HYDROLOGICAL STUDY
& DRAINAGE ANALYSIS REPORT

FOR

The New DPW Garage Project
Town of Temple, NH

TAX MAP 7A / LOT 36-1

LOCATED AT

400 Senator Tobey Highway (Route 45)
Temple, New Hampshire
Hillsborough County

Date: 2-22-2022

Prepared for/Site Owner: Town of Temple DPW
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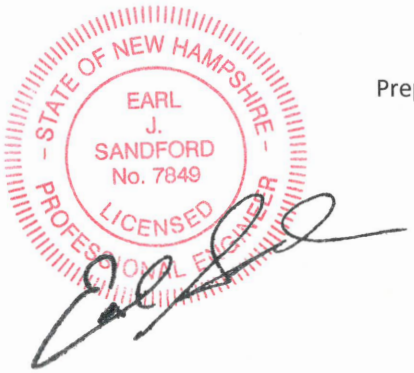

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SANDFORD SURVEYING AND ENGINEERING

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PROJECT DESCRIPTION

The nature and purpose of the land disturbing activity.

The purpose of this project is to provide a hydrological study to help determine the limits of tax lot 7A/36-1 as they apply to the proposed ***Town of Temple New DPW garage project***. The land is owned by the town and is situated nearly across Route 45 from the town offices. This office has worked with the town to perform soils tests that indicate there is suitable soil for a septic system. A Conceptual Site Plan has been drawn up by this office and is the basis of the post-development drainage analysis. Wetlands have been delineated/flagged by a Certified Wetland Scientist, and the latest plan reflects a concerted effort to minimize impact to the small, isolated wetland within the lot. The town owns the lot at the rear of the subject lot and the Site Plan reflects adjusting the boundary to maximize the use of upland between the road and a brook to the rear. A lot merger is an alternative to a lot line adjustment.

The site is subject to NHDES Septic Approval (test pit is completed to be used in the design that would be forth coming should the project be approved). The septic has been preliminarily designed with no need for waivers. The well is existing and the 75' protective well radius is honored. The site adheres to lot size and setbacks regulations.

The added impervious areas have been mitigated with a large Detention Basin as shown on the plan. An earlier version used the isolated wetland to accommodate a rain garden for the same purpose, but it created a significant temporary impact to the wetland, and based on feedback from the Conservation Commission the wetland was avoided and the proposed drainage basin placed in the upland. The upside to placing the a raingarden in the isolated wetland is that it preserved a treed upland buffer 150' along the road and 80' back. In the current plan those buffering trees will be removed to accommodate the proposed basin.

The site is designed to minimize grade changes and utilize existing grades where feasible. The site design reduces impacts on off-site drainage as indicated by the HydroCad calculations in this report. Drainage control measures are designed to assure post development peak flows do not exceed pre-dev. peak flows.

The proposed improvements will result in temporary and permanent regrading or disturbance of an area czlculated to be 97,000sf, under the 100,000sf threshold for a NHDES Alteration of Terrain permit.

EXISTING SITE CONDITIONS

A description of the existing topography, vegetation, and drainage.

The site was a single family residence house site. The house has been torn down to the foundation, but the well and septic system remain. There is a loop driveway from Route 45 and grown in lawn. Beyond that is predominantly woodland. The middle of the lot is on a crest with half the lot draining to the road and the other half draining to a brook beyond the rear of the lot.

Other than the minimal contribution to the roadside drainage in the first few feet into the lot, the flow from the proposed development area will be directed to the basin at the front of the lot and away from the brook in the back. The basin provides treatment and detention to assure that the post development storm peak flows will not increase in the post development scenario.

The drainage from new construction will route stormwater into infiltration devices and siltation barriers using published best management practices (BMP's). A culvert will need to cross the wetland next to the stone wall, requiring a permit for the disturbance of 750sf of wetland.

SOILS

Soils on the site: map unit names, texture, permeability, and depth.

See Topographical and NRCS Soils delineated on the plan. All soils being disturbed are 143B Monadnock fine sandy loam, 0 to 8% slopes, hydrological group B, and a Ksat in the C horizon of 2 to 6 inches per hour (1 in/hr used in the calculations, 50% of the lower value, consistent with NHDES AoT). All the soils within the parcel are per NRCS Web based soils with supporting test pit data collected by this office. See plans for detailed descriptions.

EROSION AND SEDIMENT CONTROL PRACTICES

Methods used to control erosion and sedimentation on the site.

Erosion and sedimentation control design will be guided by the "NH Stormwater Manual" published by NH DES in December 2008, and consist of silt fence and other BMP's as shown on the plan. The drainage is designed to mitigate increase in impervious surfaces due to drives and buildings, as well as to provide some treatment.

SCHEDULE

Anticipated starting and completion dates of the development and sequence and time of exposure of each area prior to the completion of runoff, erosion, and sediment control measures.

The Town of Temple New DPW Garage Project will need to be approved by citizens of the town. Should that approval come this spring, construction would occur in the summer and fall of 2022, subject to approval of permits, weather, financial considerations, and other constraints. As noted on the plan, the schedule is to dynamically minimize exposed soils, and to maintain controls throughout the construction process.

MAINTENANCE

Schedule of regular inspections and repair of erosion and sediment control structures.

All erosion control structures shall be inspected daily during construction and immediately before and after any storm events. Care is to be taken to prevent sediment build-up which will over burden erosion control devices. All erosion control devices shall be maintained in good working order.

DESIGN BASIS

Basis and methodology for stormwater runoff calculations.

Runoff was calculated for the Type III 10-year 24-hour storm with HydroCAD v10.0 software using the SCS TR-20 method, in accordance with all known Regulations. SCS TR-55 methodology was used to calculate times of concentration. On site drainage areas were determined based on contours calculated from field survey by Sandford Surveying and Engineering. USGS contours/ New Boston GIS contours were used if needed for off-site areas.

The three points of analysis are X1, X2, and X3. "X1" is the combined flow off the front lot line at the southwest corner of the lot. "X2" is the flow off the south of the lot and into a natural ravine. "X3" represents the flow off the rear of the lot and into the brook.

Calculations include runoff from the proposed site development and all gravel or paved driving surfaces were modeled as impervious. The impervious driving surfaces and roofs are offset by infiltration practices and the detention basin at the front of the lot.

Pre-development analysis examines runoff from the parcel's watershed area under existing conditions during the design storm.

Post-development analysis examines the effect of roofs, paved or gravel driving surfaces and alteration to surfaces.

CONCLUSIONS

As shown in the following summary table and attached drainage calculations, the HydroCAD models predict that downstream peak flows will not be significantly affected by the proposed improvements to this property.

The post-development model predicts a decrease in peak flows for all modeled storms.

Based on this drainage analysis, the site is adequate to facilitate the proposed new DPW site.

Drainage Pre and Post Development Summary Tables

Drainage Analysis Area Reconciliation (site grading has been designed to expand the watershed area to the drainage basin while shrinking the drainage area to the brook in the back)

Area Label	EXIT POINT	AREA-PRE (AC)	AREA-POST (AC)	CHANGE IN AREA(AC)
"A"	"X1"	1.639		
"A1"	"X1"		1.131	
"A2"	"X1"		0.496	
"A3"	"X1"		0.154	
"B"	"X1"	1.145		
"B1"	"X1"		0.957	
"B2"	"X1"		0.327	
"B3"	"X1"		0.213	
Sub Total	"X1"	2.784	3.278	+0.494
"C"	"X2"	0.653	0.500	-0.153
"D"	"X3"	8.888	8.546	-0.342
Total		12.325	12.324	-0.001*

*round off error within acceptable margin

Drainage Analysis Summary for Discharge at "X1"

Table 1: Combined flow to southwest corner of the subject lot

Design Storm	PEAK RUNOFF PRE (CFS)	PEAK RUNOFF POST (CFS)	CHANGE IN Q (CFS)		PEAK IN DB1	FREEBOARD IN DB1 (BERM=94.5)
WQF (1")	0	0	0		NA	NA
2YR	0.77	0.76	-0.01		91.32	3.18
10YR	2.65	2.51	-0.14		92.32	2.18
25YR	4.49	4.11	-0.38		92.99	1.51
50YR	6.34	6.32	-0.02		93.34	1.16
100YR	NA	NA	NA		93.55	0.95

Drainage Analysis Summary for Discharge at "X2"

Table 1: Combined flow to southeast corner of the subject lot

Design Storm	PEAK RUNOFF PRE (CFS)	PEAK RUNOFF POST (CFS)	CHANGE IN Q (CFS)
WQF (1")	0	0	0
2YR	0.05	0.04	-0.01
10YR	0.31	0.31	-0.00
25YR	0.65	0.64	-0.01
50YR	1.01	0.99	-0.02

Drainage Analysis Summary for Discharge at "X3"

Table 1: Combined flow to brook east of the subject lot

Design Storm	PEAK RUNOFF PRE (CFS)	PEAK RUNOFF POST (CFS)	CHANGE IN Q (CFS)
WQF (1")	0	0	0
2YR	0.49	0.47	-0.02
10YR	0.31	0.31	-0.00
25YR	0.65	0.64	-0.01
50YR	1.01	0.99	-0.02

Extreme Precipitation Tables

TEMPLE DPW
NEW GARAGE PROJECT

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	71.850 degrees West
Latitude	42.814 degrees North
Elevation	0 feet
Date/Time	Tue, 22 Feb 2022 19:26:38 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.71	0.89	1.11	**1yr**	0.77	1.02	1.28	1.60	1.99	2.48	2.76	**1yr**	2.19	2.66	3.05	3.81	4.36	**1yr**
2yr	0.34	0.52	0.65	0.86	1.08	1.35	**2yr**	0.93	1.22	1.56	1.93	2.39	2.96	3.33	**2yr**	2.62	3.20	3.71	4.45	5.06	**2yr**
5yr	0.40	0.62	0.78	1.05	1.34	1.70	**5yr**	1.16	1.53	1.96	2.44	3.01	3.71	4.22	**5yr**	3.28	4.06	4.70	5.56	6.22	**5yr**
10yr	0.45	0.71	0.89	1.21	1.58	2.01	**10yr**	1.36	1.82	2.34	2.91	3.58	4.39	5.06	**10yr**	3.89	4.86	5.62	6.58	7.27	**10yr**
25yr	0.53	0.85	1.08	1.48	1.96	2.53	**25yr**	1.70	2.28	2.94	3.66	4.51	5.51	6.43	**25yr**	4.87	6.18	7.11	8.23	8.95	**25yr**
50yr	0.59	0.95	1.23	1.72	2.32	3.02	**50yr**	2.00	2.70	3.52	4.38	5.38	6.53	7.71	**50yr**	5.78	7.42	8.51	9.76	10.47	**50yr**
100yr	0.68	1.10	1.42	2.01	2.74	3.58	**100yr**	2.37	3.21	4.18	5.22	6.40	7.76	9.26	**100yr**	6.87	8.91	10.18	11.58	12.26	**100yr**
200yr	0.77	1.26	1.64	2.35	3.24	4.26	**200yr**	2.80	3.81	4.99	6.23	7.62	9.21	11.13	**200yr**	8.15	10.71	12.18	13.74	14.36	**200yr**
500yr	0.93	1.52	1.99	2.89	4.05	5.36	**500yr**	3.50	4.79	6.29	7.85	9.61	11.58	14.21	**500yr**	10.25	13.66	15.46	17.25	17.71	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.20	0.31	0.37	0.50	0.62	0.84	**1yr**	0.53	0.83	1.04	1.40	1.69	2.16	2.48	**1yr**	1.91	2.38	2.45	3.41	3.98	**1yr**
2yr	0.33	0.50	0.62	0.84	1.03	1.20	**2yr**	0.89	1.17	1.36	1.75	2.25	2.87	3.26	**2yr**	2.54	3.13	3.57	4.34	4.96	**2yr**
5yr	0.36	0.56	0.70	0.95	1.21	1.41	**5yr**	1.05	1.38	1.62	2.09	2.66	3.44	3.95	**5yr**	3.04	3.79	4.34	5.17	5.84	**5yr**
10yr	0.40	0.61	0.76	1.06	1.38	1.59	**10yr**	1.19	1.55	1.77	2.36	2.99	3.93	4.56	**10yr**	3.47	4.39	4.97	5.89	6.62	**10yr**
25yr	0.45	0.69	0.86	1.23	1.61	1.85	**25yr**	1.39	1.81	2.06	2.78	3.46	4.66	5.56	**25yr**	4.13	5.34	5.96	6.99	7.81	**25yr**
50yr	0.49	0.75	0.94	1.34	1.81	2.09	**50yr**	1.56	2.04	2.30	3.16	3.87	5.32	6.46	**50yr**	4.71	6.21	6.84	7.97	8.86	**50yr**
100yr	0.54	0.81	1.02	1.47	2.02	2.35	**100yr**	1.74	2.30	2.58	3.21	4.34	6.08	7.53	**100yr**	5.38	7.24	7.87	9.09	10.07	**100yr**
200yr	0.59	0.88	1.12	1.62	2.26	2.65	**200yr**	1.95	2.59	2.89	3.55	4.89	6.94	8.80	**200yr**	6.14	8.46	9.04	10.35	11.44	**200yr**
500yr	0.67	0.99	1.28	1.86	2.64	3.10	**500yr**	2.28	3.03	3.36	4.08	5.72	8.30	10.86	**500yr**	7.35	10.44	10.90	12.32	13.58	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.32	0.49	0.60	0.81	1.00	1.19	**1yr**	0.86	1.16	1.31	1.69	2.10	2.66	3.01	**1yr**	2.35	2.89	3.30	4.22	4.78	**1yr**
2yr	0.36	0.55	0.68	0.92	1.14	1.31	**2yr**	0.98	1.28	1.48	1.91	2.44	3.10	3.44	**2yr**	2.74	3.30	3.87	4.60	5.20	**2yr**
5yr	0.44	0.67	0.84	1.15	1.46	1.71	**5yr**	1.26	1.67	1.89	2.42	3.01	4.01	4.53	**5yr**	3.55	4.35	5.10	5.97	6.64	**5yr**
10yr	0.52	0.79	0.98	1.37	1.77	2.11	**10yr**	1.53	2.06	2.36	2.92	3.59	4.92	5.59	**10yr**	4.36	5.37	6.33	7.30	8.00	**10yr**
25yr	0.65	0.99	1.23	1.76	2.31	2.79	**25yr**	1.99	2.73	3.08	3.75	4.53	6.44	7.38	**25yr**	5.70	7.10	8.41	9.54	10.25	**25yr**
50yr	0.77	1.18	1.46	2.11	2.83	3.45	**50yr**	2.45	3.37	3.78	4.53	5.39	7.90	9.11	**50yr**	6.99	8.76	10.44	11.69	12.36	**50yr**
100yr	0.92	1.39	1.75	2.52	3.46	4.27	**100yr**	2.99	4.17	4.64	6.00	6.42	9.69	11.25	**100yr**	8.58	10.81	12.95	14.34	14.91	**100yr**
200yr	1.10	1.66	2.10	3.04	4.24	5.27	**200yr**	3.66	5.15	5.68	7.36	7.66	11.89	13.87	**200yr**	10.53	13.33	16.07	17.61	17.99	**200yr**
500yr	1.40	2.09	2.68	3.90	5.55	6.96	**500yr**	4.79	6.81	7.45	9.70	9.66	15.60	18.30	**500yr**	13.81	17.60	21.37	23.11	23.06	**500yr**

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Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
22C	Colton gravelly sandy loam, 8 to 15 percent slopes	3.2	4.0%
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	6.5	8.0%
143B	Monadnock fine sandy loam, 0 to 8 percent slopes, very stony	48.8	60.0%
160C	Tunbridge-Lyman-Monadnock complex, stony, 8 to 15 perce nt slopes	12.5	15.4%
214A	Naumburg fine sandy loam, 0 to 3 percent slopes	1.0	1.3%
247B	Lyme fine sandy loam, 0 to 8 percent slopes, very stony	3.9	4.8%

HYDROLOGIC SOIL GROUPS FOR DETERMINING RUNOFF IN NEW HAMPSHIRE (BY GROUP TYPE)

The hydrologic grouping of soils is based upon infiltration rates as they runoff. The four groups are described as follows:

Group A –Soils having high infiltration rates even when thoroughly wetted. These consist chiefly of deep, well to excessively drained sands or gravel. These soils have a high rate of water transmission and would result in low runoff potential.

Adams	Hinckley	Quonset	Sunday
Ceasar	Hoosic	Redstone	Udipsamments
Colton	Made land**	Ricker	Udorthents**
Dumps**	Masardis	Rubble land	Warwick
Gloucester*	Merrimac	Success	Windsor
Hermon	Pits, gravel	Suncook	

Group B –Soils having moderate infiltration rates when thoroughly wetted. These consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.

Abenaki	Deerfield	Metallak	Pootatuck
Acton	Duane	Monadnock	Salmon
Agawam	Dutchess	Newfields	Salmon Variant
Au Gres	Fryeburg	Ninigret	Scio
Bangor	Groveton	Occum	Sheepscot
Belgrade	Hadley	Ondawa	Stetson
Berkshire	Hartland	Ondawa Variant	Sudbury
Canton	Haven	Pennichuck	Sunapee
Cardigan	Hitchcock	Pipestone	Sutton
Charlton	Kearsarge	Plaisted Variant	Unadilla
Chatfield	Lovewell	Podunk	Unadilla Variant
Croghan	Machias	Podunk Variant	Waumbek
Dartmouth	Madawaska	Poocham	Winooski

* See local SCS office for alternative interpretation as some areas have been updated or recorrelated.

** Evaluation of each site is required to determine hydrologic group.

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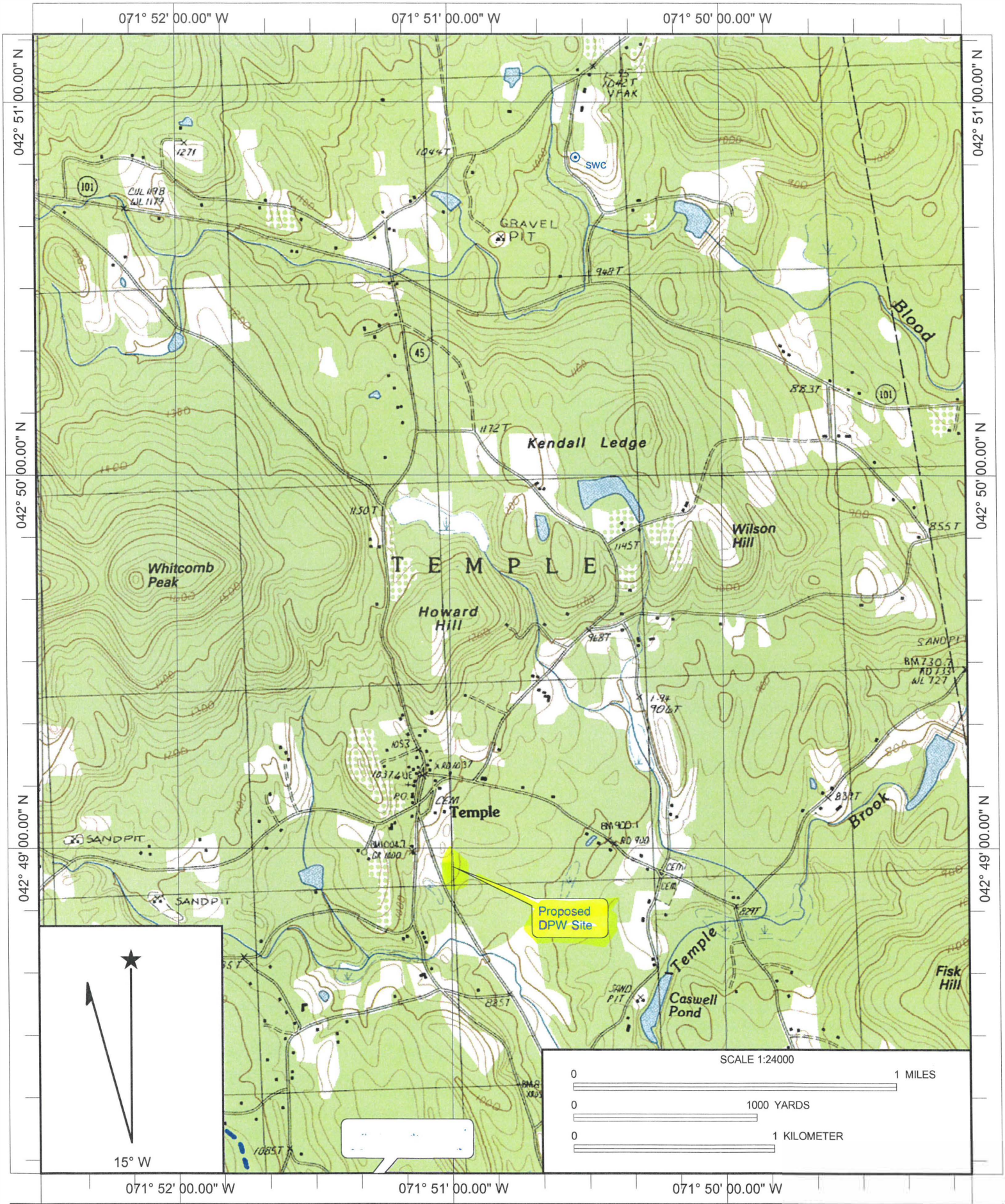
Soil Series	number	NHDES Soil Group	Ksat low - B in/hr	Ksat high - B in/hr	Ksat low - C in/hr	Ksat high - C in/hr	Hyd. Grp.	Land Form	Temp.	Soil Textures	Spodosol ?	Other
Adams	36	1	6.0	20.0	20.00	99.0	A	Outwash and Stream Terraces	frigid	sandy	yes	
Boscawen	220	1	6.0	20.0	20.00	100.0	A	Outwash and Stream Terraces	frigid	sandy-skeletal	no	loamy cap
Caesar	526	1	20.0	100.0	20.00	100.0	A	Outwash and Stream Terraces	mesic	coarse sand	no	
Champlain	35	1	6.0	20.0	20.00	100.0	A	Outwash and Stream Terraces	frigid	gravelly sand	no	
Colton	22	1	6.0	20.0	20.00	100.0	A	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	
Colton, gravelly	21	1	6.0	20.0	20.00	100.0	A	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	gravelly surface
Gloucester	11	1	6.0	20.0	6.00	20.0	A	Sandy Till	mesic	sandy-skeletal	no	loamy cap
Hermon	55	1	2.0	20.0	6.00	20.0	A	Sandy Till	frigid	sandy-skeletal	yes	loamy cap
Hinckley	12	1	6.0	20.0	20.00	100.0	A	Outwash and Stream Terraces	mesic	sandy-skeletal	no	
Hoosic	510	1	2.0	20.0	20.00	100.0	A	Outwash and Stream Terraces	mesic	sandy-skeletal	no	slate, loamy cap
Masardis	23	1	6.0	20.0	6.00	20.0	A	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	slate, loamy cap
Merrimac	10	1	2.0	20.0	6.00	20.0	A	Outwash and Stream Terraces	mesic	gravelly sand	no	loamy cap
Quonset	310	1	2.0	20.0	20.00	100.0	A	Outwash and Stream Terraces	mesic	sandy-skeletal	no	shale
Redstone	665	1	2.0	6.0	6.00	20.0	A	Weathered Bedrock Till	frigid	fragmental	yes	loamy cap
Success	154	1	2.0	6.0	6.00	20.0	A	Sandy Till	frigid	sandy-skeletal	yes	cemented
Suncook	2	1	6.0	20.0	6.00	20.0	A	Flood Plain (Bottomland)	mesic	sandy	no	occasionally flooded
Suncook	402	1	6.0	20.0	6.00	20.0	A	Flood Plain (Bottomland)	mesic	sandy	no	frequent flooding
Sunday	102	1	6.0	20.0	6.00	20.0	A	Flood Plain (Bottomland)	frigid	sandy	no	occasionally flooded
Sunday	202	1	6.0	20.0	6.00	20.0	A	Flood Plain (Bottomland)	frigid	sandy	no	frequently flooded
Warwick	210	1	2.0	6.0	20.00	100.0	A	Outwash and Stream Terraces	mesic	loamy-skeletal	no	loamy over slate gravel
Windsor	26	1	6.0	20.0	6.00	20.0	A	Outwash and Stream Terraces	mesic	sandy	no	
Abenaki	501	2	0.6	2.0	6.00	99.0	B	Outwash and Stream Terraces	frigid	loamy over sandy-skeletal	no	loamy over gravelly
Agawam	24	2	6.0	20.0	20.00	100.0	B	Outwash and Stream Terraces	mesic	loamy over sandy	no	loamy over sand/gravel
Allagash	127	2	0.6	2.0	6.00	20.0	B	Outwash and Stream Terraces	frigid	loamy over sandy	yes	loamy over sandy
Bangor	572	2	0.6	2.0	0.60	2.0	B	Friable till, silty, schist & phyllite	frigid	loamy	yes	silt loam
Berkshire	72	2	0.6	6.0	0.60	6.0	B	Loose till, loamy textures	frigid	loamy	yes	fine sandy loam
Bice	226	2	0.6	6.0	0.60	6.0	B	Loose till, loamy textures	frigid	loamy	no	sandy loam
Canton	42	2	2.0	6.0	6.00	20.0	B	Loose till, sandy textures	mesic	loamy over sandy	no	loamy over loamy sand
Charlton	62	2	0.6	6.0	0.60	6.0	B	Loose till, loamy textures	mesic	loamy	no	fine sandy loam
Dutchess	366	2	0.6	2.0	0.60	2.0	B	Friable till, silty, schist & phyllite	mesic	loamy	no	very channery
Fryeburg	208	2	0.6	2.0	2.00	6.0	B	Flood Plain (Bottom Land)	frigid	silty	no	very fine sandy loam
Groveton	27	2	0.6	2.0	0.60	6.0	B	Outwash and Stream Terraces	frigid	loamy	yes	loamy over sandy
Hadley	8	2	0.6	2.0	0.60	6.0	B	Flood Plain (Bottom Land)	mesic	silty	no	strata of fine sand
Hadley	108	2	0.6	2.0	0.60	6.0	B	Flood Plain (Bottom Land)	mesic	silty	no	strata of fine sand, occ flooded
Hartland	31	2	0.6	2.0	0.20	2.0	B	Terraces and glacial lake plains	mesic	silty	no	very fine sandy loam
Haven	410	2	0.6	2.0	20.00	100.0	B	Outwash and Stream Terraces	mesic	loamy over sandy	no	loamy over sand/gravel
Houghtonville	795	2	0.6	6.0	0.60	6.0	B	Loose till, loamy textures	frigid	loamy	yes	cobbly fine sandy loam
Lombard	259	2	0.6	6.0	2.00	20.0	C/D	Weathered bedrock, phyllite	frigid	loamy	no	very channery
Monadnock	142	2	0.6	2.0	2.00	6.0	B	Loose till, sandy textures	frigid	oamy over sandy, sandy-skeleta	yes	gravelly loamy sand in C
Occum	1	2	0.6	2.0	6.00	20.0	B	Flood Plain (Bottom Land)	mesic	loamy	no	loamy over loamy sand
Ondawa	101	2	0.6	6.0	6.00	20.0	B	Flood Plain (Bottom Land)	frigid	loamy	no	loamy over loamy sand
Ondawa	201	2	0.6	6.0	6.00	20.0	B	Flood Plain (Bottom Land)	frigid	loamy	no	occ flood, loamy over l. sand
Salmon	630	2	0.6	2.0	0.60	2.0	B	Terraces and glacial lake plains	frigid	silty	yes	very fine sandy loam
Stetson	523	2	0.6	6.0	6.00	20.0	B	Outwash and Stream Terraces	frigid	sandy-skeletal	yes	loamy over gravelly
Unadilla	30	2	0.6	2.0	2.00	20.0	B	Terraces and glacial lake plains	mesic	silty	no	silty over gravelly
Chichester	442	2	0.6	2.0	2.00	6.0	B	Loose till, sandy textures	frigid	loamy over sandy	no	loamy over loamy sand
Acton	146	3	2.0	20.0	2.00	20.0	B	Loose till, sandy textures	mesic	sandy-skeletal	no	cobbly loamy sand
Becket	56	3	0.6	2.0	0.06	0.6	C	Firm, platy, sandy till	frigid	loamy	yes	gravelly sandy loam in Cd
Belgrade	532	3	0.6	2.0	0.06	2.0	B	Terraces and glacial lake plains	mesic	silty	no	strata of fine sand
Bernardston	330	3	0.6	2.0	0.06	0.2	C	Firm, platy, silty till, schist & phyllite	mesic	loamy	no	channery silt loam in Cd
Boxford	32	3	0.1	0.2	0.00	0.2	C	Silt and Clay Deposits	mesic	fine	no	silty clay loam



Name: GREENVILLE
Date: 2/22/2022
Scale: 1 inch equals 2000 feet

Location: 042° 49' 39.41" N 071° 50' 48.59" W
Caption: PROPOSED DPW SITE MAP 7A / LOT 36-1 ON ROUTE45 ACROSS FROM TOWN OFFICES

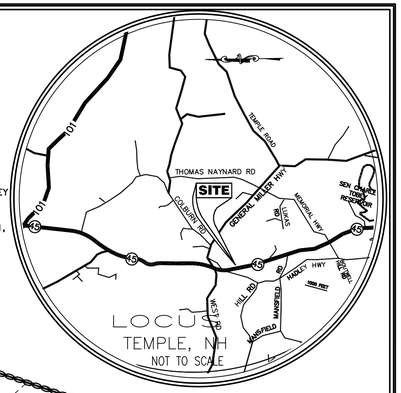
-9-

LEGEND

- STONE WALL
- PROPERTY LINE
- CONTOUR LINE
- TREE / SHRUB LINE
- BUILDING SETBACK LINE
- OHU — OVERHEAD UTILITIES
- OHP — OVERHEAD POWERLINES
- WELL
- GB fnd
- IR or IP fnd
- DH fnd
- UP fnd
- UP ANCHOR/GUY
- BUILDING
- EDGE OF WETLAND
- STREAM
- PFC — SCS SYMBOL
- SCS SOIL LINE
- EXISTING TREES

GENERAL NOTES:

1. REFERENCE THIS PARCEL AS MAP 7A / LOT 36-1
2. OWNER OF RECORD:
   TOWN OF TEMPLE
   400 NH ROUTE 45
   TEMPLE, NH 03084
   BK 8788 / PG 132
3. AREA ZONED:
   VH: VILLAGE AND HISTORIC PRESERVATION DISTRICT
   MIN. LOT SIZE: 2.0 ACRES
   MIN. FRONTAGE: 250' ON CLASS V OR BETTER ROAD
   MIN. YARD DIMENSIONS: 35' FRONT
   35' SIDE & 35' REAR
4. TOPOGRAPHIC INFORMATION SHOW IS FROM AN ON GROUND SURVEY BY THIS OFFICE IN JULY OF 2021. THE DATUM IS ASSUMED.
5. INVESTIGATION OF FLOOD INSURANCE RATE MAP, COMMUNITY PANEL 33011C0430D EFFECTIVE SEPT. 25, 2009 FOR TEMPLE, NH, HILLSBOROUGH COUNTY INDICATES NO PART OF THE SUBJECT PARCEL FALLS WITHIN THE APPROXIMATE 100 YEAR FLOOD ZONE.



EDGE OF FLAGGED WETLAND

SETBACK LINE

PROPOSED ADJUSTED LOT LINE WITH ABUTTER

EXISTING LOT LINE TO BE ADJUSTED 68'± EASTERLY

S15°59'30"E 383.38'

S 18°33'08" W 165.31'

N 73°52'07" W 175.76'

SALT SHED 20'x30'

STOCK PILE AREA

STOCK PILE AREA

50'x115' EQUIPMENT SHED

TOWN DPW SHED

6 BAYS ALONG THIS SIDE

OLD FOUNDATION HOLE

EXISTING WELL TO REMAIN

PRPOSED EDA (SEPTIC)

MAINTAIN NATURAL TREE BUFFER

EMERGENCY ACCESS

S79°41'33"E 163.96'

2856sf ISOLATED WETLAND

DRAINAGE BASIN

CB1
RIM=94
INVi=91.1
INVo=91.0

C2 15RCP 46'

C3 15RCP 108'

C1-18RCP 80'

DMH2
RIM=94
INVi=90.4
INVo=90.3

HW1
INV=92.0

HW1
INV=92.0

HW1
INV=93.5

507.81' N 05°08'28" W

WETLAND IMPACT TO RUN CULVERT AND PROVIDE COVER=750sf

88x6

SENATOR TOBEY HIGHWAY

NH ROUTE 45

- PROGRESS PRINT - CONCEPTUAL -

EARL J. SANDFORD, CERTIFIED WETLAND SCIENTIST #209, OF SANDFORD SURVEYING & ENGINEERING, INC. BEDFORD, NH, PERFORMED THE WETLAND MAPPING IN OCTOBER, 2021 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE INTERIM REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

CERTIFICATION OF BOUNDARY PRECISION

I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND WITH A MAXIMUM ERROR OF CLOSURE OF 1 PART IN 10,000 ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

CONCEPTUAL SITE PLAN

MAP 7A / LOT 36-1

THE NEW PUBLIC WORKS GARAGE PROJECT

2022

SENATOR TOBEY HIGHWAY
TOWN OF TEMPLE
HILLSBOROUGH COUNTY, NEW HAMPSHIRE

SANDFORD
SURVEYING AND ENGINEERING INC
TEL (603) 472-2265 FAX (603) 472-6604
597 NEW BOSTON ROAD, BEDFORD, NH 03110
BOUNDARY SURVEYS ~ SUBDIVISIONS ~ SITE PLANS ~ STRUCTURAL ~ SEPTIC DESIGNS

PROJ. MAN.: EJS	CADD: LPN	PROJ:TEMO1M20156
CONTACT: TIM FISKE	CHK BY: RGK	DWG#:TEMO1M20156
SCALE: 1" = 20'	DATE: 2/22/2022	SHEET 1 OF

LEGEND

- STONE WALL
- PROPERTY LINE
- CONTOUR LINE
- TREE / SHRUB LINE
- BUILDING SETBACK LINE
- OHU OVERHEAD UTILITIES
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- W WELL
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- IR or IP fnd
- DH fnd
- UP fnd
- UP ANCHOR/GUY
- BUILDING
- EDGE OF WETLAND
- STREAM
- PFC SCS SYMBOL
- SCS SOIL LINE
- EXISTING TREES

247B

X3

77C

D

9.030ac
393335sf

143B
MONADNOCK
FSL 0-8%
Ksat=2-6in/hr
HSG=B

C

0.653ac
28440sf

B

1.146ac
49900sf

X2

X1

A

1.639ac
71392sf

22C

SENATOR TOBEY HIGHWAY

NH ROUTE 45

Hadley Hwy

TOWN OFFICES

PROPOSED ADJUSTED LOT LINE WITH ABUTTER

SETBACK LINE

EDGE OF FLAGGED WETLAND

EXISTING SHED TO BE REMOVED OR RELOCATED

PROPOSED GARAGE

PROPOSED LEACH FIELD

PROPOSED SEPTIC

PROPOSED WELL

DRIVEWAY

Tools --

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

CERTIFICATION OF BOUNDARY PRECISION

I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND WITH A MAXIMUM ERROR OF CLOSURE OF 1 PART IN 10,000 ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

PRE-DEVELOPMENT WATERSHED AREA PLAN
MAP 7A / LOT 36-1
THE NEW PUBLIC WORKS GARAGE PROJECT
2022
SENATOR TOBEY HIGHWAY
TOWN OF TEMPLE
HILLSBOROUGH COUNTY, NEW HAMPSHIRE

SANDFORD
SURVEYING AND ENGINEERING LTD
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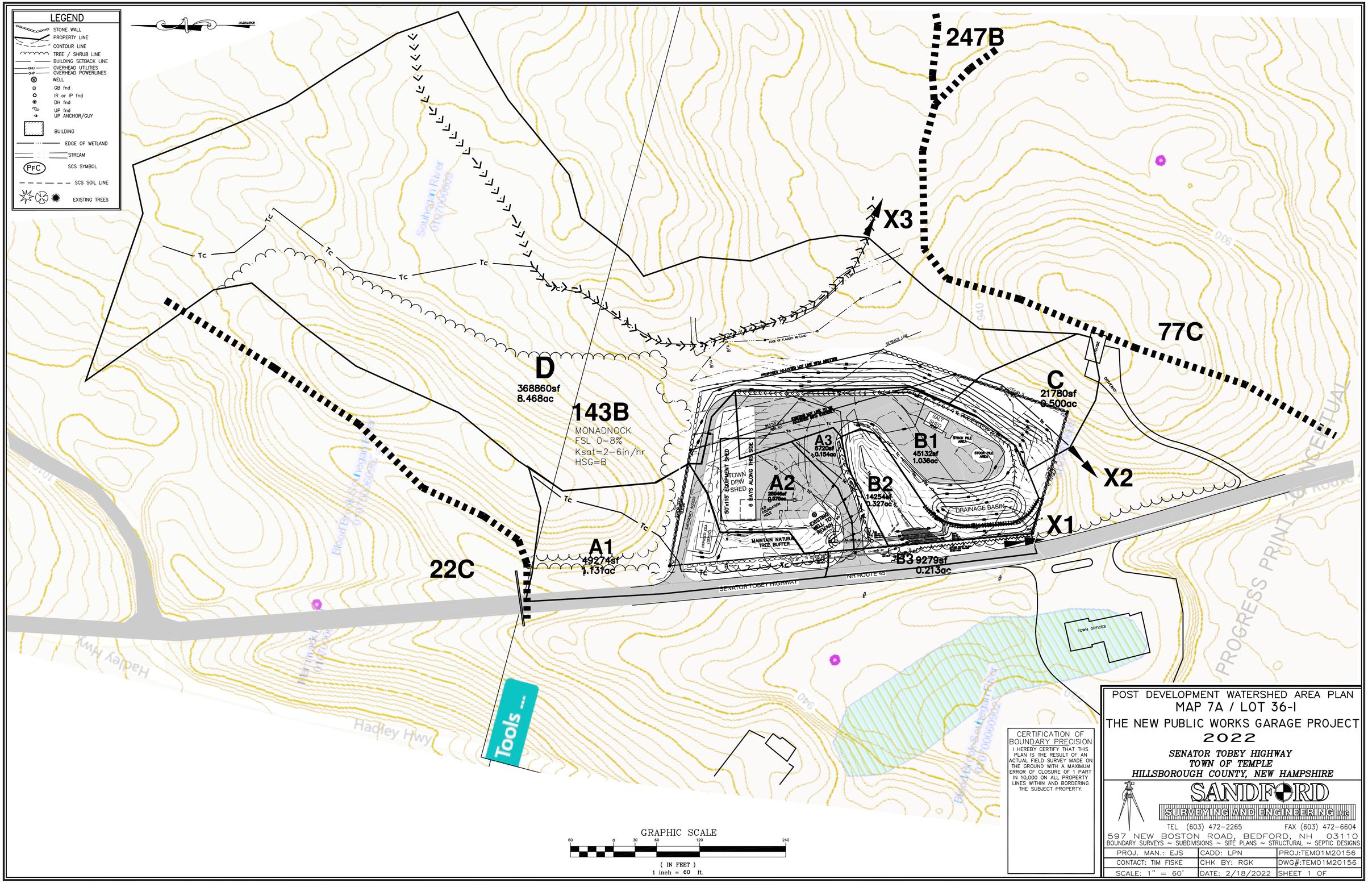
597 NEW BOSTON ROAD, BEDFORD, NH 03110
BOUNDARY SURVEYS ~ SUBDIVISIONS ~ SITE PLANS ~ STRUCTURAL ~ SEPTIC DESIGNS

PROJ. MAN.: EJS	CADD: LPN	PROJ:TEMO1M20156
CONTACT: TIM FISKE	CHK BY: RGK	DWG#:TEMO1M20156
SCALE: 1" = 60'	DATE: 2/18/2022	SHEET 1 OF



GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)

1 inch = 60 ft.

CERTIFICATION OF BOUNDARY PRECISION

I HEREBY CERTIFY THAT THIS PLAN IS THE RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND WITH A MAXIMUM ERROR OF CLOSURE OF 1 PART IN 10,000 ON ALL PROPERTY LINES WITHIN AND BORDERING THE SUBJECT PROPERTY.

POST DEVELOPMENT WATERSHED AREA PLAN
MAP 7A / LOT 36-I
THE NEW PUBLIC WORKS GARAGE PROJECT
2022

SENATOR TOBEY HIGHWAY
TOWN OF TEMPLE
HILLSBOROUGH COUNTY, NEW HAMPSHIRE

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BOUNDARY SURVEYS ~ SUBDIVISIONS ~ SITE PLANS ~ STRUCTURAL ~ SEPTIC DESIGNS

PROJ. MAN.: EJS	CADD: LPN	PROJ:TEM01M20156
CONTACT: TIM FISKE	CHK BY: RGK	DWG#:TEM01M20156
SCALE: 1" = 60'	DATE: 2/18/2022	SHEET 1 OF