FOUNDATIONS AND ROUGH GRADE AROUND THE HOUSE. ANY GRADED OR DISTURBED AREA MUST BE TEMPORARILY SEEDING IF NO FURTHER EARTH MOVING IS ANTICIPATED IMMEDIATELY. USE ANY ADDITIONAL EXCAVATED MATERIAL FROM THE NEW FOUNDATION TO BACKFILL THE EXISTING BASEMENT.
  - CONTINUE WITH BUILDING CONSTRUCTION AND ROUGH GRADE THE SITE. INSTALL UTILITIES AS NECESSARY.
  - CONCURRENT WITH THE BUILDING CONSTRUCTION INSTALL THE ROOF DRAINWATER COLLECTION SYSTEM, SMALL PARK GRATES, AND CONVEYANCE PIPING. PLACE INLET PROTECTION ON THE INLETS. DO NOT CONNECT INLETS TO STORMWATER SYSTEM UNTIL THE RESPECTIVE CONTRIBUTORY AREAS ARE STABILIZED.
  - PLACE STONE BASE FOR NEW DRIVEWAY AREAS, AND BEGIN TO CONSTRUCT THE OTHER SITE IMPROVEMENTS.
  - INSPECT SEDIMENT BARRIERS FREQUENTLY, ESPECIALLY AFTER HEAVY STORMS. REPLACE AND REPAIR SEDIMENT BARRIERS AS NECESSARY.
  - UPON FINAL STABILIZATION OF THE CONTRIBUTORY AREAS, CONNECT INLETS TO THE PERMANENT STORMWATER SYSTEM.
  - INSTALL FINAL TOP COURSES ON THE NEW DRIVEWAY AREAS.
  - FINAL GRADE DENUDED AREAS, SPREAD STOCKPILED TOPSOIL AND SEED GRADED AREAS TO REESTABLISH PERMANENT VEGETATION. STABILIZE SLOPES IN EXCESS OF 4:1 WITH SOD OR EROSION CONTROL NETTING AND MULCH.
  - INSTALL FINAL LANDSCAPE FEATURES, AND COMPLETE CONSTRUCTION.
  - UPON PERMANENT STABILIZATION, REMOVE THE SEDIMENT BARRIERS. IMMEDIATELY SEED ANY DENUDED AREAS DUE TO THEIR REMOVAL.
  - CONSTRUCTION COMPLETED. ANTICIPATED DATE: NOVEMBER 2015.

**HYDROSEEDING SPECIFICATIONS**

DEFINITION: STABILIZING SEDIMENT PRODUCING AND SEVERELY ERODED AREAS BY ESTABLISHING PERMANENT GRASS COVER.

PURPOSE: TO PROVIDE PERMANENT VEGETATIVE COVER TO CONTROL RAPID RUN-OFF AND EROSION.

PROCEDURE: SURFACE TO BE HYDRO-SEEDED SHALL BE CLEANED OF ALL DEBRIS AND OTHER MATTER HARMFUL TO UNIFORM GERMINATION. A WATER-SLURRY MIXTURE COMPOSED OF THE BELOW MENTIONED "MATERIALS" SHALL BE SPRAYED UNIFORMLY OVER THE AREAS TO BE HYDRO-SEEDED.

MATERIALS:

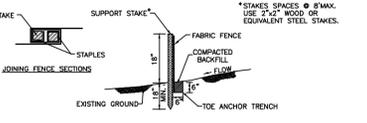
PERMANENT SEEDING

NAME	DESCRIPTION	(PER ACRE)
1) SEED MIXTURE	60% PENNSTAR KENTUCKY BLUEGRASS 30% PENNLAWN RED FESCUE 10% PENNFINE PERENNIAL RYEGRASS	260 LBS.
2) COMMERCIAL FERTILIZER		1,000 LBS.
3) LIME	GROUND AGRICULTURAL LIMESTONE (MAY BE APPLIED SEPARATELY)	2 TONS
4) MULCH	HAY OR STRAW	3 TONS
5) SOIL STABILIZER	TERRA TACK OR EQUIVANT	20 LBS.

TEMPORARY

1) SEED	ANNUAL RYEGRASS (95% PURE)	40 LBS.
2) COMMERCIAL FERTILIZER		1,000 LBS.
3) LIME	GROUND AGRICULTURAL LIMESTONE (MAY BE APPLIED SEPARATELY)	1 TON
4) MULCH	HAY OR STRAW	3 TONS

APPLICATION RATE



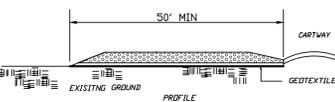
STANDARD FILTER FABRIC FENCE

NOTE: FABRIC SPACES @ 8" MAX. USE 2" X 2" WOOD OR EQUIVALENT STEEL STAKES.

FILTER FABRIC FENCE MUST BE PLACED AT LEVEL GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 4' UP SLOPE AT 45° TO THE MAIN BARRIER ALIGNMENT. ANY SILT FENCING WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY. SEE ROCK FILTER OUTLET DETAIL. SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT THE FENCE.

**TREE PROTECTION FENCE PLACEMENT**

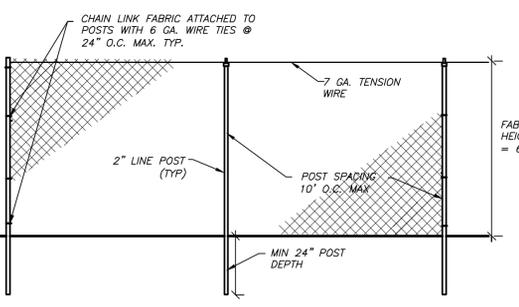
ALL WOODY VEGETATION TO BE RETAINED WITHIN 25 FEET OF A BUILDING SITE, PARKING AREA, DRIVEWAY OR OTHER PROPOSED IMPROVEMENT SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING OR OTHER EFFECTIVE BARRIERS APPROVED BY THE TOWNSHIP ENGINEER AND/OR ARBORIST. FENCING OR BARRIERS SHALL BE PLACED AS MUCH AS IS PRACTICAL AT THE DRILLLINE. LOCATION MAY BE ALTERED TO AVOID INTERFERENCE WITH PROPOSED GRADING AND IMPROVEMENTS AS SHOWN ON THE PLANS. BARRIER LOCATION SHALL BE SUBJECT TO APPROVAL BY THE TOWNSHIP ENGINEER AND/OR ARBORIST.



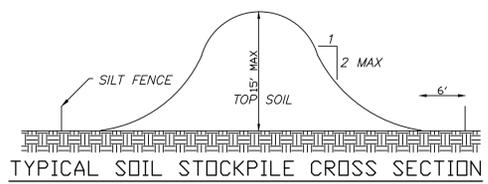
STABILIZED CONSTRUCTION ENTRANCE

NOTE: PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT OF WAY.

- THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
- WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO PUBLIC RIGHT-OF-WAY WHEN WASHING IS REQUIRED. IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRVEL, BARRIERS OR OTHER APPROVED METHODS.
- MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT AS NECESSARY TO MAINTAIN PROPER SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.



- PROTECTION BARRIERS SHALL BE 6 FEET HIGH, CONSTRUCTED OF 2" CHAIN LINK MESH FABRIC.
- FABRIC SHALL BE SECURED TO 2" POSTS WITH 6 GA. ALUMINUM WIRE TIES AT 24" O.C.
- POSTS SHALL BE A MINIMUM OF 2 FEET IN THE GROUND AND SPACED 10 FEET ON CENTER MAX.
- PLASTIC ZIP-TIES MAY NOT BE USED TO SECURE FABRIC TO POSTS.



TYPICAL SOIL STOCKPILE CROSS SECTION

NOTE: SILT FENCE MUST COMPLETELY ENCRIRCLE STOCKPILES.

TOP SOIL PROTECTION:

TOPSOIL SHALL NOT BE REMOVED FROM THE DEVELOPMENT SITE OR USED AS FILL. TOPSOIL SHALL BE REMOVED FROM THE AREAS OF CONSTRUCTION AND STORED SEPARATELY. THE TOPSOIL SHALL BE STABILIZED TO MINIMIZE EROSION DURING STORAGE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED ON THE SITE.

**LEGEND**

- TREE PROTECTION BARRIER FENCING
- STANDARD SILT FENCE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- INLET PROTECTION

**SOILS INFORMATION**

SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO SH WATER	DEPTH TO BEDROCK
Gc2c	GLENELG CHANNERY SILT LOAM	8 TO 15 PERCENT SLOPES	B	6.6+	6.6+
Md	MADE LAND GABBRO AND DIABASE MATERIALS	NOT RATED	C	6.6+	6.6+

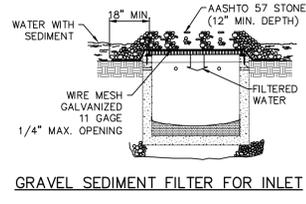
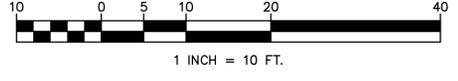
ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

**EROSION AND SEDIMENTATION CONTROL PLAN**

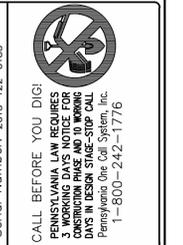
**DISTURBED AREA 9,000 SF± (0.21 AC)**



GRAVEL SEDIMENT FILTER FOR INLET

Serial Number: 2013-122-0185

CALL BEFORE YOU DIG!  
3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE STOP CALL  
Perrywood One Call System, Inc.  
1-800-242-1776



**MOMENIE & ASSOCIATES, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
924 COUNTY LINE ROAD, BRN MAR, PA 19010  
PHONE: (610) 527-3030 FAX: (610) 527-9008

**EROSION & SEDIMENTATION CONTROL PLAN**

GRADING PERMIT PLAN  
344 KING OF PRUSSIA ROAD - LOT 2  
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

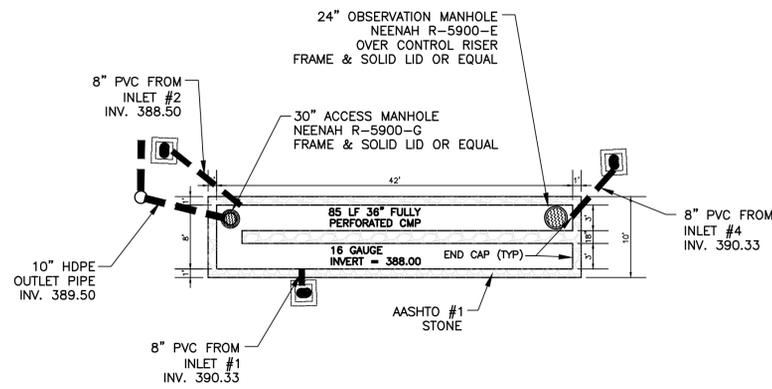
OWNER/APPLICANT: LOMBARDI STATE REALTY, LLC  
ONE-CALL: 20131220185  
DRAWN BY: BDM  
CHECKED BY: DRF

DATE: NOVEMBER 3, 2014  
SHEET NO. 2  
SCALE: 1" = 10'  
FILE NO.: 13-146



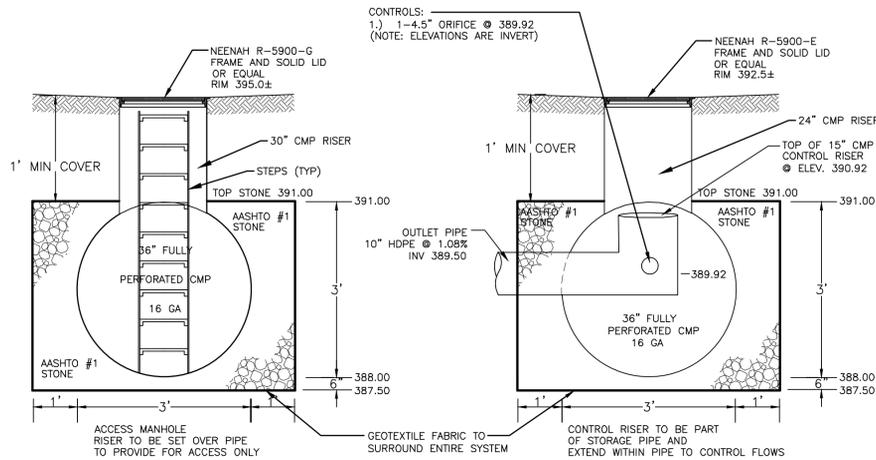
COMMENTS

REV.	DATE	COMMENTS



**STORMWATER MANAGEMENT SYSTEM #1**

85 LF 36\"/>

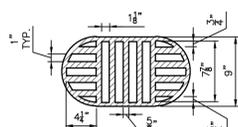


**STORMWATER MANAGEMENT SYSTEM #1**

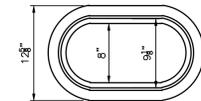
- CONSTRUCTION SPECIFICATIONS STORMWATER DETENTION SYSTEMS**
- ALTER AND REFINE THE GRADES AS NECESSARY TO BRING SUBGRADE TO REQUIRED GRADES AND SECTIONS AS SHOWN IN THE DRAWINGS.
  - THE TYPE OF EQUIPMENT USED IN SUBGRADE PREPARATION CONSTRUCTION SHALL NOT CAUSE UNDUE SUBGRADE COMPACTION. TRAFFIC OVER SUBGRADE SHALL BE KEPT AT A MINIMUM.
  - INSTALL POLYPROPYLENE GEOTEXTILE FABRIC (I.E., DUPONT TYPAR #3401, AMOCO PROPEX #4945, OR APPROVED EQUAL) ON BOTTOM OF BED AREAS AND TACK UP SIDES OF EXCAVATION. WHERE EDGES OF ROLLS OVERLAP, THEY SHALL DO SO BY AT LEAST TWO FEET. ADEQUATE FABRIC SHALL BE LEFT ON THE ROLLS (NOT CUT FROM SIDE INSTALLATION) TO FACILITATE OVERTOPPING THE STONE AT COMPLETION OF BED AREA.
  - ALL STONE USED SHALL BE CLEAN, WASHED, CRUSHED STONE AGGREGATE MEETING PENNDOT/AASHTO #1 SPECIFICATIONS.
  - STONE BASE COURSE SHALL BE LAID OVER A DRY SUBGRADE, TO A DEPTH SHOWN IN DRAWINGS, IN LIFTS TO LAY NATURALLY COMPACTED. DO NOT ROLL OR COMPACT THE STONE BASE COURSE. KEEP THE BASE COURSE CLEAN FROM DEBRIS, CLAY AND EROSION SOIL.
  - COVER STONE BED WITH REMAINING FABRIC.
  - STONE BED TO BE TOTALLY ENCLOSED IN THE GEOTEXTILE FABRIC.
  - ALL CMP TO BE ALUMINIZED STEEL PIPE.
  - STORMWATER RISER ACCESS LADDER WILL BE USED.

- NOTES:**
- ALL CMP TO BE ALUMINUM OR ALUMINIZED STEEL.
  - PERFORATIONS FOR 36\"/>

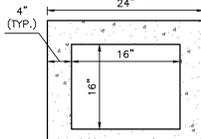
- INFILTRATION BMP NOTES:**
- INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (I.E. CLEANING THE SOIL/SEDIMENT FROM FABRIC, STONE, BED ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
  - ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
  - THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
  - INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEMS SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES AND DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.
  - ALL INFILTRATION BMPs SHALL BE LOCATED A MINIMUM OF 10' FROM A BASEMENT WALL.
  - AFTER THE INFILTRATION BED IS COMPLETELY INSTALLED, ALL HEAVY CONSTRUCTION EQUIPMENT SHALL BE RESTRICTED FROM THE INFILTRATION BEDS TO ELIMINATE IMPACTS WHICH MAY COMPROMISE IT. IN THE EVENT ANY IMPACTS COMPROMISE THE FUNCTIONALITY OF THE INFILTRATION BEDS, IT MUST BE IMMEDIATELY REPAIRED OR REPLACED TO DESIGN SPECIFICATIONS.



**SMALL PARK GRATE**

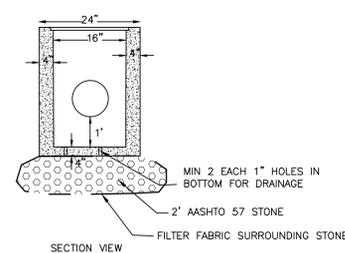


**SMALL PARK FRAME**



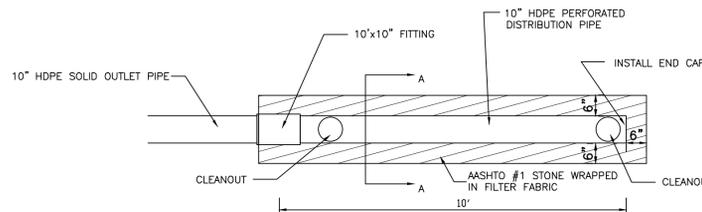
**SMALL PARK GRATE DETAIL**

N.T.S.



**SMALL PARK GRATE BOX (NON-TRAFFIC BEARING)**

Manufactured by MODERN CONCRETE SEPTIC TANK CO. or other NPCC certified plant.

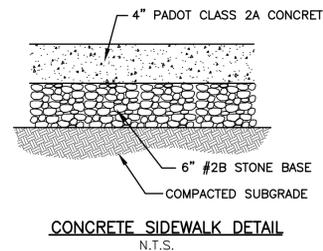


**10 LF BUBBLE UP SPREADER DETAIL**

N.T.S.

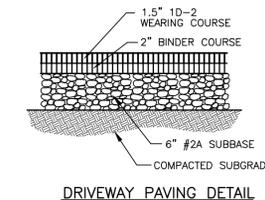
**REQUIRED 3.31 SQ. IN./SQ. FT FOR 10\"/>**

NO. HOLES NEEDED = 8.67/0.442 = 20 HOLES  
 USE 5-3/4\"/>



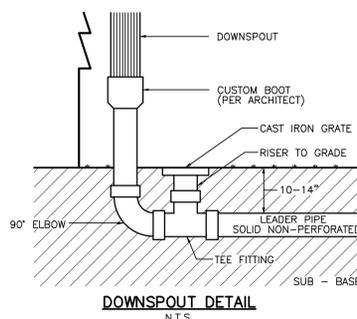
**CONCRETE SIDEWALK DETAIL**

N.T.S.



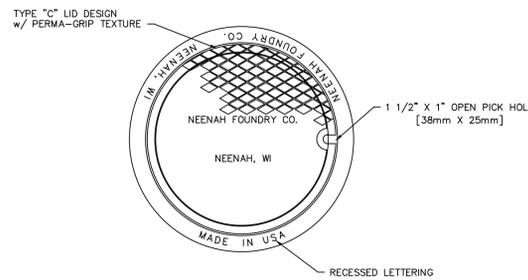
**DRIVEWAY PAVING DETAIL**

N.T.S.

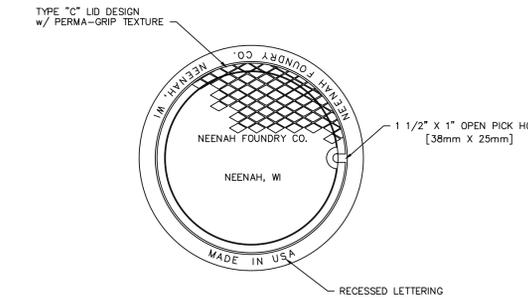


**DOWNSPOUT DETAIL**

N.T.S.



**30\"/>**



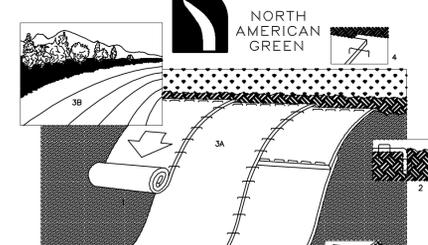
**24\"/>**

**NEENAH FOUNDRY COMPANY**  
 NEENAH WISCONSIN 54956

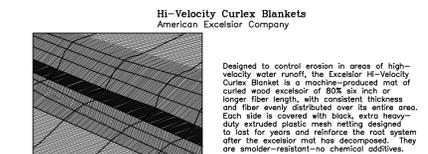
**STORMWATER MANHOLE DETAILS**

N.T.S.

**SLOPE INSTALLATION**



- NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LINE FERTILIZER AND SEED. NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
  - BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6\"/>



**Hi-Velocity Curlex Blankets**  
 American Excelsior Company

Designed to control erosion in areas of high-velocity water runoff, the Excelsior Hi-Velocity Curlex Blanket is a moisture-produced mat of curled wood shavings of 80% six inch or longer fiber length, with consistent thickness and fiber evenly distributed over its entire area. Each side is covered with black, extra heavy-duty extruded plastic mesh netting designed to last for years and reinforce the root system after the excelsior mat has decomposed. They are smolder-resistant—no chemical additives.

**STARLING INSTRUCTIONS FOR AMXCO HI-VELOCITY CURLEX BLANKETS**  
 This blanket is designed to withstand high-velocity water movements in ditches and on slopes. In ditches, unroll blanket in direction of water flow. When using two blankets side by side in a ditch, do not put the seams in the center of the ditch. Orient 6\"/>

**INSTALLATION INSTRUCTIONS:**  
 Use wire staples, .091\"/>

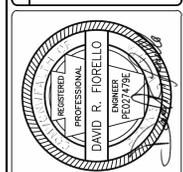
SOIL TYPES	VELOCITY/FEET PER SECOND
clay/silt loam	11 FPS
silty clay	11 FPS
sandy clay loam	9.8 FPS
fine sandy loam	8.6 FPS
silty loam	8.6 FPS

These figures are based on stich stich of over 24\"/>

**Channel Stabilization**  
 N.T.S.

Serial Number: 2013-12-0185

CALL BEFORE YOU DIG:  
 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE STOP CALL  
 Pennsylvania One Call System, Inc.  
 1-800-242-1776

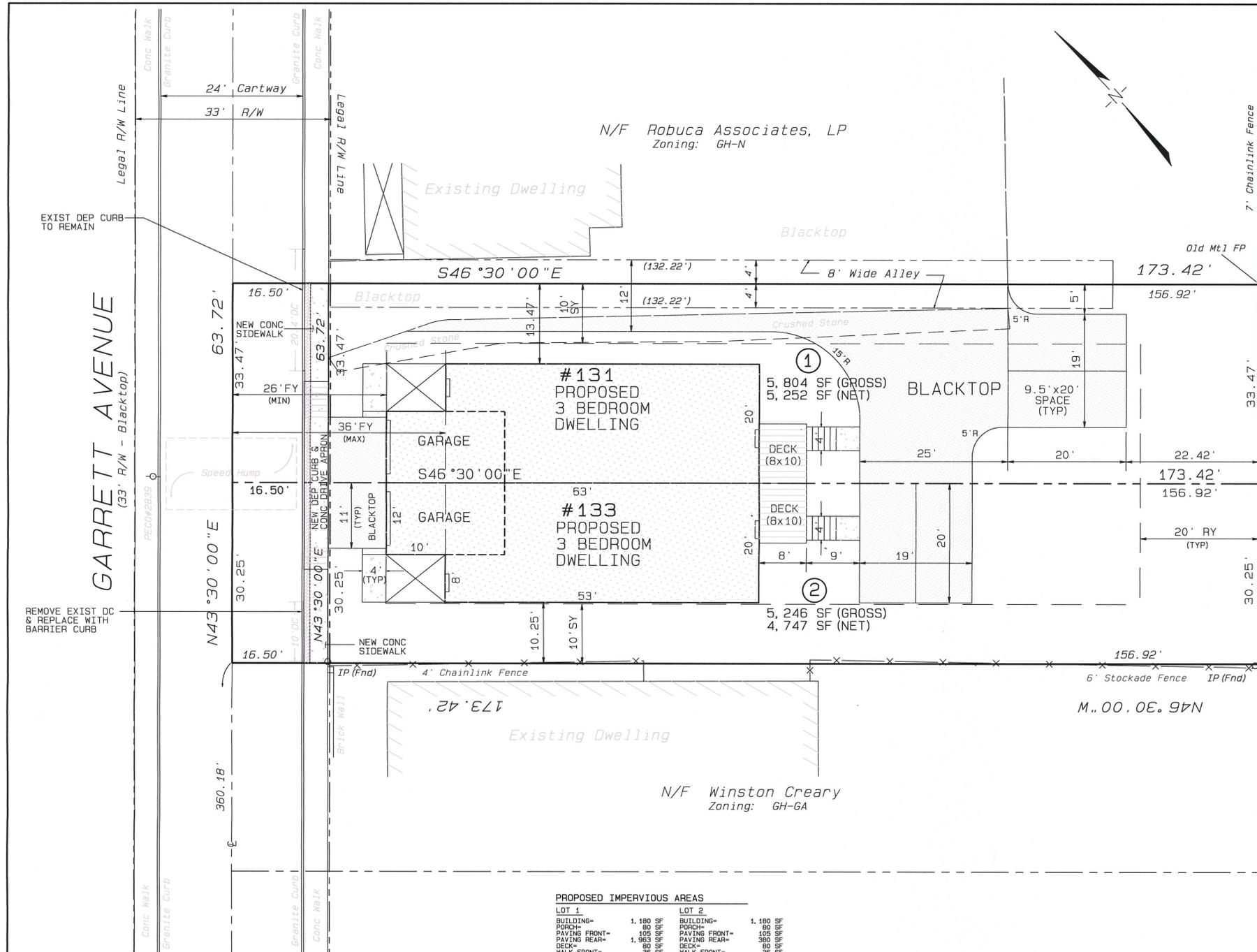


**MOMENEE & ASSOCIATES, INC.**  
 CIVIL ENGINEERS AND LAND SURVEYORS  
 924 COUNTY LINE ROAD, BRYN MAWR, PA 19010  
 PHONE: (610) 527-3030 FAX: (610) 527-9008

**CONSTRUCTION DETAILS**  
 GRADING PERMIT PLAN  
 344 KING OF PRUSSIA ROAD - LOT 2  
 RADNOR TOWNSHIP - DELAWARE COUNTY - PENNSYLVANIA  
 ONE-CALL: 20131220185  
 DRAWN BY: BDM  
 CHECKED BY: DRF



**DATE:** NOVEMBER 3, 2014  
**SHEET NO.:** 3  
**OF 3**  
**SCALE:** AS NOTED  
**FILE NO.:** 13-146



**LEGEND**

- CENTERLINE
- TRACT BOUNDARY
- PROPERTY BOUNDARY
- LEGAL R.O.W., EASEMENTS
- REQUIRED R.O.W.
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING WATER LINE
- EXISTING SAN. SEWER LINE
- EXISTING TELEPHONE LINE
- EXISTING GAS LINE
- EXISTING ELECTRIC LINE
- EXISTING STORM SEWER/INLET
- PROPOSED STORM SEWER/INLET
- PROPOSED WATER LINE
- PROPOSED SAN. SEWER LINE
- PROPOSED ELECTRIC LINE
- PROPOSED TELEPHONE LINE
- PROPOSED GAS LINE
- EXISTING MANHOLE
- PROPOSED MANHOLE
- EXISTING CURBLINE
- PROPOSED CURBLINE
- UTILITY POLE
- EXISTING VALVE, VENT, CO.
- PROPOSED BUILDING
- SINGLE-FAMILY SEMIDETACHED 3 BEDROOM DWELLING
- PROPOSED BLACKTOP
- PROPOSED CONCRETE WALKS, PATIOS, PADS

**SITE DATA:**

OWNER OF RECORD: NASTRA YASMIN MAJID  
267 BEECHWOOD DRIVE  
ROSEMONT, PA 19010

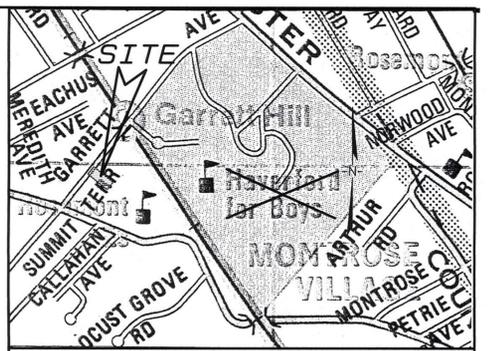
EQUITABLE OWNER/APPLICANT: DJB PROPERTIES, LP  
C/O DAVID J. BROSSO  
PO BOX 988  
CONSHOHOCKEN, PA 19428  
610-310-5095 (CELL)

PREMISES: MAP NO. 36-32-207  
FDLID 35-07-04810-00  
DEED BOOK 752 PAGE 988

TRACT AREA: 11,050 SF (GROSS)  
9,999 SF (NET)

**GENERAL NOTES:**

- A CROSS-ACCESS EASEMENT IS GRANTED TO LOT 2 FOR INGRESS, EGRESS AND REGRESS ACROSS LOT 1 AND THE ALLEY



COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF DELAWARE

ON THIS DAY OF 20 BEFORE ME THE UNDERSIGNED OFFICER PERSONALLY APPEARED DAVID J. BROSSO OF DJB PROPERTIES, LP WHO BEING DULY SWORN ACCORDING TO LAW DEPOSES AND SAYS THAT THEY ARE THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE SUBDIVISION PLAN THEREOF WAS MADE AT THEIR DIRECTION AND THAT IT ACKNOWLEDGES THE SAME TO BE THEIR ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN

(SIGNATURE)

(SIGNATURE)

NOTARY PUBLIC OR OTHER OFFICER

MY COMMISSION EXPIRES: \_\_\_\_\_

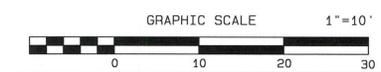
**PROPOSED IMPERVIOUS AREAS**

LOT 1		LOT 2	
BUILDING=	1,180 SF	BUILDING=	1,180 SF
PORCH=	80 SF	PORCH=	80 SF
PAVING FRONT=	105 SF	PAVING FRONT=	105 SF
PAVING REAR=	1,963 SF	PAVING REAR=	980 SF
DECK=	80 SF	DECK=	80 SF
WALK FRONT=	36 SF	WALK FRONT=	36 SF
WALK REAR=	36 SF	WALK REAR=	36 SF
TOTAL=	3,480 SF	TOTAL=	1,897 SF
BLDG COVERAGE=	22.5 %	BLDG COVERAGE=	24.9 %
IMP COVERAGE=	59.9 %	IMP COVERAGE=	36.2 %

ZONING DISTRICT: GARRETT HILL  
GARRETT AVENUE NEIGHBORHOOD (GH-N)

USE: SINGLE-FAMILY SEMIDETACHED DWELLING

REQUIREMENTS:	REQUIRED	PROPOSED LOT 1	PROPOSED LOT 2
LOT AREA:	3,000 SF (MIN)	5,252 SF	4,747 SF
LOT WIDTH:	70 FT (MAX)	33.47 FT	30.25 FT
FRONT YARD:	26 FT (MIN)	26 FT	26 FT
(FROM C/A RD)	36 FT (MAX)	36 FT	26 FT
SIDE YARD:	10 FT (MIN)	13.47 FT	10.25 FT
REAR YARD:	20 FT (MIN)	84.42 FT	20 FT
BUILDING HEIGHT:	30 FT (MAX)	≤ 30 FT	≤ 30 FT
BUILDING WIDTH:	30 FT (MAX)	20 FT	20 FT
BUILDING COVERAGE:	35 % (MAX)	22.5 %	24.9 %
IMPERVIOUS COVERAGE:	60 % (MAX)	59.9 %	36.2 %
ACCESSORY STRUCTURES:			
HEIGHT:	20 FT (MAX)		
SETBACKS:			
FROM PRINCIPLE BUILDING:	10 FT (MIN)		
FROM LOT LINE:	3 FT (MIN)		
PARKING:			
1 BEDROOM UNITS:	2 PS/UNIT (MIN)	3 SPACES	3 SPACES
2 BEDROOM UNITS:	3 PS/UNIT (MIN)		
3 BEDROOM UNITS:	4 PS/UNIT (MIN)		
4 BEDROOM UNITS:	4 PS/UNIT (MIN)		
ALL OTHER UNITS:	4 PS/UNIT (MAX)		



DATE	REVISIONS

PROJECT TITLE:  
**131-133 GARRETT AVENUE**  
RADNOR TOWNSHIP - DELAWARE COUNTY - PENNSYLVANIA

DRAWING TITLE:  
**RECORD PLAN**

PREPARED BY:  
**JOSEPH M. ESTOCK**  
Consulting Engineers & Land Surveyors

SCALE: 1" = 10'

DATE: 27 APRIL 2015

FILE NO.: 15003

FIELD BOOK: 327

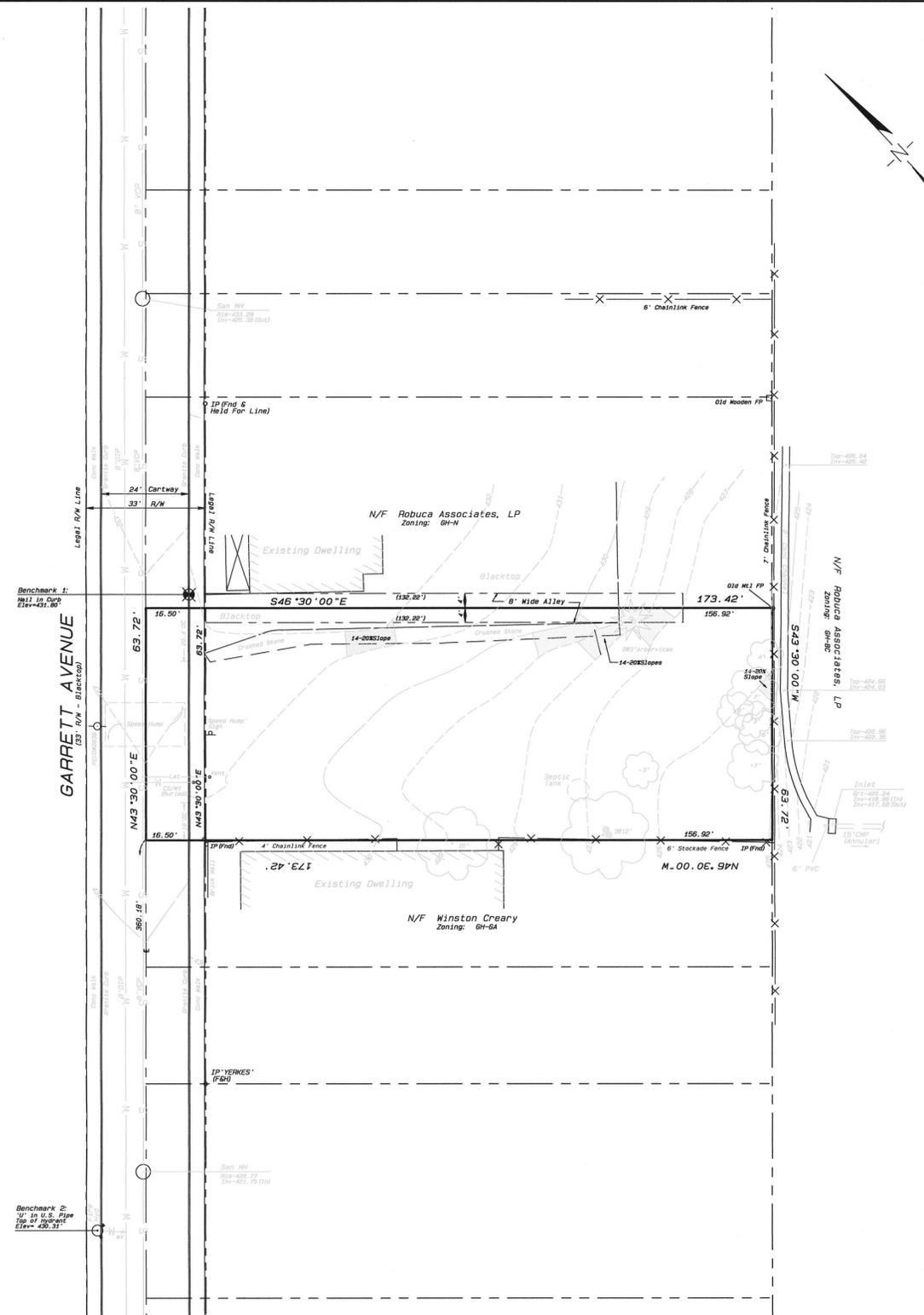
SHT. NO.: 1 OF 6

GARRETT AVENUE  
(33' R/W - Blacktop)

CONESTOGA ROAD  
(Formerly Old Lancaster Road)

N/F Robuca Associates, LP  
Zoning: GH-8C

N/F Winston Creary  
Zoning: GH-GA



**LEGEND**

---	CENTERLINE
---	TRACT BOUNDARY
---	PROPERTY LINE
---	LEGAL R.O.W., EASEMENTS
---	REQUIRED R.O.W.
---	EXISTING CONTOUR
---	EXISTING WATER LINE
---	EXISTING SAN. SEWER LINE
---	EXISTING TELEPHONE LINE
---	EXISTING GAS LINE
---	EXISTING ELECTRIC LINE
---	EXISTING STORM SEWER/INLET
---	EXISTING HANHOLE
---	EXISTING CURBLINE
---	UTILITY POLE
---	EXISTING VALVE, VENT, CO.

**SITE DATA:**

OWNER OF RECORD: NASIRA YASMIN MAJID  
267 BEECHWOOD DRIVE  
ROSEMONT, PA 19010

EQUITABLE OWNER/  
APPLICANT: DJB PROPERTIES, LP  
C/O DAVID J. BROSSO  
PO BOX 988  
CONSHOHOCKEN, PA 19428  
610-310-5055 (CELL)

PREMISES: MAP NO. 36-32-207  
FOLIO 36-07-04610-00  
DEED BOOK 792 PAGE 588

TRACT AREA: 11,050 SF (GROSS)  
9,999 SF (NET)

**SOILS LEGEND**

THE ENTIRE SITE IS COMPRISED OF THE FOLLOWING SOIL TYPE:

Me Made Land, Schist and Gneiss Materials

**STEEP SLOPE LEGEND**

14X-20X SLOPES

**TOPOGRAPHY**

BOUNDARY AND TOPOGRAPHIC INFORMATION HAS BEEN OBTAINED FROM A RECENT FIELD SURVEY PREPARED BY JOSEPH M. ESTOCK, PE, PLS

DATUM BASED ON NAVD 1983

**CONESTOGA ROAD**  
(Formerly Old Lancaster Road)

<p>DATE</p> <p>REVISIONS</p>		<p>REVISION NO.</p>	<p>PROJECT TITLE :</p> <p><b>131-133 GARRETT AVENUE</b></p> <p>RADNOR TOWNSHIP - DELAWARE COUNTY - PENNSYLVANIA</p>
<p>GRAPHIC SCALE 1"=20'</p>			<p>DRAWING TITLE :</p> <p><b>EXISTING CONDITIONS PLAN</b></p>
<p>UNDERGROUND UTILITIES</p> <p>PA. ACT 187 OF 1996-ONE CALL NOTIFICATION (1-800-242-1776)</p> <p>DATE: 04-16-15 SERIAL NO.: 20151062204</p> <p>ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLAN HAVE BEEN DEVELOPED FROM EXISTING UTILITY CO. RECORDS AND/OR ABOVE GROUND EXAMINATION OF THE SITE. COMPLETENESS OR ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES IS NOT GUARANTEED NOR IS IT GUARANTEED THAT ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXISTENCE OF UTILITIES AND FOR NOTIFYING THE UTILITY COMPANIES AT LEAST THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION TO VERIFY LOCATION AND DEPTH OF SAME.</p>		<p>PREPARED BY :</p> <p><b>JOSEPH M. ESTOCK</b> Consulting Engineers &amp; Land Surveyors</p>	<p>356 South Henderson Road King of Prussia, PA 19406-2407 (610) 265-3035 - Fax (610) 962-9855 joe@josephmestock.com</p>
<p>SCALE</p> <p>1" = 20'</p>	<p>DATE</p> <p>27 APRIL 2015</p>	<p>FILE NO.</p> <p>15003</p>	<p>FIELD BOOK</p> <p>327</p> <p>SHT. NO.</p> <p>2 of 6</p>



**EROSION AND SEDIMENTATION CONTROL NOTES**

- A. GENERAL NOTES**
- EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
  - STOCKPILE TILES WHICH DO NOT DISCHARGE TO SEDIMENT TRAPS OR BASINS, MUST BE PROTECTED UNTIL THE TRIBUTARY AREAS ARE STABILIZED.
  - STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
  - AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
  - VEHICLES AND EQUIPMENT MUST ENTER DIRECTLY TO AND EXIT FROM THE SITE AT THE POINT WHERE THE ROCK CONSTRUCTION ENTRANCE HAS BEEN PLACED.
  - ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO THE CONTROLS FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE CONTROLS.
  - AT LEAST THREE DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITY LOCATIONS.
  - ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE.
  - THE PROJECTS RECEIVING WATERCOURSE IS MEADOWBROOK RUN WITHIN THE DARBY CREEK WATERSHED, AND THE CHAPTER 93 CLASSIFICATION IS CMF, MF.
- B. FILTER FABRIC FENCING & STRAW BALE BARRIERS**
- FILTER FABRIC FENCING AND STRAW BALE BARRIERS MUST BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EACH FENCE OR BARRIER SECTION MUST EXTEND 8 FEET UP SLOPE AT 45 DEGREES TO THE ALIGNMENT OF THE MAIN FENCE OR BARRIER.
  - SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF FILTER FABRIC FENCING OR 1/3 THE ABOVE GROUND HEIGHT OF STRAW BALE BARRIERS.
  - ANY FILTER FABRIC FENCING OR STRAW BALE BARRIER WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH ROCK FILTER OUTLETS.
  - STRAW BALE BARRIERS SHOULD NOT BE USED FOR MORE THAN 3 MONTHS.
- C. SEDIMENT REMOVAL**
- SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
  - ALL SILT AND FOREIGN MATTER SHALL BE REMOVED FROM THE TOP OF THE BINDER COURSE AND PROPERLY DISPOSED OF BEFORE WEARING SURFACE IS INSTALLED.
  - ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-VEGETATED AREA.
  - SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED OR PLACED IN TOPSOIL STOCKPILES.
- D. OPERATOR'S RESPONSIBILITY**
- MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL DEVICES IS THE RESPONSIBILITY OF THE OPERATOR DURING CONSTRUCTION.
  - THE RETENTION/SEDIMENT BASIN WILL BE CONSTRUCTED AND MAINTAINED BY THE OPERATOR. THE MAINTENANCE OF THIS BASIN WILL BE TRANSFERRED TO THE PERMITTEE UPON THE COMPLETION OF FINAL STABILIZATION.
  - THE OPERATOR IS RESPONSIBLE FOR PROVIDING DIVERSION TRENCHES, EROSION CHECKS, BENS, ETC., OR OTHER MEANS OF ACCEPTED PRACTICE AS REQUIRED ON THE SITE TO PREVENT ACCELERATED RUNOFF AND EROSION, WHICH MAY NOT BE INDICATED, BUT IS WITHIN THE INTENT OF THIS PLAN.
  - THE OPERATOR MUST INSURE THE PROPER OPERATION OF THE DEVICES IS NOT HINDERED DUE TO EXCESSIVE SEDIMENT BUILD-UP OR UNAUTHORIZED ACTS OF THIRD PARTIES.
  - SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR OF STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES MUST BE IMMEDIATELY IMPLEMENTED BY THE OPERATOR TO ELIMINATE ALL SUCH PROBLEMS.
  - UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RESIZING, RESEEDING, RE-MULCHING, AND RE-INSTALLING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS TO EXISTING BMP'S MUST BE INSTALLED IMMEDIATELY.
  - THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS, 25 PA CODE 260.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THIS SITE.
  - IT IS THE INTENT OF THIS PLAN TO MEET REQUIREMENTS OF SOIL EROSION CONTROL.
  - THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF APPROXIMATELY 84 CONSTRUCTION RULES AND REGULATIONS, TITLE 26, PART 2, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUB-PART C, PROTECTION OF NATURAL RESOURCES, ARTICLE II, WATER RESOURCES, CHAPTER 102 EROSION CONTROL.
  - A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
  - AT ANY TIME PRIOR TO STABILIZATION SHOULD ANY E & S PROBLEMS OCCUR WHICH REQUIRE ADDITIONAL MEASURES, IMMEDIATE ACTION MUST BE TAKEN TO CORRECT THE PROBLEM.
  - THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
  - IMMEDIATELY UPON DISCOVERING UNPROMISING CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMMEDIATELY IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
  - ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO BMP'S FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE BMP'S.
  - AT STREAM CROSSINGS, 50 FOOT STREAM BANK BUFFER AREAS SHOULD BE MAINTAINED, ON BUFFERS, CLEARING, SOOT DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING CUTS, BURNING, CLEARING, AND DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.
- E. MULCHING**
- MULCHING OF DISTURBED OR SEEDING AREA SHALL BE FURNISHED, PLACED, ANCHORED AND MAINTAINED IN ACCORDANCE WITH PENNDOT PUBL. 406, SECTION 805.
  - MULCHING SHALL BE PLACED IMMEDIATELY AFTER SEEDING OR WITHIN 48 HOURS AFTER SEEDING IS COMPLETE.
  - HAY OR STRAW SHALL BE UNIFORMLY PLACED IN A CONTINUOUS BLANKET, AT A MINIMUM RATE OF 3.0 TONS PER ACRE.
  - MULCH WITH MULCH CONTROL NETTINGS OR EROSION CONTROL BLANKETS SHOULD BE INSTALLED ON ALL SLOPES 2:1 OR STEEPER.
  - STRAW MULCH SHOULD BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN
- F. SEEDING**
- SEEDING SHALL BE PLACED IN ACCORDANCE WITH PENNDOT PUBL. 406, SECTION 804.
  - SEED FORMULAS:

FORMULA AND SPECIES	% PURITY	MIN. % SEEDING	MIN. % SEEDING	MAX. % SEEDING	SEEDING RATE (LBS/1000 SQ. YDS.)
<b>FORMULA B</b>					21.0 TOTAL
* PERENNIAL RYEGRASS MIXTURE	20	98	90	0.15	4.0
* CREEPING RED FESCUE OR CHEKNISS FESCUE	30	98	85	0.15	6.0
* KENTUCKY BLUEGRASS MIXTURE	50	98	80	0.20	11.0
<b>9.0 TOTAL</b>					
<b>FORMULA C</b>					24.0 TOTAL
* CROWNWEED	45	98	70	0.10	4.0
* ANNUAL RYEGRASS	55	98	90	0.15	2.0
<b>FORMULA D</b>					21.0 TOTAL
* TALL FESCUE	70	98	85	0.15	16.0
* CREEPING RED FESCUE OR CHEKNISS FESCUE	30	98	85	0.15	5.0
<b>FORMULA E</b>					10.0 TOTAL
* ANNUAL RYEGRASS	100	98	90	0.15	10.0
<b>FORMULA I</b>					24.0 TOTAL
* HARD FESCUE MIXTURE	55	98	85	0.15	13.0
* CREEPING RED FESCUE	10	98	80	0.15	2.5
* ANNUAL RYEGRASS	35	98	90	0.15	8.5
<b>FORMULA M</b>					10.5 TOTAL
* TALL FESCUE	70	98	85	0.15	7.5
* REDTOP	10	92	80	0.15	1.0
* REDTOP	10	92	80	0.15	1.0

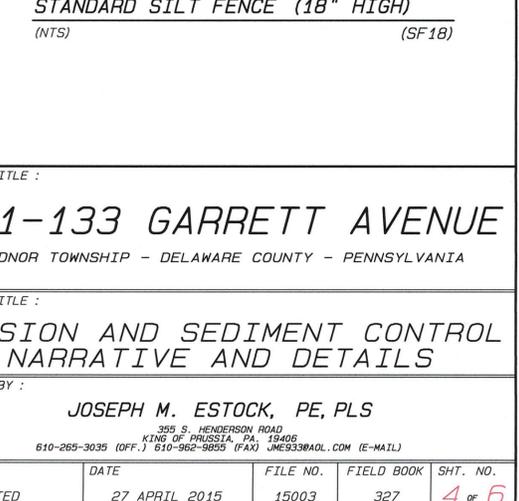
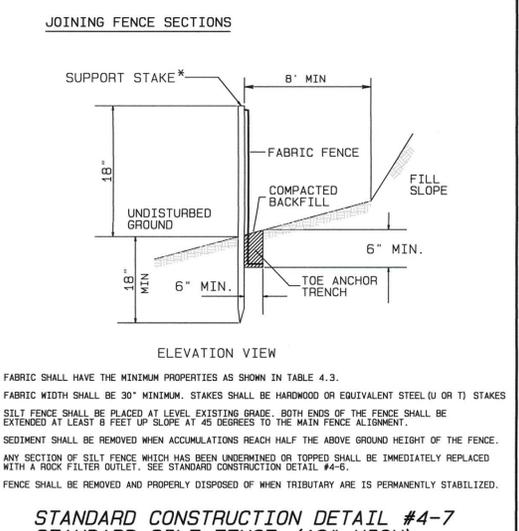
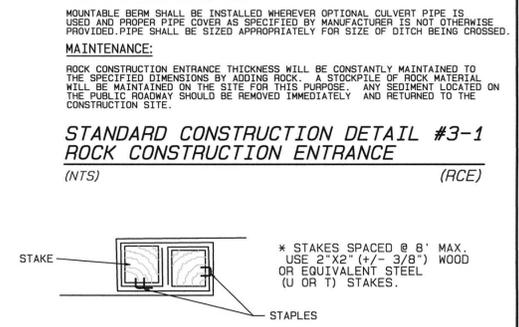
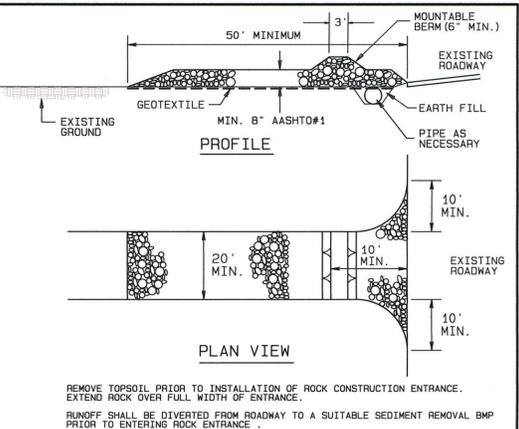
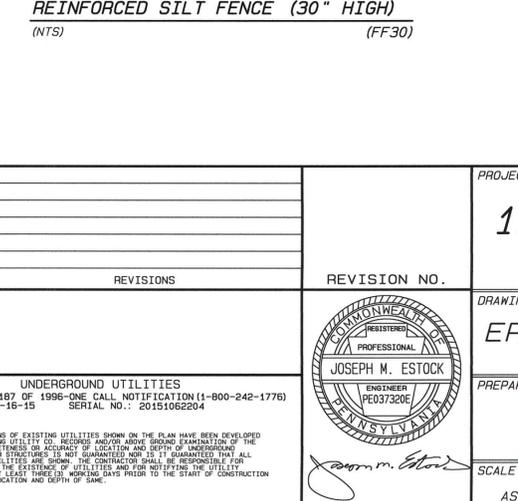
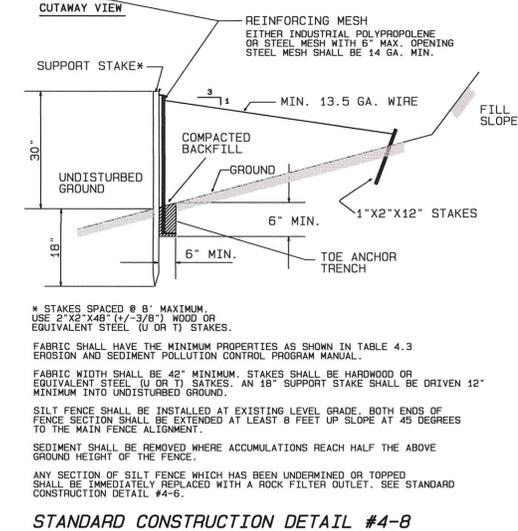
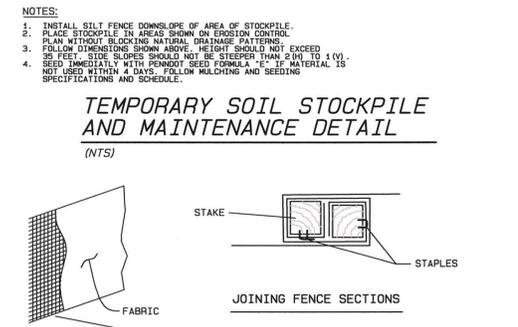
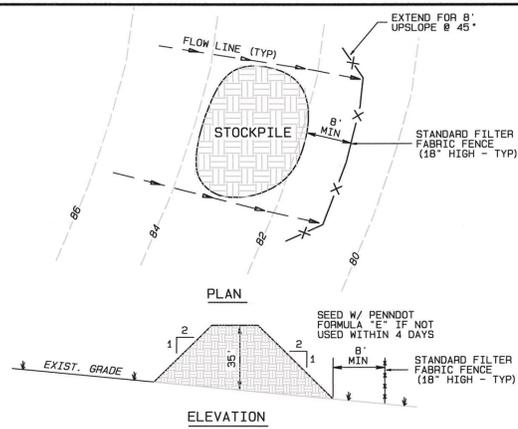
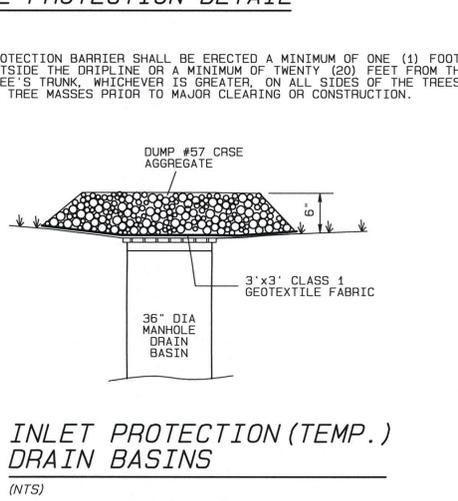
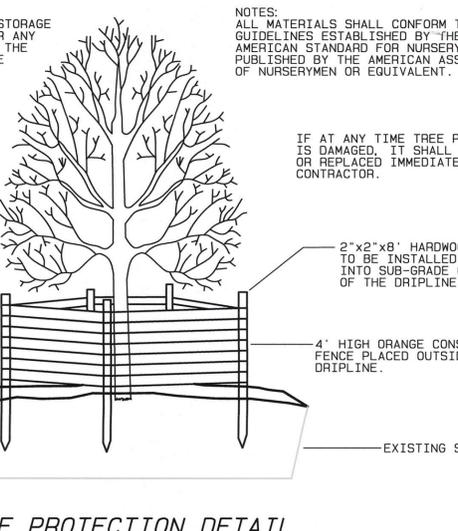
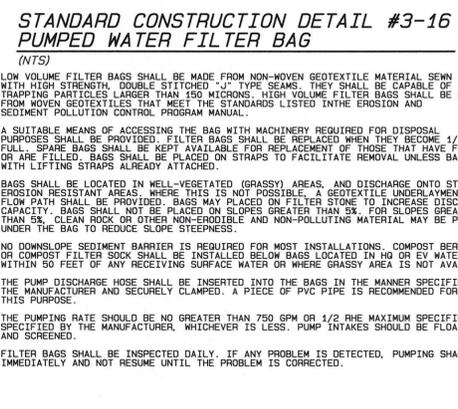
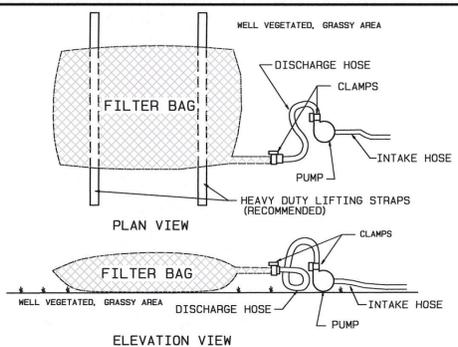
\* MINIMUM 20% HARD SEED AND 60% NORMAL SPROUTS

- SOIL SUPPLEMENTS MAY BE ADDED IN ACCORDANCE WITH SECTION 804 OR AS FOLLOWS:  
 FERTILIZER - STANDARD QUALITY 0-20-20 BASIC FERTILIZER 200 LBS. PER 1000 S.Y.  
 10-10-10 STARTER FERTILIZER 100 LBS. PER 1000 S.Y.  
 LIME - AGRICULTURAL LIMESTONE 90% MINIMUM OF CARBONATES 500 LBS. PER 1000 S.Y.
- FORMULA B SHALL BE USED TO ESTABLISH FINAL VEGETATION IN LAWN AREAS, FORMULA D SHALL BE USED TO ESTABLISH FINAL VEGETATION IN ROUGH AREAS, AND FORMULA E SHALL BE USED TO ESTABLISH TEMPORARY VEGETATION. FORMULAS C, L, AND W SHALL BE USED AS SPECIFICALLY INDICATED ON THE PLAN.
- SEEDING AND MULCHING SCHEDULE

- THE DIVERSIONS, CHANNELS, SEDIMENT BASINS, SEDIMENT TRAPS, AND STOCKPILES, WHEN USED, MUST BE STABILIZED IMMEDIATELY.
  - IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-SEEDING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
  - AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- H. UTILITY LINE TRENCH EXCAVATION**
- CONSTRUCTION REQUIREMENTS

- LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
  - WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
  - LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED IN THE SAME DAY.
  - WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED THROUGH A FILTRATION DEVICE.
  - ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.
  - ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
  - SOILS EXCAVATED FROM EXISTING SURFACE LAYER SHOULD BE STOCKPILED SEPARATELY AND RETURNED AS FINAL SURFACE LAYER FOLLOWING TRENCH BACKFILLING.
  - TRENCH PLUGS WILL BE SPACED IN ACCORDANCE WITH AND BE CONSTRUCTED OF THE MATERIALS AS INDICATED ON THE TRENCH PLUG DETAIL.
- AT ALL CROSSINGS OF WATERS OF THE COMMONWEALTH, TRENCH PLUGS WILL BE TEMPORARILY REMOVED WHEN PLACING THE PIPE, BUT THEN REPLACED.
  - CONSTRUCTION OF THE CROSSINGS WILL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE "PIPELINES AND UTILITY LINE PROJECTS" SECTION OF THE EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL.
- EXCEPTIONS**
- IN CERTAIN CASES TRENCHES CANNOT BE BACKFILLED UNTIL THE PIPE IS HYDROSTATICALLY TESTED OR ANCHORS AND OTHER PERMANENT FEATURES INSTALLED.
  - DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR SIX DAYS, ALL PRESSURE TESTING AND THE COMPLETE BACKFILLING OF THE OPEN TRENCH MUST BE COMPLETED BY THE SEVENTH WORKING DAY.
  - IF DAILY BACKFILLING IS DELAYED, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS, APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES/FACILITIES WILL BE INSTALLED, AND THE AREAS SEEDING AND MULCHED WITHIN THE NEXT TWO CALENDAR DAYS.

- CLEAN FILL
- IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE CONTRACTOR.
  - CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DRESSED MATERIAL, ASPHALT, AND BITUM. BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED. (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).
  - CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
  - ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL, AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.
  - ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANDBOX MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS, ANALYTICAL TESTING IS NOT A REQUIRED PART OF THE EROSION, UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE. IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
  - FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA CODE CHAPTERS 267 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT [www.pascor.com](http://www.pascor.com).

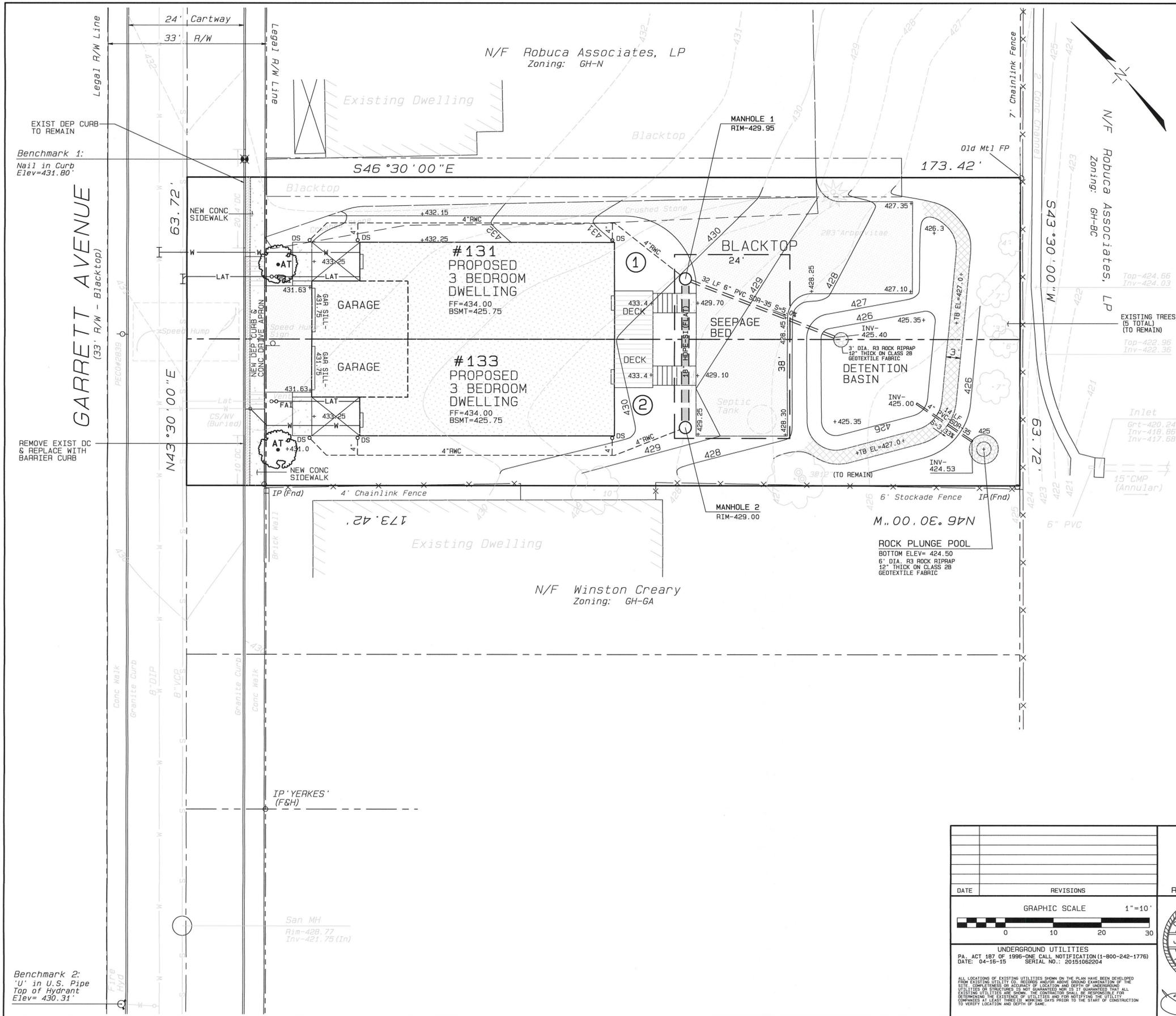


PROJECT TITLE:		131-133 GARRETT AVENUE	
RADNOR TOWNSHIP - DELAWARE COUNTY - PENNSYLVANIA			
DRAWING TITLE:		EROSION AND SEDIMENT CONTROL NARRATIVE AND DETAILS	
PREPARED BY:		JOSEPH M. ESTOCK, PE, PLS	
DATE:		27 APRIL 2015	
REVISIONS:		REVISION NO.	
DATE:		FILE NO.	
DATE:		FIELD BOOK	
DATE:		SHT. NO.	
DATE:		4 of 6	



UNDERGROUND UTILITIES  
 PA. ACT 187 OF 1996-ONE CALL NOTIFICATION (1-800-242-1776)  
 DATE: 04-16-15 SERIAL NO.: 20151062204

ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLAN HAVE BEEN DEVELOPED FROM EXISTING UTILITY CO. RECORDS AND/OR ABOVE GROUND EXAMINATION OF THE SITE. COMPLETELY ACCURACY OF LOCATION AND DEPTH OF UNDERGROUND UTILITIES OR STRUCTURES IS NOT GUARANTEED NOR IS IT GUARANTEED THAT ALL UTILITIES WILL BE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPANIES AT LEAST THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION TO VERIFY LOCATION AND DEPTH OF SAME.



**RADNOR TOWNSHIP  
LANDSCAPE COMPLIANCE CHART**

§ 255-38. SHADE TREES	REQUIRED	PROVIDED
§ 255-38.A STREET TREES REQUIRED ALONG EXIST. STREETS	YES	YES
§ 255-38.B STREET TREES AT INTERVALS OF NO MORE THAN 30 FEET		
GARRETT AVENUE: 63.72 LF = 2.1 TREES	2.1 TREES	2 TREES

**PLANT LIST:**

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	CAL.	HGT.	BGB
AT	2	ACER TRIFOLIUM	THREE-FLOWER MAPLE	3'-5"	14'-16'	8'-10'

- LANDSCAPE GENERAL NOTES:**
- ALL PLANT MATERIAL SHALL MEET THE AMERICAN STANDARD FOR NURSERY STOCK BY THE AMERICAN NURSERYMAN'S ASSOCIATION.
  - ALL PLANT MATERIAL IS TO BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE TIME OF FINAL APPROVAL.
  - ALL STREET TREES TO BE PLUNED TO PROVIDE 12' CLEARANCE FROM THE GROUND.
  - ALL CANOPY TREES TO BE PRUNED TO HAVE A SPREAD EQUAL TO 50% OF THE HEIGHT.

- GENERAL NOTES:**
- SUMP PUMPS FOR FOUNDATION DRAINAGE SHALL BE CONNECTED TO THE SEEPAGE BED.
  - ALL CONSTRUCTION AND MATERIALS SHALL BE IN CONFORMANCE WITH PADOT PUBLICATION 408, PADOT PUBLICATION 72 AND THE RADNOR TOWNSHIP STANDARD SPECIFICATIONS AND DETAILS.
  - A DEED RESTRICTION PROHIBITING REMOVAL OR ALTERATION OF STORMWATER FACILITIES SHALL BE PROVIDED FOR ALL STORMWATER FACILITIES. THIS DEED RESTRICTION SHALL ALLOW REMOVAL OR ALTERATION THAT IS APPROVED BY THE TOWNSHIP.
  - AN EASEMENT GRANTING THE TOWNSHIP THE RIGHT, BUT NOT THE OBLIGATION, TO ENTER AND IMPROVE STORMWATER FACILITIES SHALL BE PROVIDED.
  - ALL RAIN WATER CONDUCTORS TO BE FOUR (4) INCH PVC SCHEDULE 40 OR PVC-SDR-35 OR HIGH DENSITY POLYETHYLENE - SMOOTH INTERIOR (HDPE-SI) HAVING A MINIMUM SLOPE OF 1%.
  - BOUNDARY AND TOPOGRAPHIC INFORMATION OBTAINED FROM A RECENT SURVEY PERFORMED BY JOSEPH M. ESTOCK, PE, PLS.
  - BENCHMARK 1: NAIL SET IN SOUTHEASTERLY CURBLINE OF GARRETT AVENUE NEAR THE NORTHERLY CORNER OF PROPERTY. ELEVATION = 431.80 FEET BASED UPON NAVD-1983 DATUM.  
BENCHMARK 2: TOP OF THE LETTER 'U' IN 'US PIPE' ON THE FIRE HYDRANT ALONG THE NORTHWESTERLY CURBLINE OF GARRETT AVENUE ABOUT 108 FEET SOUTHWEST OF THE PROPERTY. ELEVATION = 430.31 FEET BASED UPON NAVD-1983 DATUM.

Benchmark 2:  
'U' in U.S. Pipe  
Top of Hydrant  
Elev= 430.31'

DATE	REVISIONS	REVISION NO.

GRAPHIC SCALE 1"=10'  
0 10 20 30

UNDERGROUND UTILITIES  
PA. ACT 187 OF 1996-ONE CALL NOTIFICATION (1-800-242-1776)  
DATE: 04-16-15 SERIAL NO.: 20151062204

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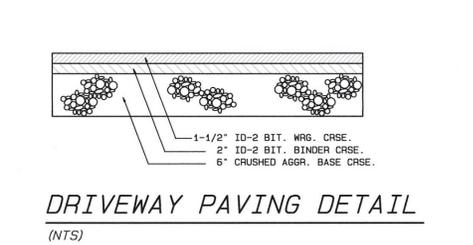
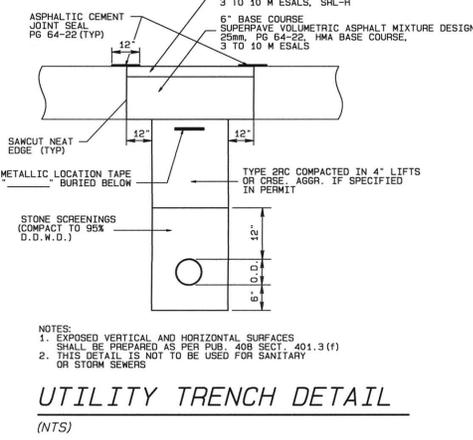
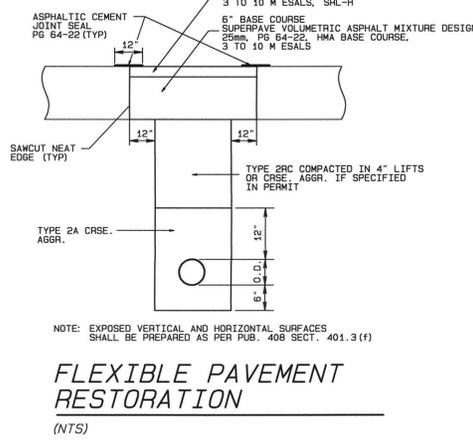
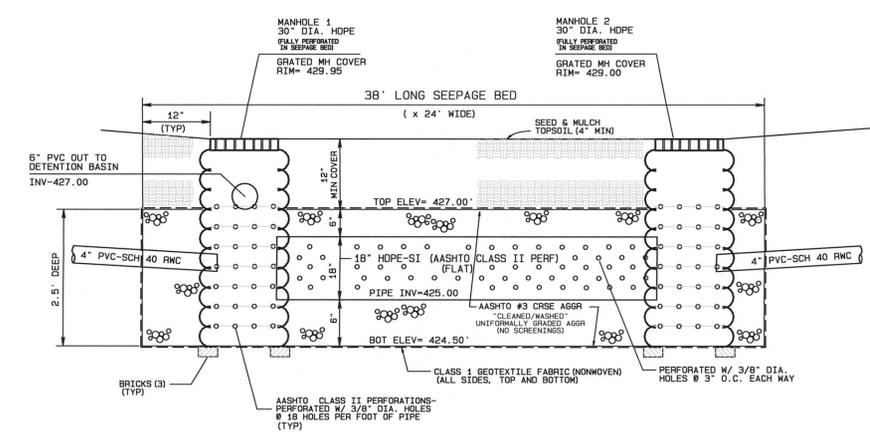
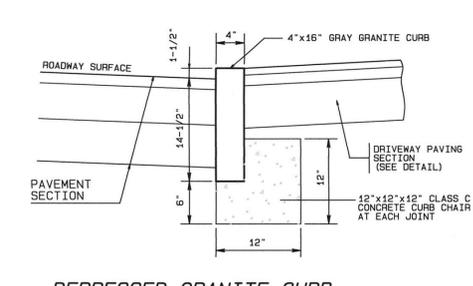
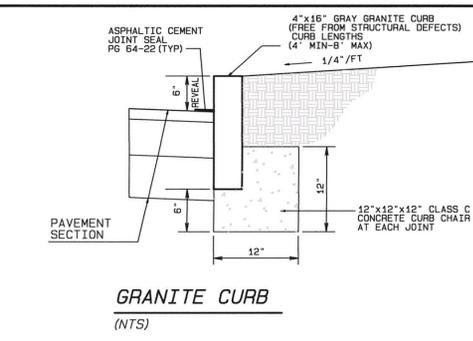
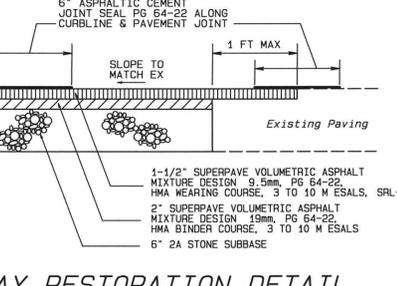
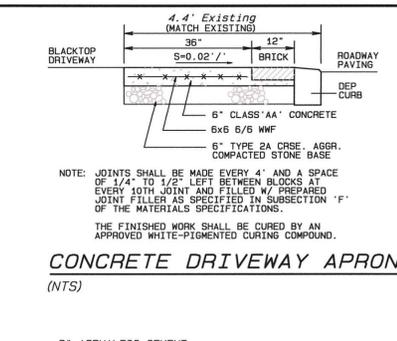
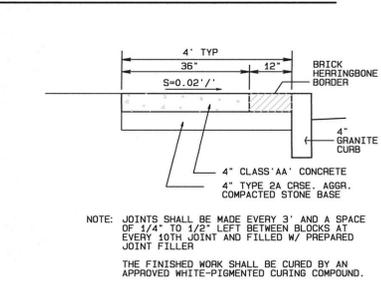
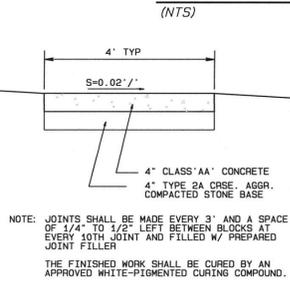
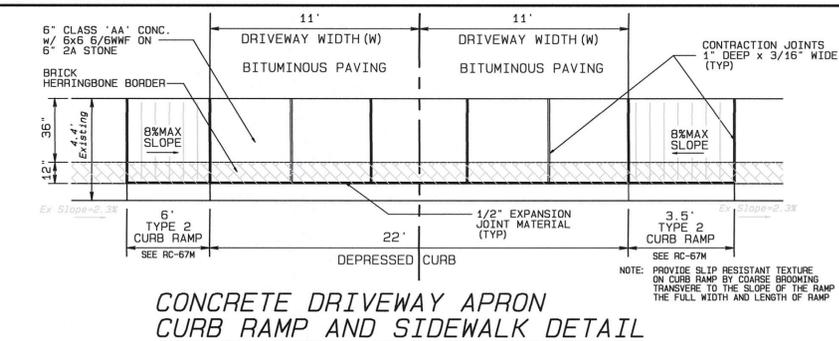
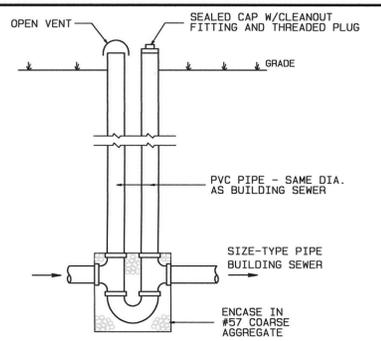
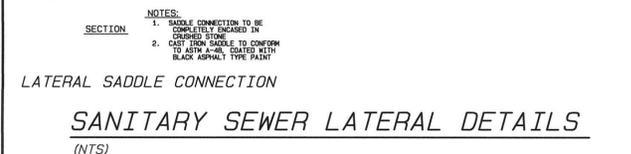
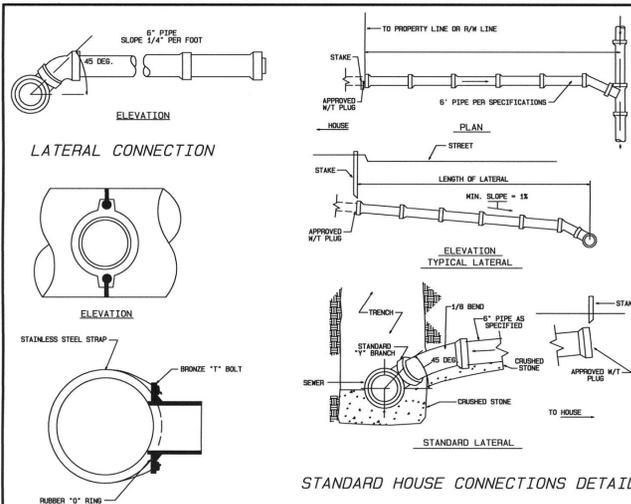
PROJECT TITLE:  
**131-133 GARRETT AVENUE**  
RADNOR TOWNSHIP - DELAWARE COUNTY - PENNSYLVANIA

DRAWING TITLE:  
**POST CONSTRUCTION  
STORMWATER MANAGEMENT PLAN**

PREPARED BY:  
**JOSEPH M. ESTOCK**  
Consulting Engineers & Land Surveyors

355 South Henderson Road  
King of Prussia, PA 19406-2407  
(610) 265-3035 - Fax (610) 962-9855  
joe@josephmestock.com

SCALE: 1" = 10'  
DATE: 27 APRIL 2015  
FILE NO.: 15003  
FIELD BOOK: 327  
SHT. NO.: 5 of 6



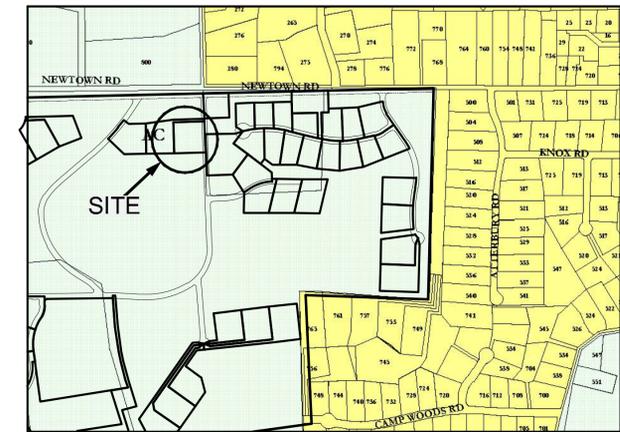
PROJECT TITLE : <b>131-133 GARRETT AVENUE</b> RADNOR TOWNSHIP - DELAWARE COUNTY - PENNSYLVANIA	
DRAWING TITLE : <b>CONSTRUCTION DETAILS</b>	
PREPARED BY : <b>JOSEPH M. ESTOCK</b> Consulting Engineers & Land Surveyors	
SCALE : AS NOTED      DATE : 27 APRIL 2015      FILE NO. : 15003      FIELD BOOK : 327      SHT. NO. : 6 of 6	

DATE	REVISIONS	REVISION NO.

UNDERGROUND UTILITIES  
 PA. ACT 187 OF 1996-ONE CALL NOTIFICATION (1-800-242-1776)  
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COMMONWEALTH OF PENNSYLVANIA  
 REGISTERED PROFESSIONAL ENGINEER  
**JOSEPH M. ESTOCK**  
 ENGINEER  
 PE037320E



LOCATION MAP  
SCALE: 1" = 600'

**ZONING DISTRICT AC RESIDENTIAL DISTRICT**

AREA: 2 AC  
 LOT WIDTH: 80' AT BSBL  
 BUILDING AREA: 15% MAX  
 FRONT YARD: 60 FT  
 SIDE YARD: 50 FT MIN, 40 FT  
 NON-RESIDENTIAL BUILDINGS: 60 FT  
 REAR YARD: 60 FT

NOTE: THIS SITE TO BE DEVELOPED UNDER DENSITY MODIFICATION REGULATIONS PERMITTED UNDER ARTICLE XIX OF THE RADNOR TOWNSHIP ZONING CODE.

MINIMUM TRACT AREA: 20 AC  
 PERIMETER BUILDING SETBACK: 75 FT FROM RIGHT OF WAY  
 50 FT FROM ADJACENT PROPERTY  
 FRONT YARD: 35 FT FROM OUTSIDE EDGE OF CURB  
 SIDE YARD: 25 FT  
 REAR YARD: 30 FT

**LOT DATA:**

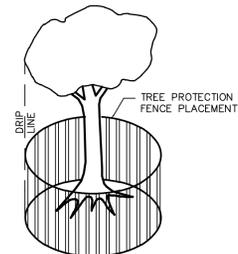
GROSS AREA: 54,596 SF (1.25 ACRES)

**EXISTING IMPERVIOUS COVERAGE:**

0 SF

**PROPOSED IMPERVIOUS COVERAGE:**

HOUSE: 4670 SF (9.3%)  
 DRIVEWAY: 4947 SF  
 PATIO: 1930 SF  
 POOL: 963 SF  
 WALLS, WALKS, ETC.: 718 SF  
 TOTAL: 13,228 SF (26.5%)



**TREE PROTECTION FENCE PLACEMENT**  
NTS

ALL WOODY VEGETATION TO BE RETAINED WITHIN 25 FEET OF A BUILDING SITE, PARKING AREA, DRIVEWAY OR OTHER PROPOSED IMPROVEMENT SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING OR OTHER EFFECTIVE BARRIERS APPROVED BY THE TOWNSHIP ENGINEER AND/OR ARBORIST. FENCING OR BARRIERS SHALL BE PLACED AS MUCH AS IS PRACTICAL, AT THE DRIPLINE. LOCATION MAY BE ALTERED TO AVOID INTERFERENCE WITH PROPOSED GRADING AND IMPROVEMENTS AS SHOWN ON THE PLANS. BARRIER LOCATION SHALL BE SUBJECT TO APPROVAL BY THE TOWNSHIP ENGINEER AND/OR ARBORIST.

**LINETYPE LEGEND**

---	PROPERTY LINE
- - -	ROW LINE
---	BUILDING SETBACK
---	FENCE LINE
---	OVERHEAD ELECTRIC
---	ELECTRIC LINE
---	GAS LINE
---	WATER LINE
---	SANITARY LINE
---	EXISTING STORM PIPES
---	EXISTING 2' CONTOUR
---	EXISTING 10' CONTOUR
---	PROPOSED SPOT ELEVATION
---	PROPOSED GRADING
---	PROPOSED STORMWATER PIPING
---	NEW BUILDING AREA
---	NEW PATIOS / WALKS
---	NEW WATER SURFACE
---	NEW DRIVEWAY AREAS
---	NEW RETAINING WALLS
---	TREE PROTECTION FENCING

**INFILTRATION BMP NOTES:**

- 1) INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (i.e. CLEANING THE SOIL/SEDIMENT FROM FABRIC, STONE, BED ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
- 2) ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
- 3) THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
- 4) INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEM SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES AND DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THE SYSTEM. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.
- 5) AFTER THE INFILTRATION BED IS COMPLETELY INSTALLED, ALL HEAVY CONSTRUCTION EQUIPMENT SHALL BE RESTRICTED FROM THE INFILTRATION BEDS TO ELIMINATE IMPACTS WHICH MAY COMPROMISE IT. IN THE EVENT ANY IMPACTS COMPROMISE THE FUNCTIONALITY OF THE INFILTRATION BEDS, IT MUST BE IMMEDIATELY REPAIRED OR REPLACED TO DESIGN SPECIFICATIONS.

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.



1 INCH = 20 FT.

Serial Number:  
 CALL BEFORE YOU DIG:  
 3 WORKING DAYS NOTICE FOR  
 CONSTRUCTION PHASE AND 10 WORKING  
 DAYS IN DESIGN STAGE STOP CALL  
 Pennsylvania One Call System, Inc.  
 1-800-242-1776

**MOMENEE & ASSOCIATES, INC.**  
 CIVIL ENGINEERS AND LAND SURVEYORS  
 924 COUNTY LINE ROAD, BRYN MAWR, PA 19010  
 PHONE: (610) 527-3030 FAX: (610) 527-9008

**PLAN OF PROPOSED TREE PROTECTION**  
 GRADING PERMIT PLAN  
 ARDROSSAN FARM: LOT 1-9 - 4 AYRSHIRE DRIVE  
 RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

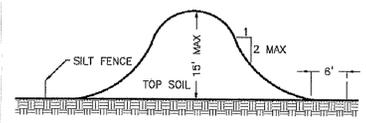
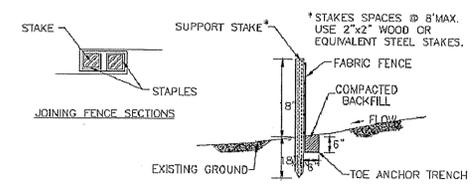
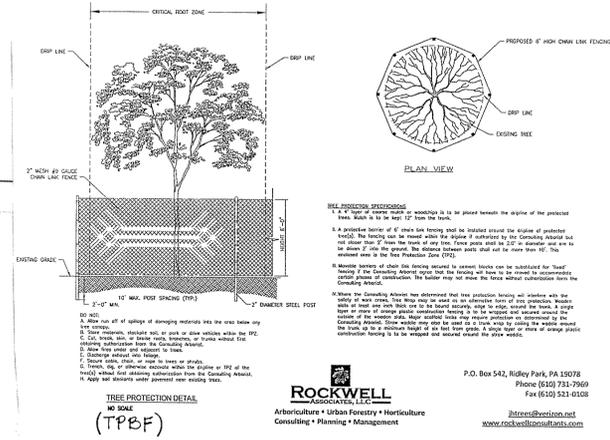
APPLICANT: PUBLIC BUILDERS ASSOCIATION SUITE 100  
 DRAWN BY: DRF  
 CHECKED BY: DRF  
 274 LANCASTER BLVD  
 MALVERN, PA 19355



DATE: MAY 14, 2015  
 SHEET NO. 1  
 OF 1  
 SCALE: 1" = 20'  
 FILE NO.: 15-053



ROBERTS ROAD



**ROCKWELL**  
Arboriculture • Urban Forestry • Horticulture  
Consulting • Planning • Management

P.O. Box 542, Ridgely Park, PA 19076  
Phone (610) 731-7969  
Fax (610) 523-0100  
Internet: [www.rockwellconsultants.com](http://www.rockwellconsultants.com)

- CONSTRUCTION NOTES**
- 1.00 THE BUILDER SHALL CONFORM TO ALL REQUIREMENTS & REGULATIONS OF RADNOR TWP BUILDING CODES & ABIDE BY ALL REQUESTS & INSTRUCTIONS OF THE TWP BLDG CODES & ENFORCEMENT OFFICER & CONFORM TO INTERNATIONAL RESIDENTIAL CODE 2009
  - 2.00 PRIOR TO STARTING ANY EXCAVATION THE CONTRACTOR MUST NOTIFY PA ONE CALL CENTER: 1-800-242-1776

**R-2 ZONING REQUIREMENTS**

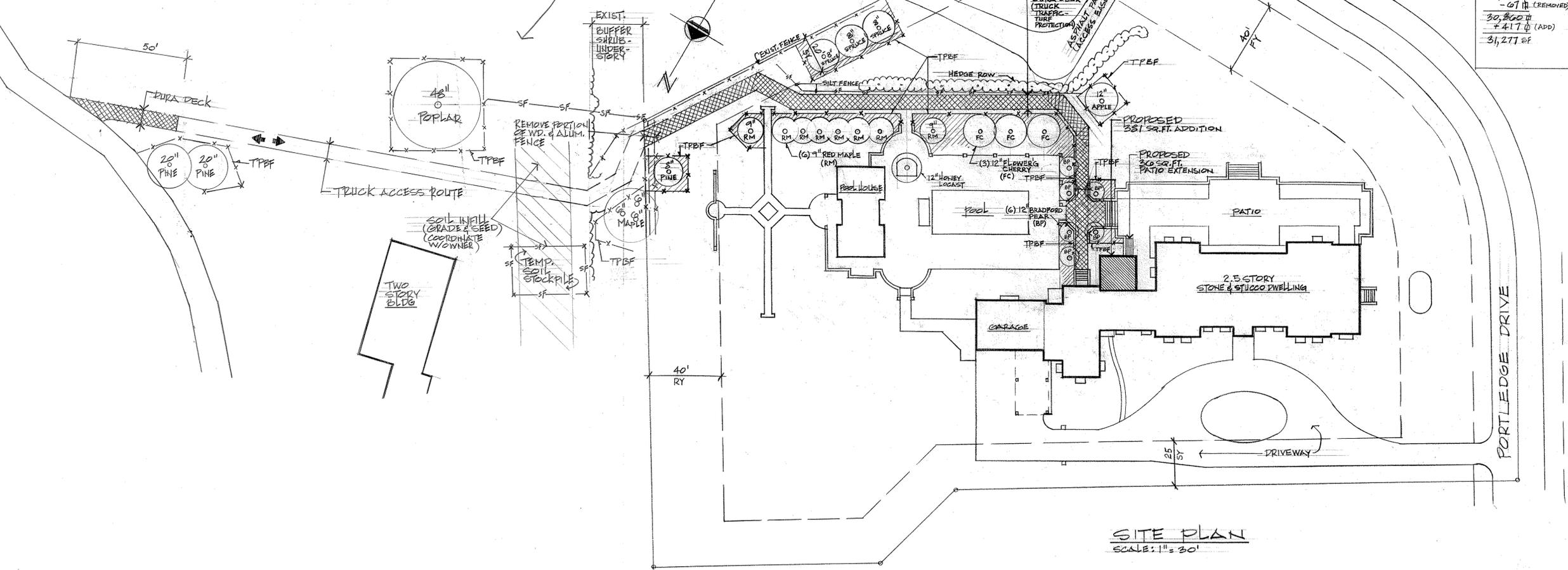
LOT AREA	20,000 SF	
LOT WIDTH	100 FT @ BLDG LINE	
BLDG AREA	18%	
FRONT YARD	40 FT	
SIDE YARD	48 FT (AGG) 20 FT (MIN)	
REAR YARD	40 FT	
BUILDING HEIGHT	35 FT	
IMPERVIOUS COVER	30%	

	EXISTING	PROPOSED
LOT AREA	2,879 AC (NET)	381 SF
BLDG AREA	13,755 SF	381 SF
IMPERVIOUS COVER	10,192	< 3847 + 36 SF
BLDG	4,813	< 29 SF
DRIVEWAY	1,022	
WALKS/PATIOS	1,145	
WALLS/STEPS		
POOL		
TOTAL EXISTING	30,927 SF (26.63%)	
TOTAL ADDITIONAL		417 SF
TOTAL IMPERVIOUS	31,277 SF	25%
ALLOWED IMPERVIOUS	34,840 SF	
(30% OF NET AREA REDUCED BY SLOPES)		
NET AREA	2,600 AC	

NOTE: EXISTING SITE PLAN DATA IS BASED ON PERKINS ASSOCIATES, INC. PERMIT PLAN DATED 10 JAN 2001 SAT 10/2 (D) 30-39-112/112.19/112.20

PRESBYTERIAN CHILDREN'S VILLAGE  
452 S. ROBERTS ROAD



**LEGEND**

- NEW WALL
- INSULATED WALL
- EXISTING WALL
- EXISTING DOOR
- NEW DOOR
- INTERIOR ELEVATION
- WOOD
- CONCRETE
- CENTERLINE
- GWB GYPSUM WALL BOARD
- AFB ABOVE FINISH FLOOR
- LO LINE OF
- FD FACE OF
- TO TOP OF
- BO BOTTOM OF
- ABV ABOVE
- PAR PARALLEL
- LVL MISC LVL
- APPR APPROX. DIMENSION CAN VARY TO BE DETERMINED
- EQ EQUAL
- TYP TYPICAL
- FV, V FIELD VERIFY, VERIFY
- EXIST. EXISTING
- NTS NOT TO SCALE
- AC ABOVE COUNTER
- WS WINDOW SEAT
- V.W.G.A. VERIFY WITH OWNER/ARCHITECT

REV. 1.040715 3.051415  
2.051815

PROJECT: PROPOSED ADDITION & INTERIOR MODIFICATIONS FOR THE COLLIS RESIDENCE  
609 PORTLEDGE DRIVE  
BRYN MAWR, PA 19010

PREPARED BY: NINA TODD WARNER, ARCH.  
VILLANOVA, PA 19085  
PH 610.293.3232

DATE: 1.011215

DWG NO. AS.1  
SITE PLAN

Serial Number: 2015-138-1381  
**CALL BEFORE YOU DIG!**  
 PENNSYLVANIA LAW REQUIRES  
 3 WORKING DAYS NOTICE FOR  
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 1-800-242-1776

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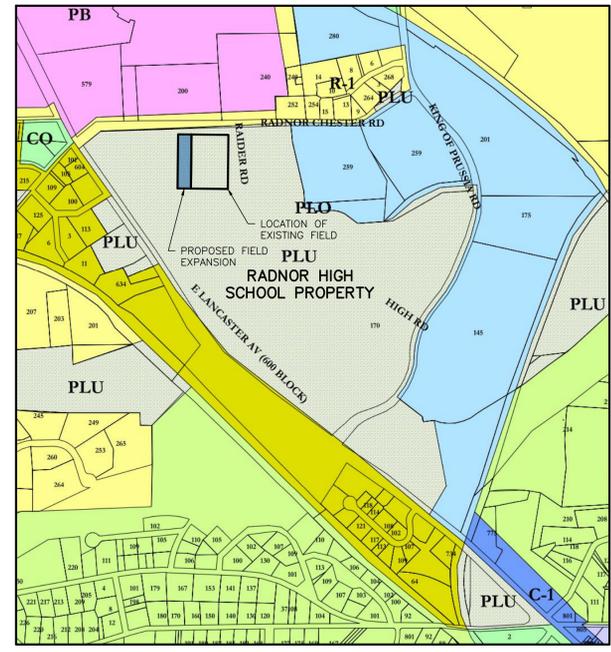
**LINE TYPE LEGEND**

---	EXISTING PROPERTY LINE
- - -	EXISTING ROW LINE
- x - x -	EXISTING FENCE LINE
- . - . -	EXISTING WOODS LINE
- - -	SOILS LINE
- - -	EXISTING 2' CONTOUR
- - -	PROPOSED GRADE LINE
- - -	OVERHEAD ELECTRIC LINE
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- - -	SANITARY LINE
- - -	FILTER SOCK
- - -	STANDARD SILT FENCE
- - -	LIMIT OF DISTURBANCE

**SOILS INFORMATION**

SYMBOL	NAME	%SLOPE	ERODIBILITY INDEX	HYDROLOGIC GROUP	AGRICULTURAL CAPABILITY CLASS	DRAINAGE	LOAD BEARING CAPACITY	DEPTH TO SH WATER	DEPTH TO BEDROCK	GRAVEL SOURCE	SAND SOURCE	ROADFILL SOURCE	TOPSOIL SOURCE	LOCAL ROADS AND STREETS	POND RESERVOIR AREAS	EMBANKMENTS	IRRIGATION	RESIDENTIAL DEVELOPMENT	LIGHT INDUSTRIAL	SEWAGE LAGOONS	ON-SITE SEPTIC	LAWNS
Md	MADE LAND GABBRIO AND DIBASE MATERIALS	NOT RATED	NOT RATED	C	6E	WELL DRAINED	NOT RATED	6.6+	6.6+	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED	NOT RATED
WaA	WORSHAM SILT LOAM	0 TO 3 PERCENT SLOPES	5	D	5W	POORLY DRAINED	VERY LIMITED	0.26	6.6+	POOR	POOR	POOR	POOR	VERY LIMITED	SOMEWHAT LIMITED	VERY LIMITED	SOMEWHAT LIMITED	VERY LIMITED	VERY LIMITED	VERY LIMITED	VERY LIMITED	VERY LIMITED

NOTES: IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.



**ZONING DATA PLU:**  
 MINIMUM LOT AREA AND WIDTH NONE REQUIRED  
 MAXIMUM BUILDING COVERAGE 30%  
 MINIMUM LANDSCAPING AREA 55%  
 MINIMUM FRONT YARD EQUAL TO THAT OF MOST RESTRICTIVE ADJOINING DISTRICT  
 MINIMUM SIDE YARD 25 FT  
 MINIMUM REAR YARD EQUAL TO THAT OF MOST RESTRICTIVE ADJOINING DISTRICT  
 MAXIMUM BUILDING HEIGHT 3 STORIES OR 38 FT  
 MINIMUM RIPARIAN BUFFER 35 FT

**REQUIRED:**  
 NONE REQUIRED  
 30%  
 55%  
 EQUAL TO THAT OF MOST RESTRICTIVE ADJOINING DISTRICT  
 25 FT  
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 3 STORIES OR 38 FT  
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FOR MORE DETAILED INFORMATION REFER TO THE ZONING CODE OF RADNOR TOWNSHIP, LATEST EDITION.

**EXISTING LOT DATA:**  
 SITE ADDRESS: 130 KING OF PRUSSIA ROAD  
 RADNOR, PA 19087  
 RECORD OWNER: RADNOR TOWNSHIP  
 SCHOOL DISTRICT  
 135 SOUTH WAYNE AVENUE  
 WAYNE, PA 19087  
 FOLIO NUMBER: 36-02-01233-10  
 MAP NUMBER: 36-15-043:000  
 DEED BOOK & PAGE NO: 790-1191  
 LOT AREA: 73.5% ACRES

- REFERENCES:**
- CONTRACT DRAWINGS FOR RADNOR HIGH SCHOOL SYNTHETIC TURF FIELD / LIGHTING PROJECT PREPARED BY DMA / DIGERONIMO MIKULA ASSOCIATES, LLC DATED JULY 3, 2003 AND LAST REVISED JULY 7, 2003. PROJECT NO. RTSD.
  - SITE PLANS FOR RADNOR HIGH SCHOOL PREPARED BY DMA DIGERONIMO MIKULA ASSOCIATES, LLC DATED JUNE 11, 2008 AND LAST REVISED JUNE 23, 2008.
  - AS-BUILT PLAN PREPARED FOR RADNOR HIGH SCHOOL MULTI-PURPOSE FIELD PREPARED BY SPRINTURF, LLC DATED JANUARY 30, 2004.
  - ZONING MAP OBTAINED ELECTRONICALLY FROM THE RADNOR TOWNSHIP WEBSITE.
  - TAX MAP OBTAINED ELECTRONICALLY FROM THE DELAWARE COUNTY PROPERTY RECORDS.
  - LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDAPSU.EDU.
  - GEOLOCATION AERIAL PROVIDED BY THE MICROSOFT CORPORATION BING MAPS OBTAINED VIA AUTOCAD 360.
  - SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)
  - FEMA FLOOD INSURANCE RATE MAP PANEL NUMBER 42045C0036F REVISED NOVEMBER 18, 2009.

- GENERAL NOTES:**
- THE INTENT OF THIS PLAN IS TO ILLUSTRATE THE TURF REPLACEMENT ON AN EXISTING MULTI-PURPOSE FIELD AND THE EXPANSION OF THAT FIELD. THE INCREASED CURB ASSOCIATED WITH THE EXPANDED FIELD IS 95 SF.
  - THIS PLAN WAS BASED ON THE NOTED REFERENCES. THIS PLAN SHALL NOT BE CONSTRUED AS A BOUNDARY AND TOPOGRAPHIC SURVEY. NO TREES EXIST WITHIN 25' OF THE PROPOSED DISTURBANCE.
  - THE PROPERTY HAS BEEN USED AS A PUBLIC SCHOOL FOR THE LAST 5 YEARS AND 50 YEARS.
  - THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
  - IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0036F REVISED NOVEMBER 18, 2009, THE PROJECT AREA IS LOCATED IN ZONE X. AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.
  - THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT FACILITIES SHALL BE THE OBLIGATION OF THE PROPERTY OWNER.

- CONSTRUCTION TIMING AND SEQUENCE NOTES:**
- ANTICIPATED START OF CONSTRUCTION: JULY 1, 2015.
  - INSTALL THE TREE PROTECTION FENCING AND COMPOST FILTER SOCK.
  - INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. ALL CONSTRUCTION VEHICLES SHALL UTILIZE THIS ENTRANCE TO EXIT THE SITE.
  - STRIP TOPSOIL IN THE AREA OF THE PROPOSED FIELD EXPANSION AND STOCKPILE FOR FUTURE USE. SURROUND STOCKPILE WITH SILT FENCE AND IMMEDIATELY STABILIZE.
  - REMOVE THE PORTION OF THE EXISTING CURB DESIGNATED TO BE REMOVED AND ROUGH GRADE THE SITE.
  - INSTALL THE PROPOSED CURB AND FIELD SECTION AS SHOWN ON THE PLANS AND CONNECT THE STORMWATER OVERFLOW PIPING TO THE EXISTING MANHOLE.
  - FINAL GRADE THE SITE AND SPREAD TOPSOIL, SEED AND IMMEDIATELY STABILIZE.
  - REMOVE THE EROSION AND SEDIMENTATION CONTROLS AND IMMEDIATELY STABILIZE DENUDED AREAS.
  - ANTICIPATED END OF CONSTRUCTION: SEPTEMBER 2015.

PROJECT: **RADNOR HIGH SCHOOL**  
 PROJECT ADDRESS: **130 KING OF PRUSSIA ROAD, RADNOR, PA 19087**  
 MUNICIPALITY: **RADNOR TOWNSHIP** COUNTY: **DELAWARE COUNTY**

PLAN SET: **GRADING PERMIT PLANS**  
 SHEET NAME: **EROSION AND SEDIMENTATION CONTROL PLAN**

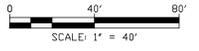
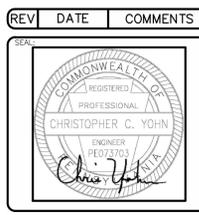
PREPARED FOR: **APPLICANT SPRINTURF, LLC  
 C/O BRUCE CHECKIN  
 900 CIRCLE 75 PARKWAY, SUITE 1750  
 MARIETTA, GEORGIA 30339**

DATE: **MAY 18, 2015**  
 SCALE: **1" = 40'**  
 ONE CALL NUMBER: **2015-138-1381**  
 DRAWN BY: **CCY**  
 PROJECT NUMBER: **15-013**

PREPARED BY: **YOHN ENGINEERING, LLC  
 555 SECOND AVENUE, SUITE G-110  
 COLLEGEVILLE, PA 19426  
 610-489-4580  
 WWW.YOHNGENGINEERING.COM**

YOHN Engineering, LLC

SHEET: **1 of 2**



REV	DATE	COMMENTS

Serial Number: 2015-138-1381  
**CALL BEFORE YOU DIG!**  
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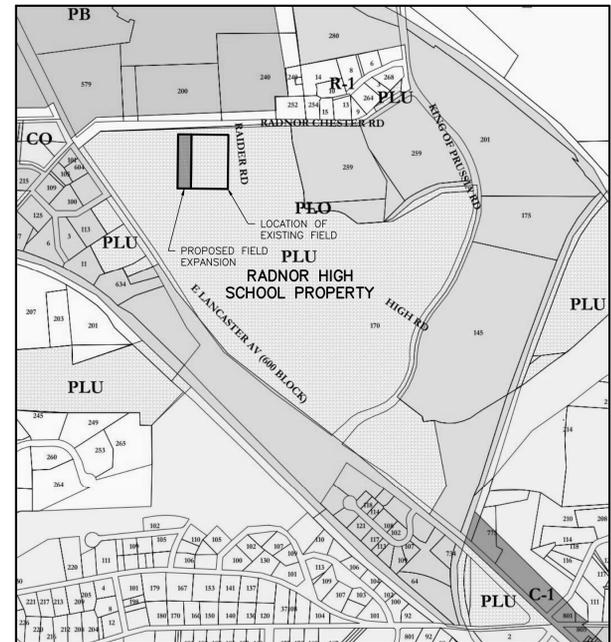
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**LOCATION MAP**  
 SCALE: 1" = 600'

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  3. AS-BUILT PLAN PREPARED FOR RADNOR HIGH SCHOOL MULTI-PURPOSE FIELD PREPARED BY SPRINTURF, LLC DATED JANUARY 30, 2004.
  4. ZONING MAP OBTAINED ELECTRONICALLY FROM THE RADNOR TOWNSHIP WEBSITE.
  5. TAX MAP OBTAINED ELECTRONICALLY FROM THE DELAWARE COUNTY PROPERTY RECORDS.
  6. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
  7. GEOLOCATION AERIAL PROVIDED BY THE MICROSOFT CORPORATION BING MAPS OBTAINED VIA AUTOCAD 360.
  8. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)
  9. FEMA FLOOD INSURANCE RATE MAP PANEL NUMBER 42045C0036F REVISED NOVEMBER 18, 2009.

- GENERAL NOTES:**
1. THE INTENT OF THIS PLAN IS TO ILLUSTRATE THE TURF REPLACEMENT ON AN EXISTING MULTI-PURPOSE FIELD AND THE EXPANSION OF THAT FIELD. THE INCREASED CURB ASSOCIATED WITH THE EXPANDED FIELD IS 95 SF.
  2. THIS PLAN WAS BASED ON THE NOTED REFERENCES. THIS PLAN SHALL NOT BE CONSTRUED AS A BOUNDARY AND TOPOGRAPHIC SURVEY. NO TREES EXIST WITHIN 25' OF THE PROPOSED DISTURBANCE.
  3. THE PROPERTY HAS BEEN USED AS A PUBLIC SCHOOL FOR THE LAST 5 YEARS AND 50 YEARS.
  4. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
  5. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0036F REVISED NOVEMBER 18, 2009, THE PROJECT AREA IS LOCATED IN ZONE X. AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN.
  6. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT FACILITIES SHALL BE THE OBLIGATION OF THE PROPERTY OWNER.

- CONSTRUCTION TIMING AND SEQUENCE NOTES:**
1. ANTICIPATED START OF CONSTRUCTION: JULY 1, 2015.
  2. INSTALL THE TREE PROTECTION FENCING AND COMPOST FILTER SOCK.
  3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. ALL CONSTRUCTION VEHICLES SHALL UTILIZE THIS ENTRANCE TO EXIT THE SITE.
  4. STRIP TOPSOIL IN THE AREA OF THE PROPOSED FIELD EXPANSION AND STOCKPILE FOR FUTURE USE. SURROUND STOCKPILE WITH SILT FENCE AND IMMEDIATELY STABILIZE.
  5. REMOVE THE PORTION OF THE EXISTING CURB DESIGNATED TO BE REMOVED AND ROUGH GRADE THE SITE.
  6. INSTALL THE PROPOSED CURB AND FIELD SECTION AS SHOWN ON THE PLANS AND CONNECT THE STORMWATER OVERFLOW PIPING TO THE EXISTING MANHOLE.
  7. FINAL GRADE THE SITE AND SPREAD TOPSOIL, SEED AND IMMEDIATELY STABILIZE.
  8. REMOVE THE EROSION AND SEDIMENTATION CONTROLS AND IMMEDIATELY STABILIZE DENUDED AREAS.
  9. ANTICIPATED END OF CONSTRUCTION: SEPTEMBER 2015.

PROJECT: **RADNOR HIGH SCHOOL**  
 PROJECT ADDRESS: **130 KING OF PRUSSIA ROAD, RADNOR, PA 19087**  
 MUNICIPALITY: **RADNOR TOWNSHIP** COUNTY: **DELAWARE COUNTY**

PLAN SET: **GRADING PERMIT PLANS**  
 SHEET NAME: **EROSION AND SEDIMENTATION CONTROL PLAN**

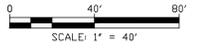
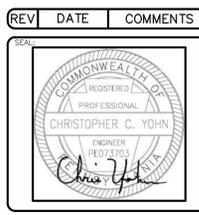
PREPARED FOR: **APPLICANT SPRINTURF, LLC  
 C/O BRUCE CRESKIN  
 900 CIRCLE 75 PARKWAY, SUITE 1750  
 MARIETTA, GEORGIA 30339**

DATE: **MAY 18, 2015**  
 SCALE: **1" = 40'**  
 ONE CALL NUMBER: **2015-138-1381**  
 DRAWN BY: **CCY**  
 PROJECT NUMBER: **15-013**

PREPARED BY: **YOHN ENGINEERING, LLC  
 555 SECOND AVENUE, SUITE G-110  
 COLLEGEVILLE, PA 19426  
 610-489-4580  
 WWW.YOHNGENGINEERING.COM**

YOHN Engineering, LLC

SHEET: **1 of 2**



REV	DATE	COMMENTS

**TOPSOIL APPLICATION:**

- GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES TO PROVIDE BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PERMIT A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE.
- TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 TO 8 INCHES MINIMUM - 2 INCHES ON FILL OUTSLOPES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM PLAN.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHEREVER POSSIBLE PRIOR TO SEEDING.

**TURFGRASS ESTABLISHMENT:**

- SOIL TESTING**
- A SOIL TEST TO DETERMINE LIME AND FERTILIZER REQUIREMENTS PROVIDES THE BEST GUIDE FOR PROPER TURFGRASS ESTABLISHMENT. ROUGH-GRADING
  - REMOVE ALL DEBRIS, INCLUDING LARGE STONES.
  - TILL SOIL AND BRING AREA TO ROUGH-GRADE PRIOR TO LIMING OR FERTILIZATION.
  - WHERE TOPSOIL IS TO BE REPLACED OR BROUGHT IN, FIRST ROUGH-GRADE THE AREA TO THE CONTOUR OF THE FINISHED GRADE TO FACILITATE UNIFORM DISTRIBUTION OF TOPSOIL.

- LIMING**
- WHERE A TEST HAS BEEN MADE, BROADCAST AND WORK INTO A 4 TO 6-INCH SOIL DEPTH TO MEET THE REQUIREMENT SHOWN BY THE TEST.
  - WHERE LIME REQUIREMENT EXCEEDS 200 LBS. PER 1,000 SF, APPLY ONE HALF THE TOTAL REQUIREMENT, TILL, APPLY THE REMAINING ONE HALF, AND RETILL.
  - WHERE A TEST IS NOT AVAILABLE, BROADCAST AND WORK INTO A 4 TO 6-INCH SOIL DEPTH A MINIMUM OF 100 LBS. PER 1,000 SF.

- BASIC FERTILIZATION**
- WHERE A TEST HAS BEEN MADE, BROADCAST THE RECOMMENDED FERTILIZER AND WORK INTO THE SOIL TO A 4 TO 6-INCH DEPTH.
  - WHERE A TEST HAS NOT BEEN MADE, BROADCAST AND WORK INTO THE SOIL TO A 4 TO 6-INCH DEPTH 25 TO 35 LBS. OF 0-46-0 FERTILIZER OR EQUIVALENT PER 1,000 SF.

- SOIL AMENDMENTS**
- WHERE A TEST INDICATES THE SOIL HAS A LOW ORGANIC MATTER CONTENT, WORK THE RECOMMENDED ORGANIC MATTER INTO THE SOIL TO A 2 TO 4-INCH DEPTH BEFORE APPLYING THE STARTER FERTILIZER.
  - REED SEED, PEAT, OR A COMBINATION OF THE TWO MATERIALS IS RECOMMENDED AS A SOURCE OF ORGANIC MATTER.

- TILLAGE**
- TILL SEEDBED TO A 4 TO 6-INCH DEPTH MAKING SURE THE LIMESTONE (IF REQUIRED), AMENDMENTS (IF REQUIRED) AND THE BASIC FERTILIZER ARE UNIFORMLY MIXED THROUGHOUT THE SOIL PROFILE. POCKETS OF LIMESTONE, AMENDMENTS OR FERTILIZER MUST BE AVOIDED.

- FINISH-GRADING**
- RAKE AREA TO FINISH-GRADE PRIOR TO SEEDING. LIGHT ROLLING WILL INDICATE ANY LOW SPOTS OR OTHER IRREGULARITIES OF THE AREA.

- STARTER FERTILIZATION**
- IMMEDIATELY PRIOR TO SEEDING, BROADCAST AND WORK INTO THE TOP INCH OF SOIL 40 LBS. OF A 10-5-5, 10-6-4 OR 25 LBS. OF A 16-8-8 FERTILIZER OR THE EQUIVALENT PER 1,000 SF. THE FERTILIZER MUST BE TURF GRADE, HAVING AN APPROXIMATE 2-1-1 RATIO AND CONTAINING 35 PERCENT OR MORE OF THE TOTAL NITROGEN AS WATER INSOLUBLE OR CONTROLLED RELEASE NITROGEN.

- SEEDING**
- LATE SUMMER TO EARLY FALL IS THE BEST TIME FOR SEEDING PERMANENT TURFGRASS.
  - SOW RECOMMENDED SEED MIXTURE ADAPTED TO USE AND CLIMATIC CONDITIONS OF THE AREA.
  - DIVIDE TOTAL SEED QUANTITY INTO TWO EQUAL LOTS, SOWING ONE LOT IN ONE DIRECTION AND THE SECOND LOT AT RIGHT ANGLES TO THE FIRST WITH A MECHANICAL SEEDER OR SPREADER.

- COVER SEED**
- RAKE LIGHTLY OR DRAG AREA TO COVER SEED NO DEEPER THAN 1/4 IN. SEED-SOIL CONTACT
  - ROLL LIGHTLY TO FIRM SOIL AROUND SEED.

- MULCHING**
- MULCH SEEDING AREA WITH CLEAN STRAW OR MARSH HAY AT 3.0 TONS PER ACRE. LIGHT MULCHES (SOME SOIL SHOWING THROUGH MULCH) MAY BE LEFT ON THE AREA TO DECOMPOSE. HEAVY MULCHES (COMPLETE SOIL COVERAGE) SHOULD BE REMOVED FROM THE AREA WITHIN A FEW DAYS AFTER SEED GERMINATION.

- PERMANENT SEED MIXTURES**

SPECIES	% OF MIXTURE	SEED RATE
SUNNY AREAS AND WELL-DRAINED SOILS		
KENTUCKY BLUEGRASS	100%	2-3 LB/1,000 SF
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	80-90% 10-20%	3-4 LB/1,000 SF
KENTUCKY BLUEGRASS	40-60%	3-4 LB/1,000 SF
FINE FESCUES PERENNIAL RYEGRASS	30-40% 10-20%	
TURF-TYPE TALL FESCUE	100%	6-8 LB/1,000 SF
TURF-TYPE PERENNIAL RYEGRASS	100%	4-5 LB/1,000 SF
PARTIALLY SHADED AREAS		
FINE FESCUES	40-50%	4 LB/1,000 SF
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	40-50% 10-20%	
FINE FESCUES	100%	4-5 LB/1,000 SF
TURF-TYPE TALL FESCUE	100%	6-8 LB/1,000 SF
HEAVY SHADE, WELL-DRAINED SOILS		
FINE FESCUES	100%	4-5 LB/1,000 SF
HEAVY SHADE, POORLY-DRAINED SOILS		
ROUGH BLUEGRASS	100%	2-3 LB/1,000 SF

**TEMPORARY SEED MIXTURE**

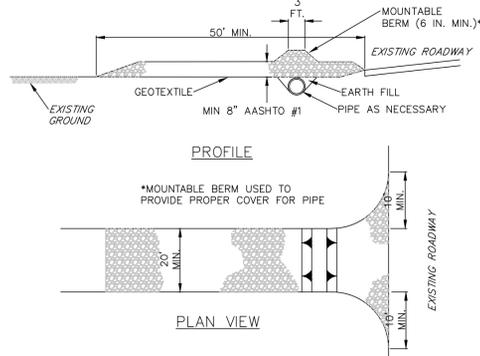
SPECIES	% OF MIXTURE	SEED RATE
ANNUAL OR ITALIAN RYEGRASS	100%	4-5 LB/1,000 SF

**SEED MIXTURE NOTES:**

- SEEDING AND TURFGRASS INFORMATION TAKEN FROM THE PENN STATE COLLEGE OF AGRICULTURAL SCIENCES. FOR ADDITIONAL INFORMATION REFER TO [HTTP://PLANTSOURCE.PSU.EDU/RESEARCH/CENTERS/TURF](http://plantscience.psu.edu/research/centers/turf).
- THE PERCENTAGE OF WEED SEEDS SHOULD NOT EXCEED 1.0% BY WEIGHT IN THE CONTAINER. GOOD QUALITY GRASS SEED USUALLY CONTAINS NO MORE THAN 0.5% WEED SEEDS.
- SEEDS OR SEED MIXTURES CONTAINING TIMOTHY, MEADOW FESCUE, ORCHARDGRASS, TALL OATGRASS, ANNUAL RYEGRASS OR CLOVER ARE GENERALLY NOT SUGGESTED FOR TURFGRASS USE.
- ALL SEEDING RATES IN THIS PUBLICATION ARE IN POUNDS PER 1000 SQUARE FEET. IF CONVERTING TO AN ACRE BASIS, MULTIPLY BY 43.
- IT IS SUGGESTED THAT 3-5 VARIETIES OF KENTUCKY BLUEGRASS BE USED IN THE BLEND OR MIXTURE.
- WHEREVER SEED AND MULCH IS APPLIED BY HYDROSEEDING METHODS, THE SEED AND MULCH SHOULD BE APPLIED IN SEPARATE APPLICATIONS WITH THE SEED BEING APPLIED FIRST AND THE MULCH SPRAYED ON TOP OF THE SEED.
- IN CRITICAL AREAS (E.G. ADJACENT TO OR WITHIN 50 FEET OF STREAMS, PONDS, OR WETLANDS) A PROTECTIVE BLANKET SHOULD BE PROVIDED FOR ALL SEEDED AREAS.

**CONSTRUCTION NOTES:**

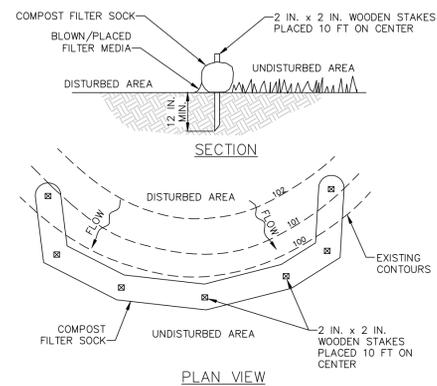
- THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE OWNER AND ENGINEER.
- PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RADNOR TOWNSHIP STANDARDS.
- ALL EXCAVATIONS AND PEOPLE ENTERING EXCAVATIONS OR OTHER BELOW GRADE STRUCTURES SHALL COMPLY WITH OSHA REQUIREMENTS. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION.
- ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR REPAIR OR REMOVAL THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
- ALL PVC STORMWATER PIPES SHALL BE SDR 35 OR GREATER.
- ALL HDPE STORMWATER PIPES SHALL BE SMOOTH INTERIOR.
- ALL STORMWATER FITTINGS SHALL BE WATER-TIGHT.
- GEOTEXTILE FABRIC (PERMEABLE FILTER FABRIC) SHALL BE CLASS 1 NON-WOVEN AND SHALL COMPLY WITH PENNDOT SPECIFICATIONS.
- STONE WITHIN THE STORMWATER MANAGEMENT SYSTEM SHALL BE CLEAN-WASHED, UNIFORMLY GRADED AGGREGATE WITH MINIMUM 40% VOID SPACE.



- NOTES:**
- REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
  - RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BURNOFF POND TO ENTERING ROCK CONSTRUCTION ENTRANCE.
  - MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CURB PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.
  - MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY, IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY. EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

**STANDARD CONSTRUCTION DETAIL #3-1  
ROCK CONSTRUCTION ENTRANCE**

NOT TO SCALE

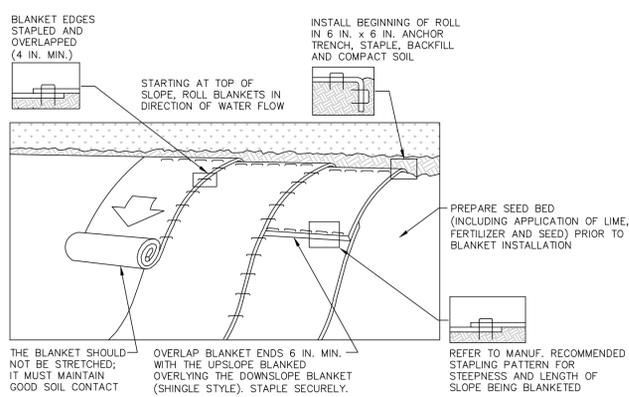


- NOTES:**
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
  - COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
  - TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
  - ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
  - COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
  - BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS. PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
  - UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED, THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

#	LENGTH	SLOPE	SIZE
1	130	2%	18

**STANDARD CONSTRUCTION DETAIL #4-1  
COMPOST FILTER SOCK**

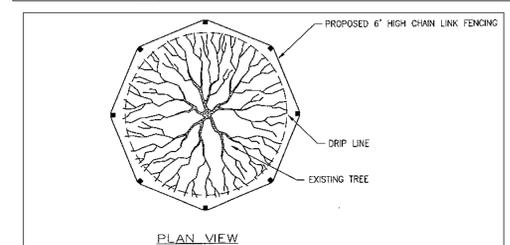
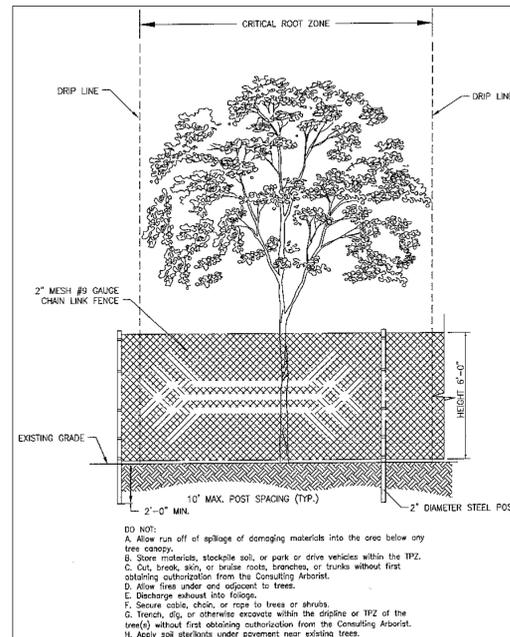
NOT TO SCALE



- NOTES:**
- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
  - PROVIDE ANCHOR TRENCH AT TOP OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
  - SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
  - BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
  - THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  - BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

**STANDARD CONSTRUCTION DETAIL #1-1  
EROSION CONTROL BLANKET INSTALLATION**

NOT TO SCALE



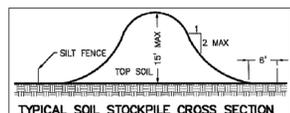
- TREE PROTECTION SPECIFICATIONS**
- A 4" layer of coarse mulch or woodchips is to be placed beneath the drip line of the protected trees. Mulch is to be kept 12" from the trunk.
  - A protective barrier of 6' chain link fencing shall be installed around the drip line of protected tree(s). The fencing can be moved within the drip line if authorized by the Consulting Arborist but not closer than 2' from the trunk of any tree. Fence posts shall be 2"0" in diameter and are to be driven 2' into the ground. The distance between posts shall not be more than 10'. This enclosed area is the Tree Protection Zone (TPZ).
  - Movable barriers of chain link fencing secured to cement blocks can be substituted for "fixed" fencing if the Consulting Arborist agrees that the fencing will have to be moved to accommodate certain phases of construction. The barrier may not move the fence without authorization from the Consulting Arborist.
  - Where the Consulting Arborist has determined that tree protection fencing will interfere with the safety of work crews, tree wrap may be used as an alternative form of tree protection. Wooden rails of at least one inch thick are to be bound securely, edge to edge, around the trunk. A single layer or more of orange plastic construction fencing is to be wrapped and secured around the outside of the wooden rails. Major support limbs may require protection as determined by the Consulting Arborist. Straw wads may also be used as a trunk wrap by coiling the wadde around the trunk to be a minimum height above grade. A single layer or more of orange plastic construction fencing is to be wrapped and secured around the straw wads.

**TREE PROTECTION DETAIL**

NOT TO SCALE

**STANDARD E&S PLAN NOTES:**

- STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
- THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES. THE OPERATOR SHALL MAINTAIN AND MAKE AVAILABLE TO DELAWARE CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DELAWARE CONSERVATION DISTRICT.
- THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE DELAWARE CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- ALL PUMPS OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
- THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
- EFFECTIVE DISTANCE WILL BE PERMITTED TO PROVIDE ACCESS TO THE PROPOSED LOCATION FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE BMP'S.
- EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S WITH SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
- AT LEAST 7 DAYS BEFORE STARTING ANY DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE DELAWARE CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE DISTURBED BY THE PERMANENT VEGETATIVE ACTIVITIES. MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION REQUIREMENTS.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
- SOD OR MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
- STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING, AND RETENING, MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S, OR MODIFICATIONS OF THOSE INSTALLED ARE REQUIRED.
- SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STORAGE AREAS.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601. ET SEQ., 271.1 ET DEO., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLICITLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
- THE NPDES BOUNDARY IS EQUAL TO THE LIMITS OF DISTURBANCE FOR THE SITE, AND ANY OFF-SITE DISTURBANCES WITHIN THE LIMITS OF DISTURBANCES THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL. OFF-SITE FACILITIES SUCH AS: UTILITIES AND ROADWAY IMPROVEMENTS.
- THE PROJECT'S RECEIVING WATERCOURSE IS ITHAN CREEK AND THE CHAPTER 93 CLASSIFICATION IS CWF.
- AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
- ALL OFF-SITE DISTURBANCES SHALL BE IN ACCORDANCE WITH THE PLAN APPROVED BY THE DELAWARE CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS - PRIOR TO PLACEMENT OF TOPSOIL AREAS TO BE TOPSOILED SHALL HAVE A MINIMUM 6 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING.
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SUPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- FROZEN MATERIALS OR SOFT, MUKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- CONCRETE WASH WATER SHALL BE HANDLED IN ACCORDANCE WITH THE E&S BMP MANUAL REGULATIONS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
- GRADING AND EARTHMOVING OPERATIONS SHALL BE MINIMIZED DURING THE PERIOD FROM NOVEMBER TO APRIL. 1 WHEN RE-VEGETATION OF EXPOSED GROUND SURFACE IS DIFFICULT, MULCH, STRAW, STONE AND/OR SOD SHALL BE USED TO STABILIZE ALL AREAS DENUEDED DURING THIS TIME PERIOD.
- THE RUNOFF CROSSING TO THE ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE MANAGED SO THAT THE WATER QUALITY / QUANTITY IMPACT IS MINIMIZED TO THE ADJACENT PROPERTIES. ADDITIONAL DIVERSION BERMS, STONED CONSTRUCTION STAGING AREAS, AND INLETS/PIPING SHALL BE PROVIDED AS NECESSARY / DIRECTED IN ORDER TO ENSURE ACCEPTABLE CONDITIONS DURING THE CONSTRUCTION PHASE.
- ALL TOPSOIL SHALL REMAIN ONSITE UNLESS OTHERWISE DIRECTED BY THE OWNER.



**TYPICAL SOIL STOCKPILE CROSS SECTION**

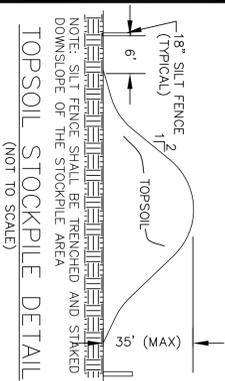
- NOTE:** SLIT FENCE MUST COMPLETELY ENCLOSE STOCKPILES
- NOTE: TOPSOIL SHALL NOT BE REMOVED FROM THE DEVELOPMENT SITE OR USED AS FILL. TOPSOIL SHALL BE REMOVED FROM THE AREA OF CONSTRUCTION AND STORED SEPARATELY. THE TOPSOIL SHALL BE STABILIZED TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENTATION. CONSTRUCTION OF THE TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED ON THE SITE.

PROJECT: <b>RADNOR HIGH SCHOOL</b>		
PROJECT ADDRESS: <b>130 KING OF PRUSSIA ROAD, RADNOR, PA 19087</b>		
MUNICIPALITY: <b>RADNOR TOWNSHIP</b>	COUNTY: <b>DELAWARE COUNTY</b>	
PLAN SET: <b>GRADING PERMIT PLANS</b>		
SHEET NUMBER: <b>EROSION AND SEDIMENTATION CONTROL AND CONSTRUCTION DETAILS</b>		
REV	DATE	COMMENTS
PREPARED FOR:	APPLICANT: <b>SPRINTUNE, LLC</b> C/O BRUCE CHESKIN 900 CIRCLE 75 PARKWAY, SUITE 1750 MARIETTA, GEORGIA 30339	DATE: <b>MAY 18, 2015</b> SCALE: <b>NO SCALE</b> ONE CALL NUMBER: <b>2015-138-1381</b> DRAWN BY: <b>CCY</b> PROJECT NUMBER: <b>15-013</b>
PREPARED BY:	<b>YOHN ENGINEERING, LLC</b> 555 SECOND AVENUE, SUITE G-110 COLLEGEVILLE, PA 19426 610-489-4580 WWW.YOHNEENGINEERING.COM	SHEET: <b>2 OF 2</b>

**TEMPORARY SEEDING**

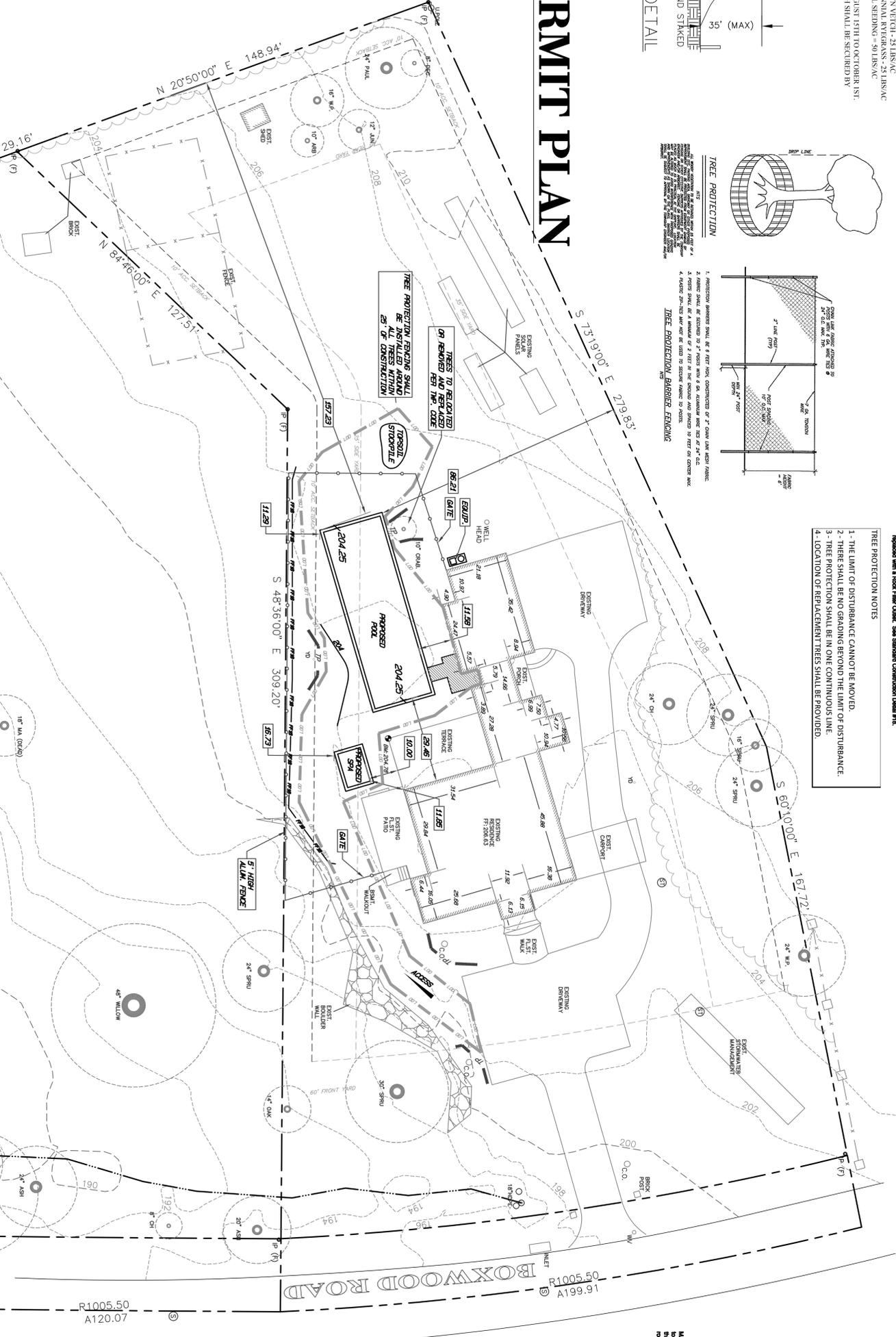
LINE:	190 LBS/1000 SF GROUND LAMINONE INCORPORATED 4 INCHES INTO SOIL
FERTILIZER:	25 LBS/1000 SF 16-20-0 INCORPORATED 4 INCHES INTO SOIL
SEED:	1.0 LBS/1000 SF ANNUAL Ryegrass
MULCH:	140 LBS/1000 SF STRAW MULCH
MINIMUM STANDBY FOR LAMINONE AND FERTILIZER LAMINONE SHALL BE APPLIED AT A RATE OF 1 TON PER ACRE. FERTILIZER SHALL BE APPLIED AT A RATE OF: NITRITENITROGEN: 30 LBS/ACRE AVERAGE PHOSPHORUS: 100 LBS/ACRE AVERAGE POTASSIUM: 120 LBS/ACRE AVERAGE	
PERMANENT SEEDING:	
LINE:	190 LBS/1000 SF GROUND LAMINONE INCORPORATED 4 INCHES INTO SOIL
FERTILIZER:	25 LBS/1000 SF 16-20-0 INCORPORATED 4 INCHES INTO SOIL
SEEDING:	LAWN AND MOWED AREAS - KENTUCKY BLUEGRASS - 30 LBS/AC RETOP - 3 LBS/AC TOTAL SEEDING - 30 LBS/AC OR PENNSYLVANIA FESCUE - 40 LBS/AC RETOP - 3 LBS/AC TOTAL SEEDING - 43 LBS/AC TOTAL SEEDING - 63 LBS/AC
PLANTING DATE:	MARCH 1ST TO MAY 15TH, AND AUGUST 15TH TO OCTOBER 1ST.
MULCH STRAW AT A RATE OF 140 LBS/1000 SF. MULCH SHALL BE SECURED BY APPROVED METHODS	

SLOPES OR UNMOWED AREAS - GROWN VETCH - 25 LBS/AC  
PERENNIAL RYEBGRASS - 25 LBS/AC  
TOTAL SEEDING = 30 LBS/AC



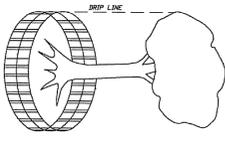
# POOL PERMIT PLAN

Scale: 1" = 20'

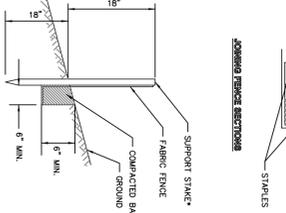


**EROSION & SEDIMENTATION CONTROL NOTES**

1. EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE SITE DISTURBANCE WITHIN THE BARRIAR AREAS OF THESE CONTROLS.
2. AFTER THE PERMIT IS OBTAINED, THE CONTRACTOR SHALL CONSTRUCT EROSION AND SEDIMENTATION CONTROLS TO BE INSTALLED WITHIN THE BARRIAR AREAS WITHIN 14 DAYS OF THE PERMIT BEING ISSUED. ALL EROSION AND SEDIMENTATION CONTROLS MUST BE STABILIZED IMMEDIATELY.
3. FILTER FABRIC FENCE MUST BE INSTALLED AT LEVEL GRADE. BOTH ENDS OF EACH FENCE SECTION MUST EXTEND AT LEAST TEN FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
4. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH THE ABOVE-GROUND HEIGHT OF THE FENCE.
5. THE FENCE SECTION WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPAIRED WITH A ROCK FILTER OUTLET. SEE ROCK FILTER OUTLET DETAIL.
6. STAKE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
7. ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED, MUST BE STABILIZED IMMEDIATELY IN ACCORDANCE WITH PERMANENT SEEDING SPECIFICATION. DURING NON-SEEDING PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES.
8. EROSION AND SEDIMENTATION CONTROLS MUST BE STABILIZED IMMEDIATELY.
9. HAY OR STRAW MULCH MUST BE APPLIED AT RATES OF AT LEAST 30 TONS PER ACRE.
10. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH RAINFALL EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REPAIR MAINTENANCE ACTIVITIES MUST BE PERFORMED IMMEDIATELY.
11. ACTION TO PREVENT EROSION CONDITIONS DEVELOPING DURING CONSTRUCTION. THE CONTRACTOR SHALL RESULT OF FRESH BASED RUNOFF AND/OR SEDIMENT DISCHARGE. STOCKPILES OF WOODS/STONES, BRICKS, CRUSHED STONE AND OTHER MATERIALS SHALL BE HELD IN READINESS TO BE IMMEDIATELY WITHDRAWN FROM THE SITE.
12. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE EROSION CONTROL APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION.
13. PROTECTION TO EXISTING TREES AND SHRUBS SHALL BE TAKEN BY THE CONTRACTOR TO ELIMINATE UNNECESSARY DAMAGE.
14. PROTECTION TO EXISTING TREES AND SHRUBS WHERE EARTH MOVING HAS CEASED MUST BE PERMANENTLY STABILIZED IMMEDIATELY.
15. ALL SMALL SHALL BE PROTECTED WITH EROSION CONTROL BLANKETS.



- TREE PROTECTION**
1. PROTECTIVE BARRIERS SHALL BE 6 FEET HIGH, CONSTRUCTED OF 2" CHAIN LINK WITH 4\"/>
  - 2. BARRIERS SHALL BE STAKED TO 2 FEET WITH A MINIMUM ONE END AT 24\"/>
  - 3. STAKES SHALL BE 2\"/>
  - 4. STAKES SHALL BE 2\"/>
- TREE PROTECTION - BARBER LEAVINGS**
1. PROTECTIVE BARRIERS SHALL BE 6 FEET HIGH, CONSTRUCTED OF 2" CHAIN LINK WITH 4\"/>
  - 2. BARRIERS SHALL BE STAKED TO 2 FEET WITH A MINIMUM ONE END AT 24\"/>
  - 3. STAKES SHALL BE 2\"/>
  - 4. STAKES SHALL BE 2\"/>



- STABILIZED CONSTRUCTION ENTRANCE 25' WIDE**
1. THE LIMIT OF DISTURBANCE CANNOT BE MOVED.
  2. THERE SHALL BE NO GRADING BEYOND THE LIMIT OF DISTURBANCE.
  3. TREE PROTECTION SHALL BE IN ONE CONTINUOUS LINE.
  4. LOCATION OF REPLACEMENT TREES SHALL BE PROVIDED.

- Notes**
- \* Status symbol @ maximum. Use 2" x 2" wood or equivalent steel stakes.
  - Filter fabric fence must be placed at level existing grade. Both ends of the barrier must be secured at least 8 feet up slope at 45 degrees to the main barrier alignment.
  - Any section of filter fabric fence which has been undermined or topped must be immediately replaced with a Rock Filter Outlet. See Standard Construction Detail #18.

**NOTES:**

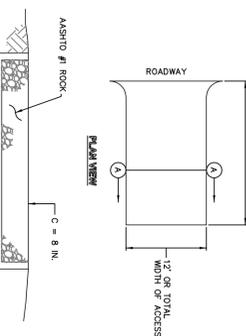
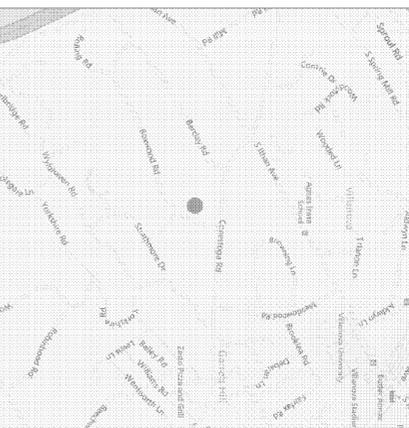
1. TOPOGRAPHIC INFORMATION OBTAINED FROM MEASUREMENTS CONDUCTED ON 08/15/15.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
3. THE BOUNDARY SHOWN HEREON HAS BEEN ESTABLISHED FROM PHYSICAL FEATURES ONLY AND IS NOT TO BE CONSIDERED A BOUNDARY SURVEY BY THIS OFFICE.
4. A SILT FENCE MUST BE PLACED AROUND ALL EROSION PRONE & EARTH DISTURBED AREAS BY THE CONTRACTOR BEFORE CONSTRUCTION.
5. HAIL ALL EXCESS EXCAVATION OFF THE LOT. CLEAN ALL SILT OFF THE CONSTRUCTION VEHICLES BEFORE ENTERING THE PUBLIC ROAD.
6. THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND OPERATION OF THE ROAD DURING CONSTRUCTION IS THE OBLIGATION OF THE CONTRACTOR.
7. ROAD DRAINAGES IN EXCESS OF 2% SHALL BE STABILIZED WITH SOD OR JUTE MATTING AND SEED. THE SWALE AROUND THE POOL SHALL BE STABILIZED WITH SOD.

**ZONING REQUIREMENTS**

R 1 RESIDENTIAL DISTRICT	REQUIRED
MINIMUM LOT SIZE	1 ACRE
MINIMUM FRONT YARD	120 FEET
MINIMUM SIDE YARD	60 FEET
MINIMUM REAR YARD	25 FEET EA. - 60 FT TL.
MINIMUM BUILDING AREA COVERAGE	40 PERCENT
MAXIMUM BUILDING HEIGHT	35 FEET
MAXIMUM IMPERVIOUS SURFACES	22 PERCENT
ACCESSORY STRUCTURES UNATTACHED	10 FEET FROM PROP LINE
ACCESSORY STRUCTURES UNATTACHED	15 FEET FROM PROP LINE
A/C UNITS	

**IMPERVIOUS COVER COMPUTATION**

Net Lot Area	64,426 sq ft
Existing:	
Residence	3,908.00 sq ft
Driveway	5,335.00 sq ft
Walk	2,150.00 sq ft
Car Port	3,680.00 sq ft
Patio	586.00 sq ft
Pool	4,800.00 sq ft
Subtotal:	21,439.00 sq ft
Proposed:	
Pool	1,260.00 sq ft - not included
Copied	10,000.00 sq ft - not included
Driveway	2,140.00 sq ft
Subtotal:	13,900.00 sq ft
TOTAL:	11,890.00 sq ft
	18.62%



**MAINTENANCE:** Rock Construction Entrance shall be completely maintained to the specified dimensions as existing. At the end of each construction day, all sediments shall be maintained on site for the purpose. At the end of each construction day, all sediments shall be maintained on site for the purpose. At the end of each construction day, all sediments shall be maintained on site for the purpose. At the end of each construction day, all sediments shall be maintained on site for the purpose.

**LEGEND**

- EXISTING**
- 100 INDEX CONTOURS
  - NORMAL CONTOURS
  - X 100.00 SPOT ELEVATION
  - TREELINE
  - 15-25% SLOPES
  - 5:25% SLOPES
- PROPOSED**
- 100 INDEX CONTOURS
  - NORMAL CONTOURS
  - X 100.00 SPOT ELEVATION
  - TREELINE
  - 18' SILT FENCE 18"
  - 30' SILT FENCE 30"
  - SSP SUPER SILT FENCE
  - STABILIZED CONSTRUCTION ENTRANCE
  - ROCK FILTER
  - EROSION CONTROL BLANKET
- 5,900 S.F. PROPOSED

REV	BY	DATE	DESCRIPTION

**Project:** STEPHANIE SPOSATO & CHARAN CHADHA  
404 Boxwood Road  
Bryn Mawr, PA 19010

**Applicant:** STEPHANIE SPOSATO & CHARAN CHADHA  
404 Boxwood Road  
Bryn Mawr, PA 19010

**MESKO ASSOCIATES, INC.**  
(610) 280-9541  
MESKO Engineering.com  
Architectural, Civil / Structural Engineering and Surveying  
672 Exton Commons  
Exton, PA 19341

**MUST BE SIGNED IN RED**

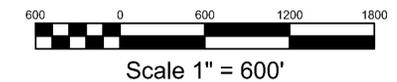
Matthew Meeko, PE

Date: 05/18/15 Scale: AS NOTED  
Drawn: GS  
Checked: MM

**1 SHEET**



**SITE LOCATION MAP**



**GENERAL NOTES**

- OWNER/APPLICANT MR. AND MRS. ROBERT MCNEIL 245 ABRAHAM'S LANE VILLANOVA, PA 19085
- TAX MAP PARCEL: 36040202498 DEED BOOK 1637, PAGE 0699
- TRACT AREA: 8.201 ACRES
- BOUNDARY AND TOPOGRAPHICAL INFORMATION TAKEN FROM A PLAN: "BOUNDARY AND TOPOGRAPHICAL SURVEY, ARDROSSAN FARM" DATED: FEB 28, 1997 PREPARED BY MOMENEE SURVEY GROUP, INC. FILE NUMBER: 96-156.
- ADDITIONAL TOPOGRAPHY AND FEATURES WITHIN LIMIT OF WORK FROM A FIELD SURVEY BY MOMENEE SURVEY GROUP INC, ENTITLED "PARTIAL TOPOGRAPHIC SURVEY - 245 ABRAHAM'S LANE" DATED APRIL 1, 2015, FILE 15-067
- REFERENCE PLANS: a) "FINAL RECORD PLAN - THE ARDROSSAN TRACT", PREPARED BY MOMENEE AND ASSOCIATES INC, DATED MAY 16, 1997, LAST REVISED 09/24/97.
- WETLAND DELINEATION TAKEN FROM ABOVE REFERENCED PLANS. DELINEATION BY EVANS MILL ENVIRONMENTAL, INC.
- FLOOD PLAIN TAKEN FROM FEMA FLOOD MAPS.
- SOIL INFORMATION TAKEN FROM THE SOIL SURVEY FOR CHESTER AND DELAWARE COUNTIES PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.
- THE PROPERTY IS SERVED BY PUBLIC WATER AND SEWER.

**ZONING DISTRICT**

AC AGRICULTURAL CONSERVATION DISTRICT

LOT AREA	87,120 S.F. MIN.
LOT WIDTH	180' MINIMUM @ BUILDING LINE
BUILDING AREA	15% MAXIMUM
FRONT YARD	60' MINIMUM
SIDE YARD	50' MINIMUM
REAR YARD	60' MINIMUM
HEIGHT	38' MAXIMUM
RIPIARIAN BUFFER	35' MINIMUM

**LOT AREA:**

GROSS AREA	=	357,240 SF (8.201 AC)
RIGHT-OF-WAY	=	12,849 SF
NET AREA	=	344,391 SF (7.906 AC)

**EXISTING IMPERVIOUS COVER**

HOUSE	3,294 SF
BARN	4,091 SF
SHEDS	1,841 SF
DRIVEWAYS	10,810 SF
PATIOS	3,237 SF
WALKS/STEP STONES	564 SF
WALLS	365 SF
DECK	51 SF
MISCELLANEOUS	48 SF
<b>TOTAL</b>	<b>24,281 SF (6.80% OF GROSS AREA)</b>

**LEGEND**

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SETBACK LINE
- SANITARY LINE
- WATER LINE
- SANITARY EASEMENT
- MAJOR CONTOUR
- MINOR CONTOUR
- WETLANDS BOUNDARY
- FLOODPLAIN BOUNDARY
- SOILS BOUNDARY
- FENCE
- PROPERTY CORNER
- SANITARY MANHOLE
- FIRE HYDRANT
- TREE TO BE REMOVED
- SLOPES 14% - 20%
- SLOPES >20%

NAME	% SLOPE	DEPTH TO S.H. WATER	DEPTH TO BEDROCK	EROD. GROUP.	HYDRO SOIL LIMITATIONS
Gc2 Glenelg Cherry Silt Loam	8-15	5+	3-8	Severe	B Severe
GnB2 Glenville Silt Loam	3-8	1.5+	3-6	Moderate	C Moderate Severe

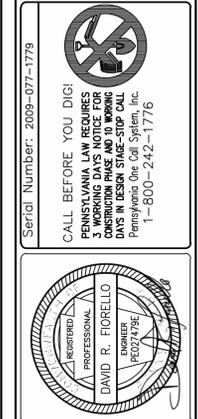
AS THE APPLICANT, I HEREBY ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY THE TOWNSHIP, AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN MUST BE SUBMITTED FOR A DETERMINATION OF ADEQUACY.

APPLICANT \_\_\_\_\_ DATE \_\_\_\_\_

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THE EXISTING CONDITIONS ARE AS SHOWN AND THAT THIS DRAINAGE PLAN COMPLIES WITH ALL THE DESIGN STANDARDS AND CRITERIA OF THE RADNOR TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

DAVID R. FIORELLO, P.E. \_\_\_\_\_ DATE \_\_\_\_\_

Serial Number: 2009-077-1779  
CALL BEFORE YOU DIG:  
3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE STOP CALL  
Pennyweld One Call System, Inc.  
1-800-242-1776

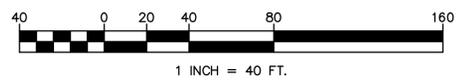


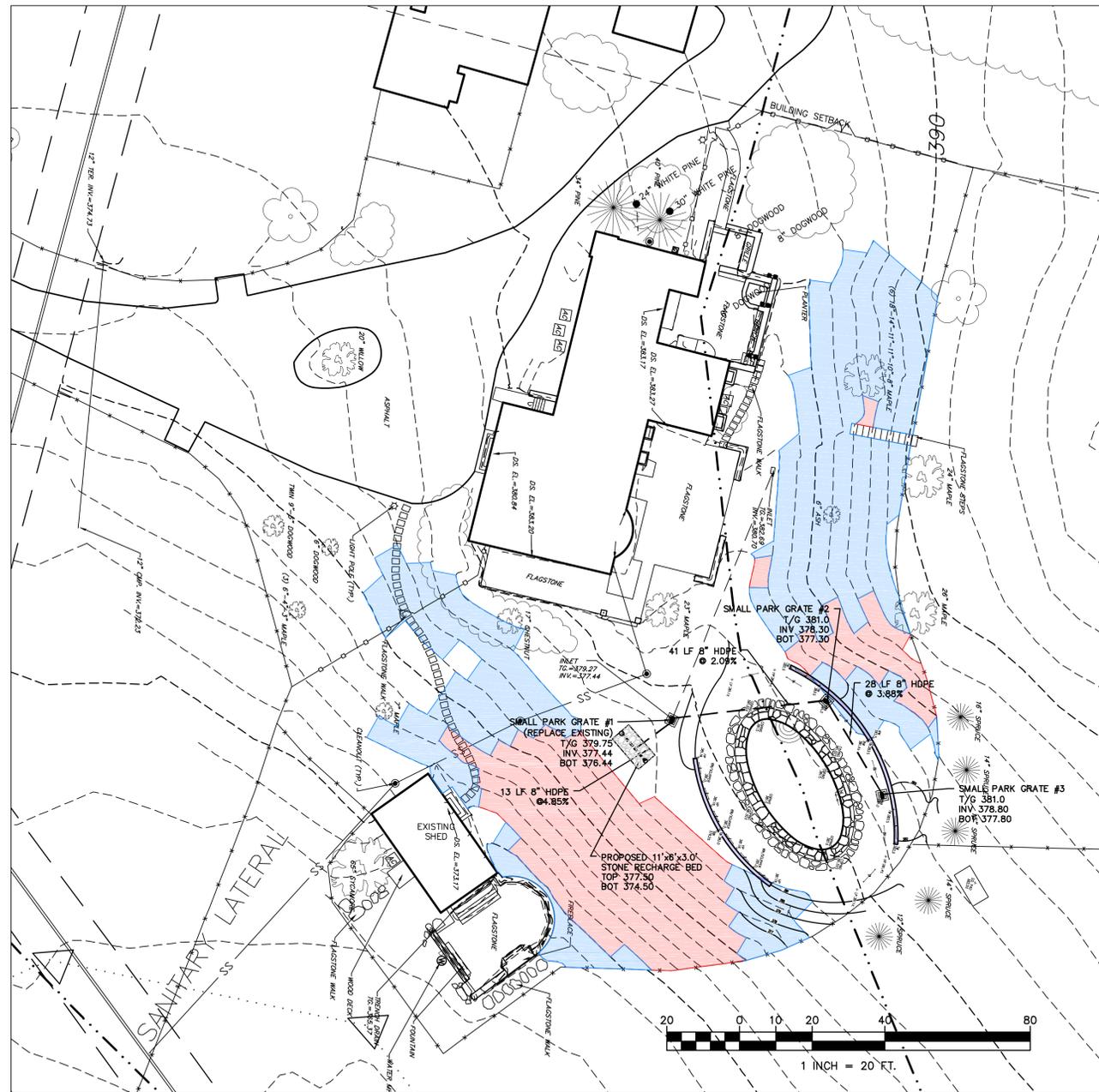
**MOMENEE & ASSOCIATES, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
924 COUNTY LINE ROAD, BRN MWR, PA 19010  
PHONE: (610) 527-3030 FAX: (610) 527-9008  
400 EYON SQUARE PARKWAY, EYON, PA 18341  
PHONE: (610) 594-8384 FAX: (610) 594-8287

**EXISTING CONDITIONS/DEMOLITION PLAN**  
GRADING PERMIT PLAN  
245 ABRAHAM'S LANE  
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA  
OWNER/APPLICANT  
MR. AND MRS. ROBERT MCNEIL  
245 ABRAHAM'S LANE  
VILLANOVA, PA 19085  
ONE-CALL: 077-1779  
DRAWN BY: BDM  
CHECKED BY: DRF



DATE: MAY 18, 2015  
SHEET NO. 1  
OF 3  
SCALE: 1" = 40'  
FILE NO.: 15-064





**STORMWATER MANAGEMENT FACILITY MAINTENANCE PLAN**

THE STORMWATER MANAGEMENT SYSTEM ON THIS LOT CONSISTS OF A SUBSURFACE STONE RECHARGE BED. THE STONE BED IS COMPRISED OF STONE SURROUNDED BY FILTER FABRIC. VENTED CLEANOUTS WITHIN THE STONE BED ALLOW FOR RUNOFF IN EXCESS OF THE STONE BED TO OVERFLOW THROUGH THE TOP OF THE STONE BED. WATER RUNOFF IS DIRECTED TO THE STONE BED VIA ROOF DOWNSPOUT LEADERS, SUMP BOX, AND PIPING WHICH CAPTURE AND COLLECT RUNOFF FROM THE EXISTING BARN. THE SUMP BOX IS PROVIDED WITH A ONE FOOT SUMP BELOW THE INLET AND OUTLET PIPES SO THAT DEBRIS CAN BE COLLECTED PRIOR TO FLOWING INTO THE SUBSURFACE STONE BED.

THE STONE BED IS DESIGNED TO PROMOTE GROUND WATER RECHARGE. OVERFLOW FROM THE STONE BED WILL OVERTOP THROUGH THE VENTED CLEANOUTS.

THE RESPONSIBILITY FOR THE CONTINUED OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITIES ON THIS LOT IS THAT OF THE PROPERTY OWNER.

MAINTENANCE OF THE FACILITIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT IMPERE THE FLOW OF WATER DRAINING TO THE STORMWATER MANAGEMENT BASIN.
2. ALL ROOF DOWNSPOUTS, INLETS, CURB OPENINGS AND OTHER WATER WAYS SHALL BE KEPT OPEN AND OPERATION TO PASS THE FLOW OF WATER TO THE BASIN AS INTENDED.
3. GRASS AND LANDSCAPING IN THE VICINITY OF ALL INLETS SHALL BE KEPT TRIM AND FREE FROM DEBRIS ACCUMULATION, AND DOWNSPOUTS AND INLETS SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER TO AND WITHIN THEM.
4. INLET SUMPS SHALL BE CLEANED OF ACCUMULATED DEBRIS BEFORE ANY DEBRIS CAN BE DISCHARGED INTO THE SYSTEMS. INLET STRUCTURES SHALL BE INSPECTED AT LEAST MONTHLY TO INSURE THAT THEY ARE CLEAN AND REMAIN OPERATIONAL.
5. SUBSURFACE PIPES SHALL BE INSPECTED ON AN ANNUAL BASIS TO INSURE THAT THEY ARE CLEAN AND OPERATIONAL. ANY ACCUMULATED DEBRIS AND SILT SHALL BE REMOVED IN A TIMELY MANNER. THE SUBSURFACE PIPES SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER WITHIN THEM.
6. PROMPT REMEDIAL MEASURES ARE TO BE TAKEN IN THE EVENT OF ANY BLOCKAGE OR MALFUNCTION OF THE SYSTEM.

THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT TAKE ANY MEASURES TO DISRUPT OR IN ANY WAY IMPAIR THE EFFECTIVENESS OF THE BASIN OR ITS CONTROLS. THIS INCLUDES ALTERATION OF GRADES IN ANY MANNER THAT WOULD DIVERT RUNOFF AWAY FROM INLET COLLECTION POINTS.

**CARE OF EXISTING TREES:**

1. TREE PROTECTION FENCING SHALL BE INSTALLED TO PROTECT ALL EXISTING TREES FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES, AND OTHERS. MAINTAIN PROTECTION FENCING FOR THE DURATION OF PROJECT.
2. SELECTIVELY PRUNE EXISTING TREES AT THE EDGE OF ALL TREE PROTECTION ZONES, AND OTHER EXISTING TREES AFFECTED BY CONSTRUCTION, UNDER LANDSCAPE ARCHITECT'S DIRECTION. REMOVE SUCKER SHOOTS, DEAD, RUBBING AND DAMAGED BRANCHES.
3. ANY EXCAVATION NEAR ADJACENT ROOT SYSTEMS WILL REQUIRE ROOT PRUNING OF AFFECTED TREE(S).
4. FERTILIZE PRUNED EXISTING TREES WITH 3 TO 4 LBS. OF LIQUID FERTILIZER PER 1,000 SQUARE FEET OF DRIP AREA, OR, 5 GALLONS OF LIQUID FERTILIZER PER CALIPER INCH OF TRUNK DIAMETER.
5. FERTILIZE IN EARLY SPRING BEFORE GROWTH BEGINS.
6. FERTILIZE BEGINNING 2' FROM TRUNK AT INTERVALS 2' TO 3' ON CENTER IN A GRID-LIKE PATTERN TO A DEPTH OF 6-18" WITHIN THE DRIFLINE AND BEYOND WHERE POSSIBLE. INJECTION FERTILIZATION METHOD SHALL BE ACCEPTABLE SUBJECT TO LANDSCAPE ARCHITECT'S APPROVAL.

**TREE REPLACEMENT NOTES:**

NO TREES ARE PROPOSED TO BE REMOVED AS A PART OF THIS PROJECT. SHOULD ANY TREES BE REMOVED, REPLACEMENT TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE RADNOR TOWNSHIP ORDINANCE.

**OPERATION AND MAINTENANCE NOTES:**

1. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT SYSTEM AND OTHER DRAINAGE FACILITIES SHALL BE THE OBLIGATION OF THE PROPERTY OWNER.

**INFILTRATION BMP NOTES:**

- 1) INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (i.e. CLEANING THE SOIL/SEDIMENT FROM FABRIC, STONE, BED ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
- 2) ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
- 3) THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
- 4) INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEM SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES AND DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THE SYSTEM. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.
- 5) AFTER THE INFILTRATION BED IS COMPLETELY INSTALLED, ALL HEAVY CONSTRUCTION EQUIPMENT SHALL BE RESTRICTED FROM THE INFILTRATION BEDS TO ELIMINATE IMPACTS WHICH MAY COMPROMISE IT. IN THE EVENT ANY IMPACTS COMPROMISE THE FUNCTIONALITY OF THE INFILTRATION BEDS, IT MUST BE IMMEDIATELY REPAIRED OR REPLACED TO DESIGN SPECIFICATIONS.

**CONSTRUCTION SPECIFICATIONS STORMWATER DETENTION SYSTEMS**

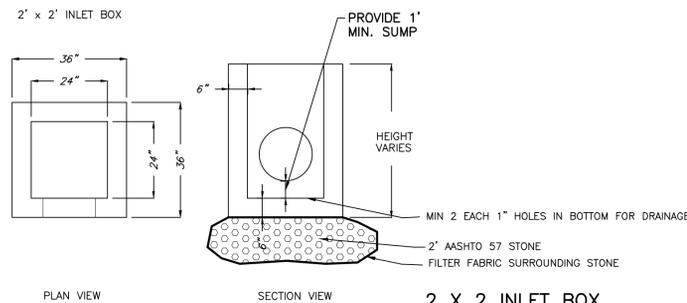
1. ALTER AND REFINE THE GRADES AS NECESSARY TO BRING SUBGRADE TO REQUIRED GRADES AND SECTIONS AS SHOWN IN THE DRAWINGS.
2. THE TYPE OF EQUIPMENT USED IN SUBGRADE PREPARATION CONSTRUCTION SHALL NOT CAUSE UNDUE SUBGRADE COMPACTION. TRAFFIC OVER SUBGRADE SHALL BE KEPT AT A MINIMUM.
3. INSTALL POLYPROPYLENE GEOTEXTILE FABRIC (I.E., DUPONT TYPAR #3401, AMOCO PROPEX #4545, OR APPROVED EQUAL) ON BOTTOM OF BED AREAS AND TACK UP SIDES OF EXCAVATION. WHERE EDGES OF ROLLS OVERLAP, THEY SHALL DO SO BY AT LEAST TWO FEET. ADEQUATE FABRIC SHALL BE LEFT ON THE ROLLS (NOT CUT FROM SIDE INSTALLATION) TO FACILITATE OVERTOPPING THE STONE AT COMPLETION OF BED AREA.
4. ALL STONE USED SHALL BE CLEAN, WASHED, CRUSHED STONE AGGREGATE MEETING PENNDOT/AASHTO #1 SPECIFICATIONS.
5. STONE BASE COURSE SHALL BE LAID OVER A DRY SUBGRADE, TO A DEPTH SHOWN IN DRAWINGS, IN LIFTS TO LAY NATURALLY COMPACTED. DO NOT ROLL OR COMPACT THE STONE BASE COURSE. KEEP THE BASE COURSE CLEAN FROM DEBRIS, CLAY AND ERODING SOIL.
6. COVER STONE BED WITH REMAINING FABRIC.
7. STONE BED TO BE TOTALLY ENCLOSED IN THE GEOTEXTILE FABRIC.

**NOTES:**

- 1) THE PROPOSED STONE BED IS DESIGNED TO PROVIDE RECHARGE FOR THE 2-YEAR STORM FOR NEW AND REPLACEMENT IMPERVIOUS SURFACES OF 900 SF WHICH INCLUDES THE PROPOSED AMOUNT PLUS AN ADDITIONAL 55 SF FOR POSSIBLE FUTURE DEVELOPMENT.
- 2) THE RESPONSIBILITY OF THE CONTINUED MAINTENANCE AND OPERATION OF THE STONE BED AND OTHER FACILITIES SHALL BE THE OBLIGATION OF THE PROPERTY OWNER.
- 3) THE TOWNSHIP ENGINEER'S OFFICE SHALL BE NOTIFIED 48 HOURS PRIOR TO THE CONSTRUCTION OF THE SEEPAGE BED AND PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
- 4) PUBLIC SANITARY SEWER SERVICE AND PUBLIC WATER SERVICE ARE USED AT THE SITE.
- 5) ALL WOODY VEGETATION TO BE RETAINED WITHIN TWENTY-FIVE FEET OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT THE DRIFLINES.
- 6) GRADE CHANGES AROUND THE DRIFLINES OF TREES TO BE RETAINED SHALL BE MINIMIZED. TREATMENT OF THE TREES PRIOR TO CONSTRUCTION TO PROTECT THE ROOT SYSTEM SHALL BE PERFORMED.
- 7) ALL DISTURBED ROOTS MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRECH MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION. TREE LIMBS MUST BE CUT BACK IN PROPORTION TO THE ROOT AREA LOSS.

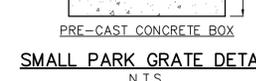
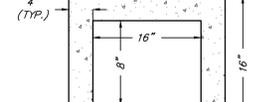
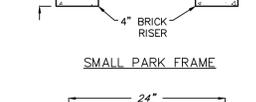
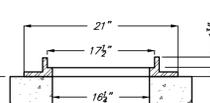
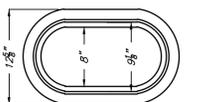
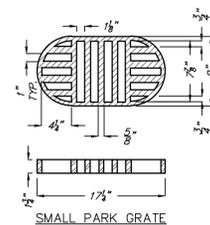
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- 2) ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
- 3) THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
- 4) INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEM SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES AND DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THE SYSTEM. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.



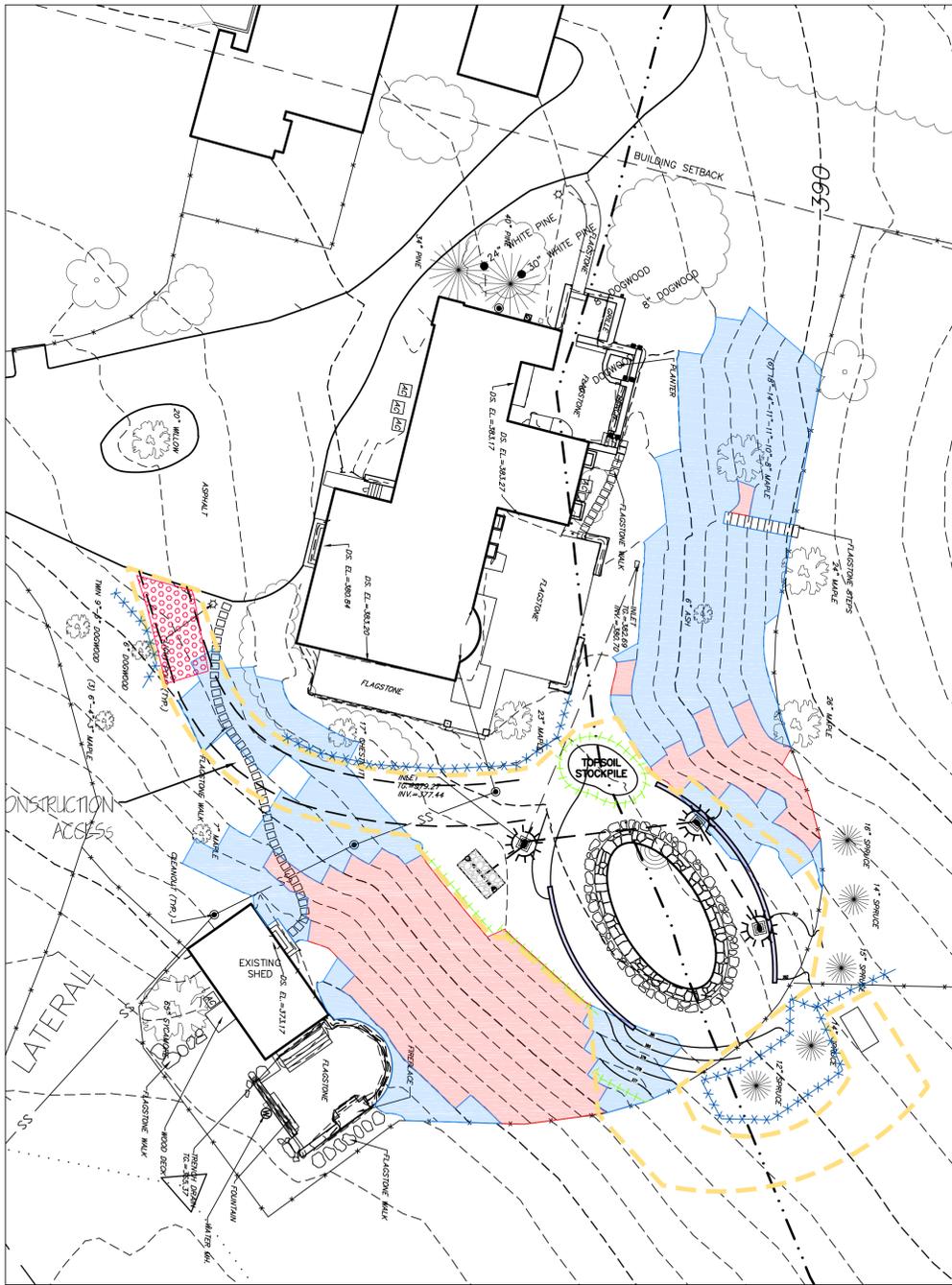
INLETS TO BE PROVIDED WITH CAST IRON GRATE - SUMP BOX TO BE PROVIDED WITH SOLID M.H. LID

- NOTES:
1. BASE PREPARATION SHALL BE A MINIMUM OF 6" OF COMPACTED 2A SUBBASE MATERIAL.
  2. PROVIDE STRUCTURAL STEEL GRATES.
  3. PROVIDE ALL INLET BOTTOMS WITH 1" SUMP AND HOLES TO DRAIN INLET BOTTOM.



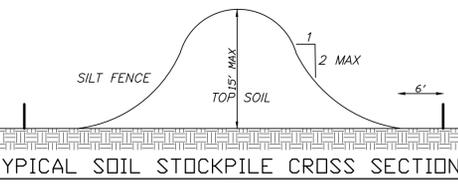
**SMALL PARK GRATE DETAIL**  
N.T.S.

**SMALL PARK GRATE DETAIL**  
N



**EROSION & SEDIMENTATION CONTROL PLAN**

DISTURBED AREA 7,350 SF± (0.17 AC)



NAME	% SLOPE	DEPTH TO S.H. WATER	DEPTH TO BEDROCK	EROD. GROUP.	HYDRO SOIL LIMITATIONS
GeC2 Glenelg Channery Silt Loom	8-15	5+	3-8	Severe	B Severe
OnB2 Glenville Silt Loom	3-8	1.5+	3-6	Moderate	C Moderate Severe

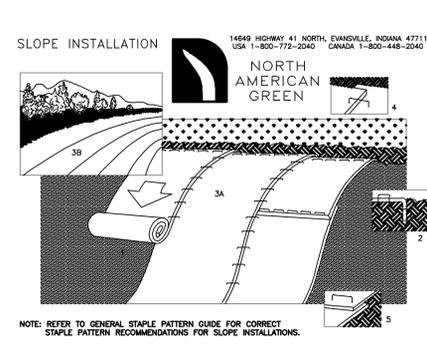
NOTE: SILT FENCE MUST COMPLETELY ENIRCLE STOCKPILES

**TOP SOIL PROTECTION:**

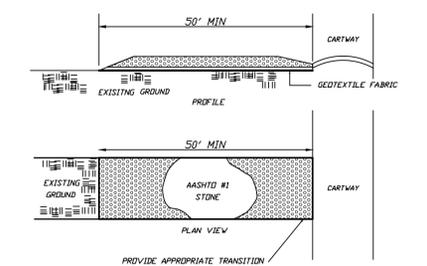
TOPSOIL SHALL NOT BE REMOVED FROM THE DEVELOPMENT SITE OR USED AS FILL. TOPSOIL SHALL BE REMOVED FROM THE AREAS OF CONSTRUCTION AND STORED SEPARATELY. THE TOPSOIL SHALL BE STABILIZED TO MINIMIZE EROSION DURING STORAGE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED ON THE SITE.

**E&S LEGEND**

TREE PROTECTION	*****	SLOPES 14% - 20%
SILT FENCE	=====	SLOPES >20%
LIMIT OF DISTURBANCE	-----	

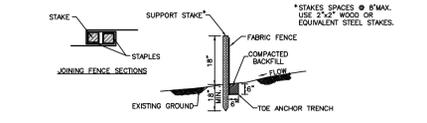


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED. NOTE: WHEN USING CELL-TO-CELL SEED, PREPARED AREA CELL-TO-CELL MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPALLED DOWN THE SLOPE, PLACE BLANKETS OVER DIRT DIRT (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.



**STABILIZED CONSTRUCTION ENTRANCE NTS**

1. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
2. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
3. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
4. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.



FILTER FABRIC FENCE MUST BE PLACED AT LEVEL GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 6' UP SLOPE AT 45° TO THE MAIN BARRIER ALIGNMENT. ANY SILT FENCING WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY. SEE ROCK FILTER OUTLET DETAIL. SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT THE FENCE.

**STANDARD FILTER FABRIC FENCE NTS**

**MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL STRUCTURES**

STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCES ARE TO BE CONSTRUCTED PER THE DETAIL. THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED SO THAT TIRE SCRUBBING ACTIVITY DOES NOT BECOME INEFFECTIVE. ANY BUILDUP OF MUD OR SOIL ON THE STREET SHALL BE CLEANED AT THE END OF EACH WORKING DAY.

INLET SILT TRAPS: INLET SILT TRAPS SHALL BE CONSTRUCTED PER THE DETAIL AND CLEANED AFTER EACH STORM EVENT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER.

SILT FENCE: SILT FENCE SHALL BE INSTALLED PER THE DETAIL WITH ROCK FILTER OUTLETS PROVIDED EVERY 100 FEET AND AT EXISTING AND GRADED LOW POINTS. SEDIMENT SHALL BE REMOVED FROM SILT FENCES WHEN IT REACHES 1/2 THE FENCE HEIGHT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER. SILT FENCING WHICH HAS BEEN UNDERMINED OR TOPPED WILL BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY.

SEDIMENT DISPOSAL: SILT REMOVED FROM TEMPORARY SEDIMENTATION STRUCTURES SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED AREAS LOCATED OUTSIDE OF FLOOD PLAINS, WETLANDS, STEEP SLOPES AND DRAINAGE SWALES.

DUST CONTROL: DUST AND OTHER PARTICULATES SHALL BE KEPT WITHIN TOLERABLE LIMITS BY USING WATER. APPLICATION SHALL BE AS NEEDED OR AS DIRECTED BY THE TOWNSHIP ENGINEER OR THE CONSERVATION DISTRICT.

**PLACING TOPSOIL OR TOPSOIL MIXTURE**

**PREPARATION OF AREAS TO BE TOPSOILED**

GRADE THE AREAS TO BE COVERED BY TOPSOIL, USING ACCEPTABLE METHODS. LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE PLACING THE TOPSOIL. REMOVE STONES AND OTHER FOREIGN MATERIAL 2 INCHES OR LARGER IN DIMENSION. REMOVE AND SATISFACTORILY DISPOSE OF UNSUITABLE AND SURPLUS MATERIAL.

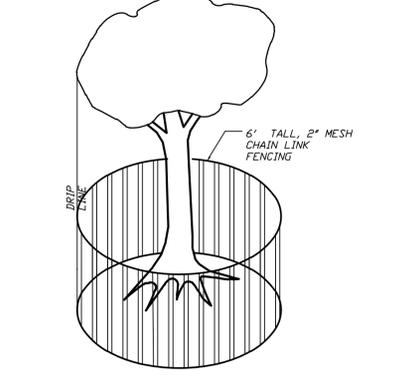
**PLACING AND SPREADING TOPSOIL**

PLACE TOPSOIL ON THE PREPARED AREAS AND, UNLESS OTHERWISE INDICATED, SPREAD AND COMPACT TO A 4-INCH UNIFORM DEPTH ± 1 1/2 INCHES. COMPACT WITH A ROLLER WEIGHING NOT OVER 120 POUNDS PER FOOT WIDTH OF ROLLER OR BY OTHER ACCEPTABLE METHODS, AS DIRECTED. REMOVE OVERDEPTH TOPSOIL, UNLESS OTHERWISE AGREED UPON IN WRITING. DO NOT PLACE TOPSOIL IN A WET OR FROZEN CONDITION.

**SEEDING SPECIFICATIONS:**

WHERE DENUEDED AREAS ARE DESIRED TO BE LAWN:

1. PERFORM ALL CULTURAL OPERATION AT RIGHT ANGLES TO THE SLOPE.
2. APPLY LIME ACCORDING TO TEST OR AT THE RATE OF 25 LBS. OF GROUND LIMESTONE PER 1,000 SQ. FT.
3. APPLY FERTILIZER ACCORDING TO SOIL TEST OR WORK IN DEEPLY 20 LBS. OF 0-20-20 OR EQUIVALENT PER 1,000 SQ. FT. AND AT THE TIME OF SEEDING, WORK INTO THE SURFACE 10 LBS. OF 10-10-10 OR EQUIVALENT PER 1,000 SQ. FT. OR OTHER APPROVED MIXTURE.
4. SMOOTH AND FIRM SEEDS PRIOR TO SEEDING.
5. SEED USING A MIXTURE OF 60% PENNSTAR KENTUCKY BLUEGRASS, 30% PENNLAWN RED FESCUE AND 10% PENNFINE PERENNIAL RYEGRASS AT THE RATE OF FIVE (5) POUNDS PER 1,000 SQ. FT. OR OTHER APPROVED MIXTURE.
6. COVER GRASS AND LEGUME SEEDS WITH 1/4" OF SOIL WITH SOIL EQUIPMENT, MULCH, USING 2 BALES/1,000 SQ. FT.
7. MOW AS REQUIRED.
8. WHERE SLOPES EXCEED 25% JUTE NETTING OR OTHER APPROVED (EQUAL) SLOPE STABILIZATION MEASURES SHALL BE UTILIZED. IN ADDITION, THE SEEDING SPECIFICATIONS FOR STEEP SLOPES SHALL BE INCREASED TO INCLUDE 3 LBS/1,000 SQ. FT. OF ANNUAL RYEGRASS FOR RAPID VEGETAL ESTABLISHMENT.



**TREE PROTECTION FENCE PLACEMENT NTS**

ALL WOODY VEGETATION TO BE RETAINED WITHIN 25 FEET OF A BUILDING SITE, PARKING AREA, DRIVEWAY OR OTHER PROPOSED IMPROVEMENT SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING OR OTHER EFFECTIVE BARRIERS APPROVED BY THE TOWNSHIP ENGINEER AND/OR ARBORIST. FENCING OR BARRIERS SHALL BE PLACED AS MUCH AS IS PRACTICAL AT THE DRIPLINE. LOCATION MAY BE ALTERED TO AVOID INTERFERENCE WITH PROPOSED GRADING AND IMPROVEMENTS AS SHOWN ON THE PLANS. BARRIER LOCATION SHALL BE SUBJECT TO APPROVAL BY THE TOWNSHIP ENGINEER AND/OR ARBORIST.

- NOTES:**
- 1) NEWLY GRADED SLOPES TWENTY FIVE PERCENT (25% OR GREATER) SHALL BE SODDED OR STABILIZED WITH EROSION CONTROL NETTING.
  - 2) GEOTEXTILE FABRIC SHALL BE CLASS 1. GEOTEXTILE FABRIC IN ACCORDANCE WITH PENNDOT SPECIFICATION FROM 408. THE TYPE AND/OR THICKNESS SHALL BE DETERMINED BY THE TOWNSHIP ENGINEER. #4545 OR APPROVED EQUAL OR AS OTHERWISE INDICATED ON THE PLAN.
  - 3) TO ALL AREA WHICH REMAIN DISTURBED FOR MORE THAN 20 DAYS AND WILL BE SUBJECT TO THE ACTION OF EARTHMOVING AND OTHER EQUIPMENT, APPLY A MULCH (WOODCHIP-20 TONS PER ACRE; HAY OR STRAW-3 TONS PER ACRE). ALL OTHER DISTURBED AREAS REMAINING OPEN FOR MORE THAN 20 DAYS SHALL BE TEMPORARILY SEEDED AND MULCHED.
  - 4) ALL TREES AND BRUSH WITHIN THE SIGHT TRIANGLE SHALL BE TRIMMED AND/OR REMOVED AS NECESSARY TO OBTAIN CLEAR SIGHT DISTANCE WITH THE APPROVAL OF THE TOWNSHIP ARBORIST.
  - 5) SHOULD UNFORESEEN EROSION CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF/AND OR SEDIMENT DISPLACEMENT. STOCKPILES OF WOODCHIPS, HAY BALES, CRUSHED STONE AND OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.
  - 6) THE CONTRACTOR SHALL, BY SCHEDULING THE CONSTRUCTION, UTILIZE NEW PLANTINGS AND PROPERLY INSTALL EROSION CONTROL FENCING, HAY BALES AND OTHER EROSION CONTROL MEASURES TO MINIMIZE EROSION DAMAGE.
  - 7) ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED FOR MORE THAN 20 DAYS MUST BE SEEDED AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MAY BE SEEDED AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT SEED MIXTURE AND MULCH. DIVERSIONS, CHANNELS, SEDIMENTATION BASINS, SEDIMENT TRAPS, AND STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY.
  - 8) A ROUTINE "END-OF-DAY-CHECK" SHALL BE MADE DURING CONSTRUCTION TO MAKE SURE THAT ALL CONTROL MEASURES ARE WORKING PROPERLY. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL DESIGN, IMPLEMENT, AND MAINTAIN CONSTRUCTION MEASURES WHICH PREVENT ACCELERATED EROSION AND SEDIMENTATION. THERE SHALL BE NO ADVERSE DISCHARGE OF THE SEDIMENT OR OTHER SOLID MATERIALS FROM THE SITE AS THE RESULT OF STORMWATER RUNOFF.
  - 9) TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED ONLY AFTER THE CONSTRUCTION AREA AROUND DENUEDED SILT IS STABILIZED AND THE LAWN AREA ESTABLISHED.

**HYDROSEEDING SPECIFICATIONS**

DEFINITION: STABILIZING SEDIMENT PRODUCING AND SEVERELY ERODED AREAS BY ESTABLISHING PERMANENT GRASS COVER.

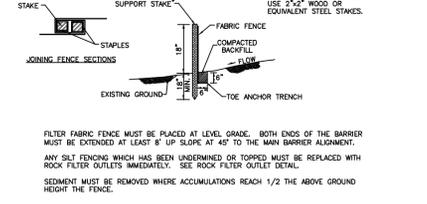
PURPOSE: TO PROVIDE PERMANENT VEGETATIVE COVER TO CONTROL RAPID RUN-OFF AND EROSION.

PROCEDURE: SURFACE TO BE HYDRO-SEEDED SHALL BE CLEANED OF ALL DEBRIS AND OTHER MATTER HARMFUL TO UNIFORM GERMINATION. A WATER-SLURRY MIXTURE COMPOSED OF THE BELOW MENTIONED "MATERIALS" SHALL BE SPRAYED UNIFORMLY OVER THE AREAS TO BE HYDRO-SEEDED.

MATERIALS: APPLICATION RATE

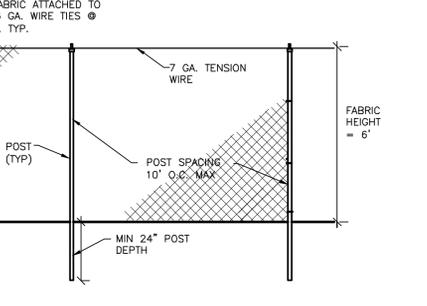
PERMANENT SEEDING	NAME	DESCRIPTION	(PER ACRE)	
1)	SEED MIXTURE	60% PENNSTAR KENTUCKY BLUEGRASS 30% PENNLAWN RED FESCUE 10% PENNFINE PERENNIAL RYEGRASS	260 LBS.	
2)	COMMERCIAL FERTILIZER	10-20-20	1,000 LBS.	
3)	LIME	GROUND AGRICULTURAL LIMESTONE (MAY BE APPLIED SEPARATELY)	2 TONS	
4)	MULCH	HAY OR STRAW	3 TONS	
5)	SOIL STABILIZER	TERRA TACK OR EQUIVANT	20 LBS.	
TEMPORARY	1)	SEED	ANNUAL RYEGRASS (95% PURE)	40 LBS.
	2)	COMMERCIAL FERTILIZER	5-5-5	1,000 LBS.
	3)	LIME	GROUND AGRICULTURAL LIMESTONE (MAY BE APPLIED SEPARATELY)	1 TON
	4)	MULCH	HAY OR STRAW	3 TONS

- CONSTRUCTION TIMING AND SEQUENCE**
- NOTE: THE TOWNSHIP ENGINEER SHALL BE NOTIFIED 48 HOURS PRIOR TO THE INSTALLATION OF THE SEEPAGE BED AND PRIOR TO THE START OF ANY EARTHMOVING ACTIVITIES.
1. NOTIFY THE TOWNSHIP THAT CONSTRUCTION IS GOING TO COMMENCE. ANTICIPATED DATE: JUNE 2015.
  2. THE EXISTING DRIVE IS TO BE UTILIZED FOR CONSTRUCTION ACCESS. PROVIDE A HOSE TO CLEAN TIRES TO PREVENT SEDIMENT FROM BEING TRACKED OFF SITE INTO PUBLIC ROADWAYS. IN THE EVENT THAT SEDIMENT CANNOT BE KEPT OFF OF TOWNSHIP ROADWAYS A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED. ALL CONSTRUCTION VEHICLES ENTERING/EXITING THE SITE MUST USE THIS ENTRANCE.
  3. INSTALL TREE PROTECTION AS INDICATED ON THE PLAN.
  4. INSTALL SILT FENCE AS SHOWN ON THE PLAN AND ON THE DOWNHILL SLOPE OF ANY EXCAVATION OR ANTICIPATED DISTURBANCE.
  5. PRIOR TO EARTH DISTURBANCE, NOTIFY THE TOWNSHIP ENGINEER THAT CONSTRUCTION IS GOING TO BEGIN.
  6. ONCE THE EROSION AND SEDIMENT CONTROLS CLEAR AND GRUB THE AREAS AS NECESSARY WITHIN THE LIMITS OF DISTURBANCE OF EXISTING VEGETATION. STRIP TOPSOIL FROM AREAS OF CONSTRUCTION AND STOCKPILE SUITABLE MATERIAL FOR FUTURE USE. UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SURROUND TOPSOIL WITH SILT FENCE AND SEED TO ESTABLISH TEMPORARY VEGETATIVE COVER.
  7. EXCAVATE FOR AND BEGIN CONSTRUCTION OF THE POOL SHELL AND RETAINING WALL FOUNDATIONS. UPON COMPLETION OF FOUNDATION WALLS, BACKFILL FOUNDATIONS AND ROUGH GRADE AROUND THE POOL. ANY GRADED OR DISTURBED AREA MUST BE TEMPORARILY SEEDED IF NO FURTHER EARTH MOVING IS ANTICIPATED IMMEDIATELY. USE ANY ADDITIONAL EXCAVATED MATERIAL FROM THE NEW FOUNDATION TO BACKFILL THE EXISTING BASEMENT.
  8. CONTINUE WITH POOL AND WALL CONSTRUCTION AND ROUGH GRADE THE SITE. INSTALL UTILITIES AS NECESSARY.
  9. CONCURRENT WITH THE POOL CONSTRUCTION INSTALL THE YARD INLETS AND CONVEYANCE PIPING.
  10. INSPECT SEDIMENT BARRIERS FREQUENTLY, ESPECIALLY AFTER HEAVY STORMS. REPLACE AND REPAIR SEDIMENT BARRIERS AS NECESSARY.
  11. UPON FINAL STABILIZATION OF THE CONTRIBUTORY AREA, INSTALL PERMANENT STORMWATER SEEPAGE BED, AND CONNECT INLETS TO SYSTEM.
  12. FINAL GRADE DENUEDED AREAS, SPREAD STOCKPILED TOPSOIL AND SEED GRADED AREAS TO REESTABLISH PERMANENT VEGETATION. STABILIZE SLOPES IN EXCESS OF 4:1 WITH SOD OR EROSION CONTROL NETTING AND MULCH.
  13. INSTALL FINAL LANDSCAPE FEATURES, AND COMPLETE CONSTRUCTION.
  14. UPON PERMANENT STABILIZATION, REMOVE THE SEDIMENT BARRIERS. IMMEDIATELY SEED ANY DENUEDED AREAS DUE TO THEIR REMOVAL.
  15. CONSTRUCTION COMPLETED. ANTICIPATED DATE: AUGUST 2015.



**STANDARD FILTER FABRIC FENCE NTS**

FILTER FABRIC FENCE MUST BE PLACED AT LEVEL GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 6' UP SLOPE AT 45° TO THE MAIN BARRIER ALIGNMENT. ANY SILT FENCING WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY. SEE ROCK FILTER OUTLET DETAIL. SEDIMENT MUST BE REMOVED WHERE ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT THE FENCE.

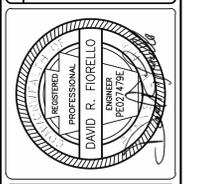


1. PROTECTION BARRIERS SHALL BE 6 FEET HIGH, CONSTRUCTED OF 2" CHAIN LINK MESH FABRIC.
2. FABRIC SHALL BE SECURED TO 2" POSTS WITH 6 GA. ALUMINUM WIRE TIES AT 24" O.C.
3. POSTS SHALL BE A MINIMUM OF 2 FEET IN THE GROUND AND SPACED 10 FEET ON CENTER MAX.
4. PLASTIC ZIP-TIES MAY NOT BE USED TO SECURE FABRIC TO POSTS.

**TREE PROTECTION BARRIER FENCING NTS**

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES AND AGENCIES WITHIN THE TOWNSHIP. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES AND AGENCIES WITHIN THE TOWNSHIP. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTED AGENCIES AND AGENCIES WITHIN THE TOWNSHIP.

Serial Number: 2009-077-1779  
CALL BEFORE YOU DIG!  
3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE STOP CALL  
Pennywood One Call System, Inc.  
1-800-242-1776



**MOMENBE & ASSOCIATES, INC.**  
CIVIL ENGINEERS AND LAND SURVEYORS  
924 COUNTY LINE ROAD, BRYN MAWR, PA 19010  
PHONE: (610) 527-3030 FAX: (610) 527-9008  
400 EYON SQUARE PARKWAY, EYON, PA 18341  
PHONE: (610) 594-8384 FAX: (610) 594-8267

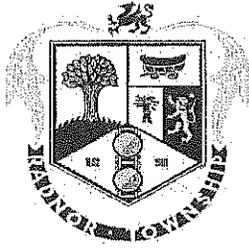
**CONSTRUCTION DETAILS**  
GRADING PERMIT PLAN  
245 ABRAHAMS LANE  
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA  
OWNER/APPLICANT: MR. AND MRS. ROBERT MCNEIL  
DRAWN BY: BDM  
CHECKED BY: DRF  
ONE-CALL: 077-1779  
MAY 18, 2015



REV.	DATE	DESCRIPTION
1	07/09/12	DRIVE SIZE - STONE BED COMMENTS

DATE: MAY 18, 2015  
SHEET NO. 3  
OF 3  
SCALE: AS NOTED  
FILE NO.: 15-064





**RADNOR TOWNSHIP SHADE TREE COMMISSION**  
*Hazardous Tree Report*

Resident Joe Calabro

Address 205 Garden Place, Radnor

Tree (Type, species, size, diameter at breast height) 34" dbh Tulip Poplar

Certified arborist's narrative report (attach separate sheet if required) The Tulip Poplar has a decay area at about 35' in height where a large limb was removed many years ago. The more significant issue is the decay in a root flare with wood decay fungi present. The tree is about 100 feet tall and 35' from the rear of the house.

Certified arborist's name, address and # Matthew Ward PD# 1673

Pictures attached X Plot plan drawing attached \_\_\_\_\_

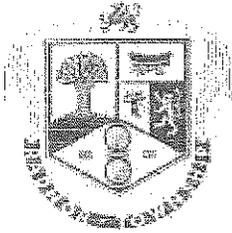
Township arborist's report (attach separate sheet if required) \_\_\_\_\_

**Shade Tree Commission removal recommended yes / no**

*The General Powers and Duties of the Shade Tree Commission section of the Ordinance (126.5 B) stipulates: In case of immediate necessity for the protection of life or property. Any shade or street tree described in this ordinance may be removed without first obtaining a permit, after inspection by a member(s) of the Shade Tree Commission or its designee.*



S. Jones @ Radnor, 07/27



**RADNOR TOWNSHIP SHADE TREE COMMISSION**  
*Hazardous Tree Report*

Resident Ping Wang  
Address 401 Huston Ave, Radnor  
Tree (Type, species, size, diameter at breast height) 36" DBH PIN OAK

Certified arborist's narrative report (attach separate sheet if required) \_\_\_\_\_

Tree is located in back pool area -  
is completely dead - Bark peeling off trunk -  
Probably from BLS.

Certified arborist's name, address and # Ed Yankel PD-0245

See Attached Exhibit A

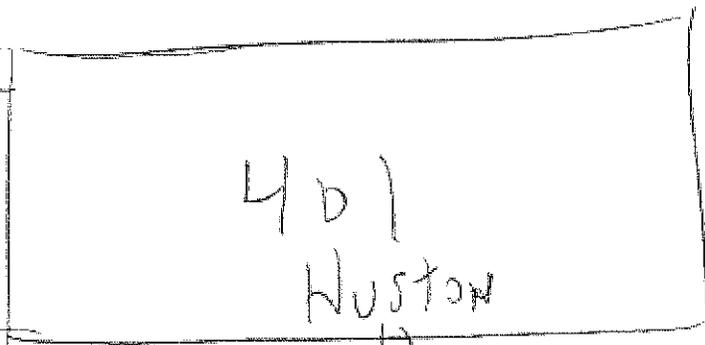
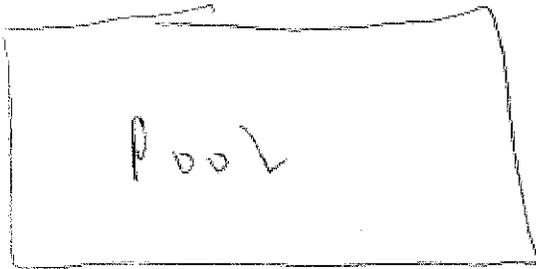
Pictures attached \_\_\_\_\_ Plot plan drawing attached \_\_\_\_\_

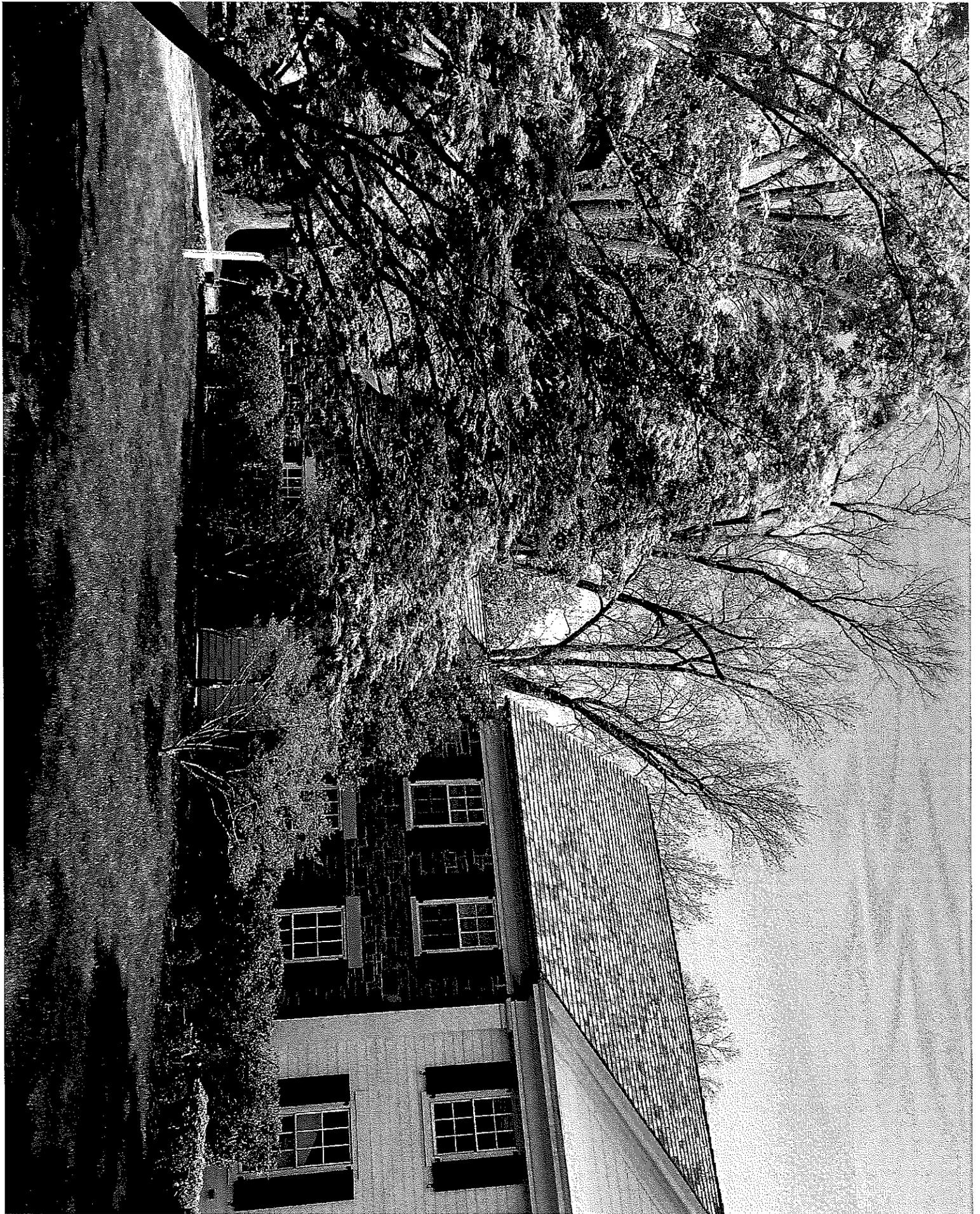
Township arborist's report (attach separate sheet if required) \_\_\_\_\_

Shade Tree Commission removal recommended yes / no

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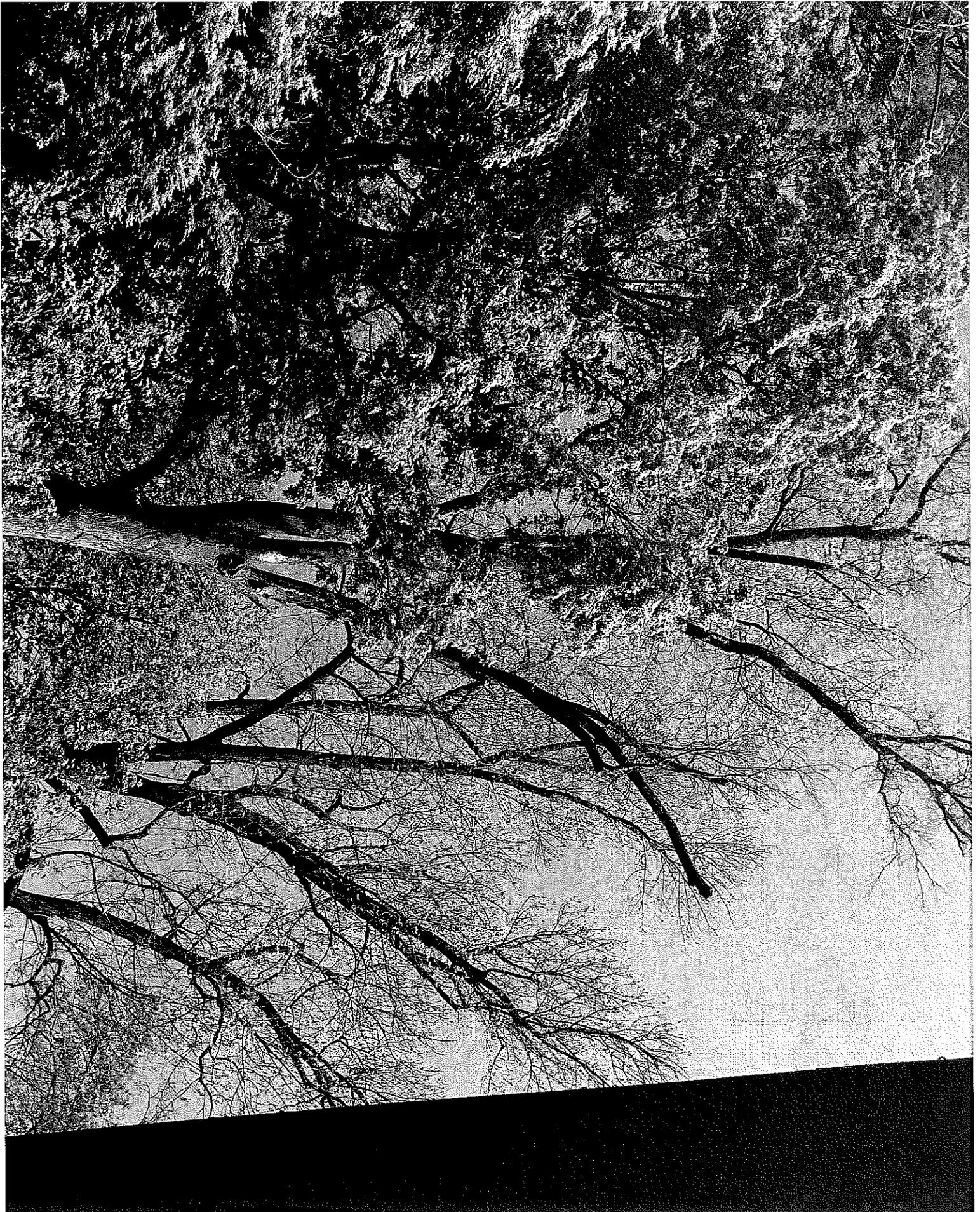
Remove & Mark  
Large Dead  
Oak  
Approx 39" - 44" DBH

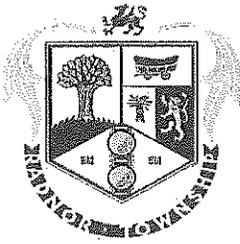












**RADNOR TOWNSHIP SHADE TREE COMMISSION**  
*Hazardous Tree Report*

Resident Stephen F. Silverio

Address 117 wooded lane Villanova

Tree (Type, species, size, diameter at breast height) 36" white Ash  
Approx. 75' tall

Certified arborist's narrative report (attach separate sheet if required) 36" white Ash.  
The white Ash located at the back of the house shows  
signs of decay in the main crotch, slight decline  
in the canopy and has a large girdling root on the  
back side. with a lean towards the house and the  
proximity of tree removal is recommended.

Certified arborist's name, address and # Shawn Casey  
1704 Monterey Drive Plymouth Meeting PA. 19462  
PD-1756A

CASEYBTREESVC  
@gmail.  
com.

Pictures attached \_\_\_\_\_ Plot plan drawing attached \_\_\_\_\_

Township arborist's report (attach separate sheet if required) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Shade Tree Commission removal recommended yes / no

*The General Powers and Duties of the Shade Tree Commission section of the Ordinance (126.5 B) stipulates: In case of immediate necessity for the protection of life or property. Any shade or street tree described in this ordinance may be removed without first obtaining a permit, after inspection by a member(s) of the Shade Tree Commission or its designee.*

-The tree has been dropping large branches over the past three years

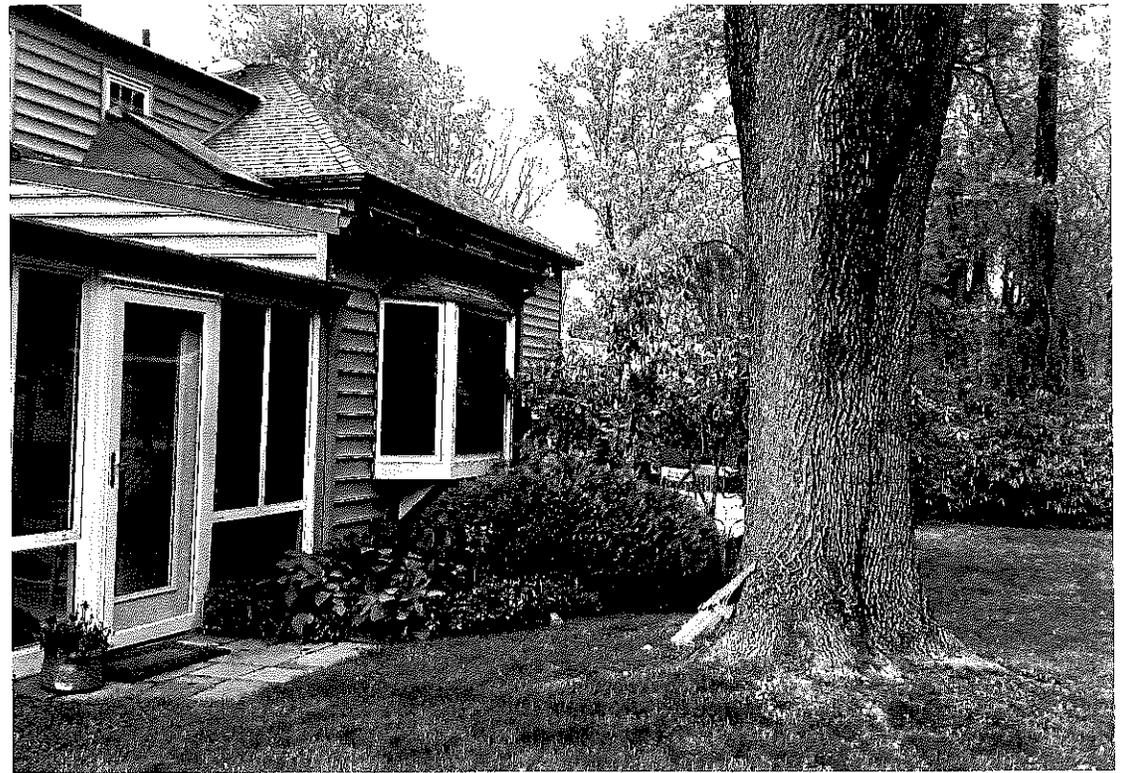
- One branch shattered the Patio room storm door

- Tree is too close to the house and dead branches fall onto roof during high winds

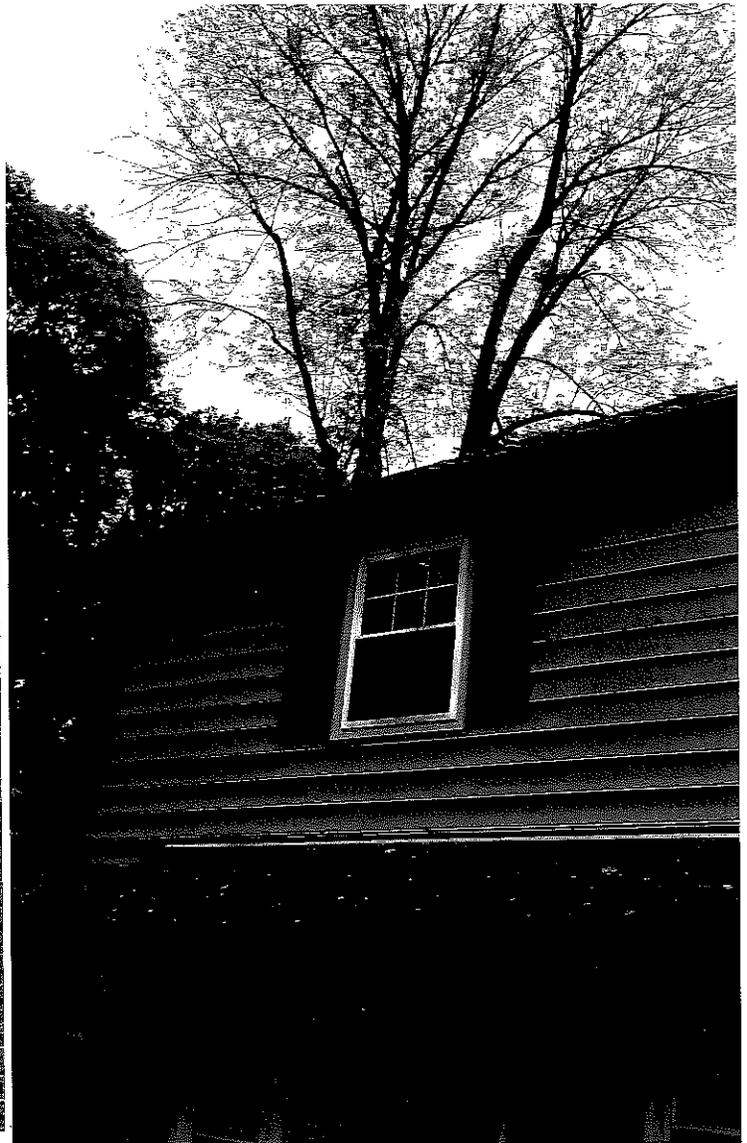
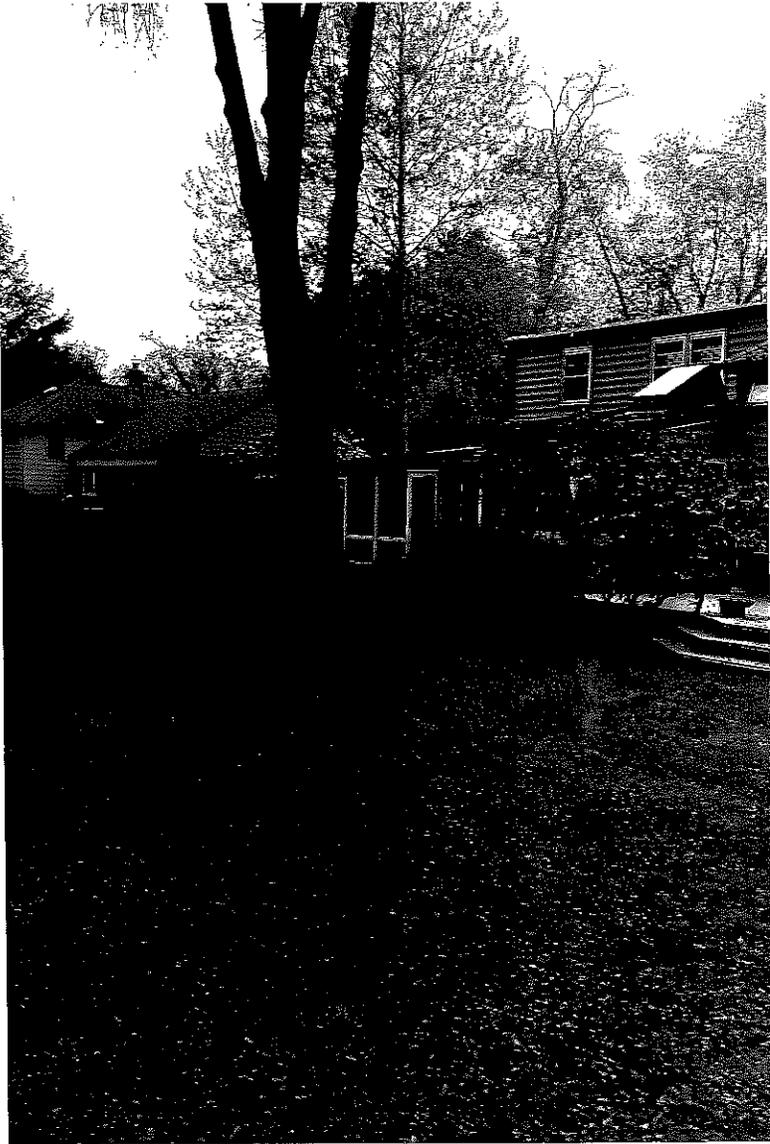
- Concrete pad in patio rom has cracked due to encroaching roots

Stephen F. Silverio  
117 Wooded Ln  
Villanova











**RADNOR TOWNSHIP SHADE TREE COMMISSION**  
*Hazardous Tree Report*

Resident Villanova University

Address 800 Lancaster Ave. Villanova, PA 19085

Tree (Type, species, size, diameter at breast height) Ash - 42" DBH in front  
of Technology Services Building  
Beech - 36" DBH - Monastery building

Certified arborist's narrative report (attach separate sheet if required) \_\_\_\_\_  
The Ash is 100% dead and a hazard.

\_\_\_\_\_ The Beech is 90% dead and a hazard.

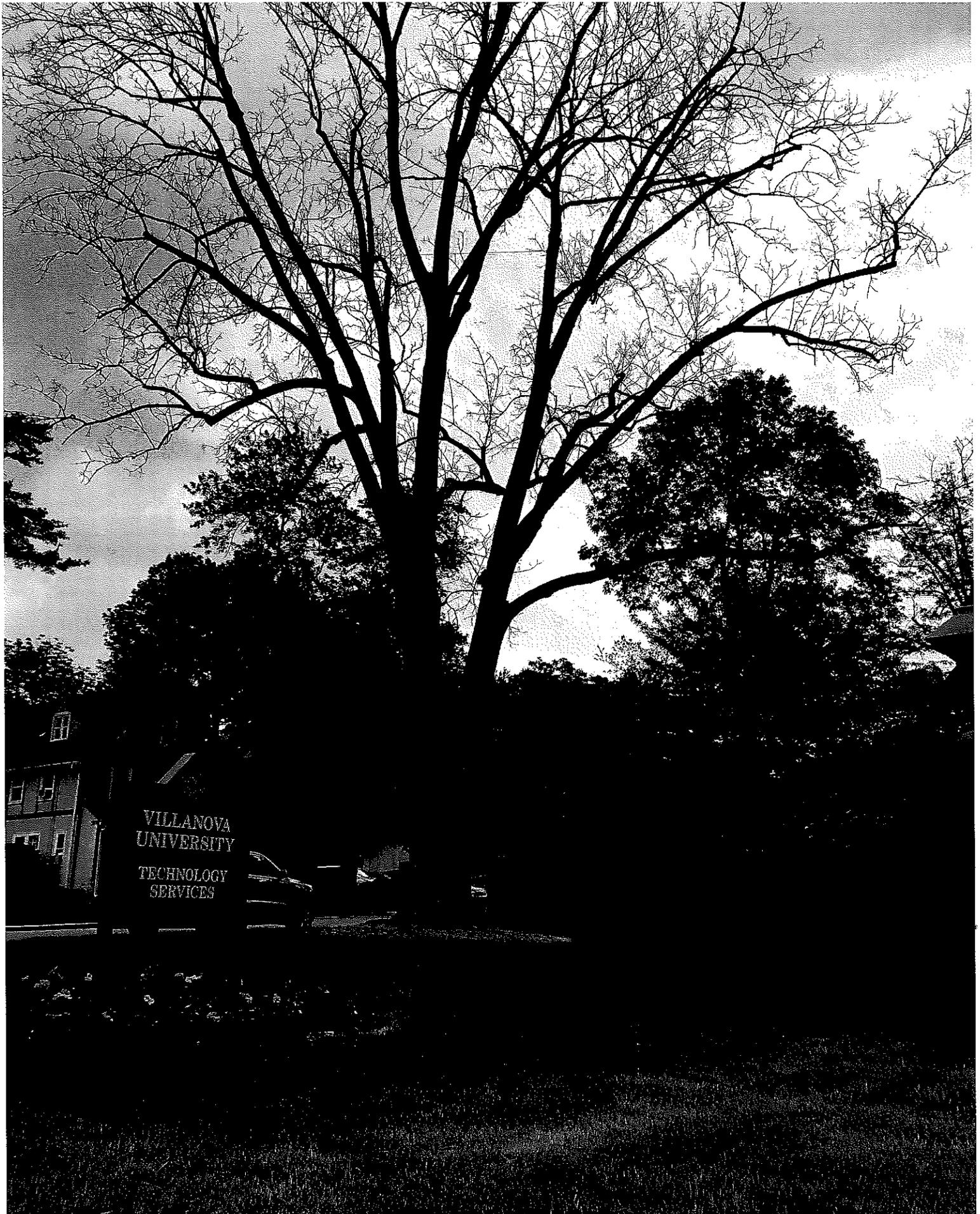
Certified arborist's name, address and # Patrick Hartman  
10 Ballisomina Road, Suite A21, West Conshohocken, PA  
19380

Pictures attached  Plot plan drawing attached \_\_\_\_\_

Township arborist's report (attach separate sheet if required) \_\_\_\_\_

Shade Tree Commission removal recommended yes / no

*The General Powers and Duties of the Shade Tree Commission section of the Ordinance (126.5 B) stipulates: In case of immediate necessity for the protection of life or property. Any shade or street tree described in this ordinance may be removed without first obtaining a permit, after inspection by a member(s) of the Shade Tree Commission or its designee.*



VILLANOVA  
UNIVERSITY  
TECHNOLOGY  
SERVICES

