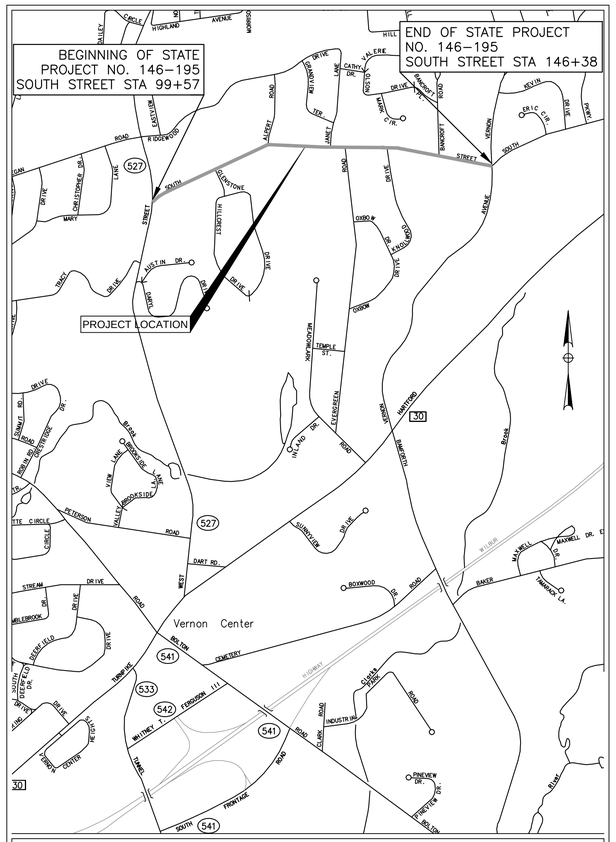
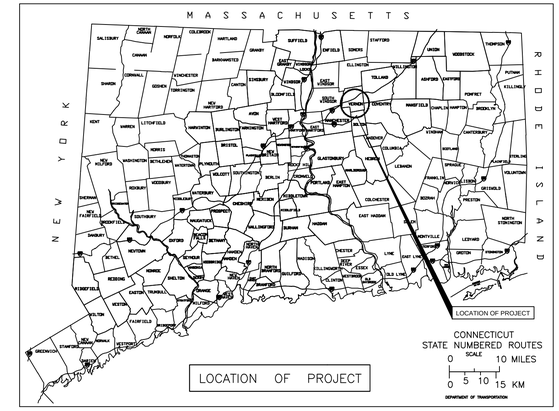
F.H.W.A. REGION NO.	STATE	TOWN(S)	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	VERNON	1146(111)	146-195	2016		1	104

TOWN OF VERNON
FINAL DESIGN PLANS
FOR
RECONSTRUCTION OF SOUTH STREET
IN THE TOWN OF
VERNON



LOCATION PLAN
1" = 1,000'



TOWN NO. 146
PROJECT NO. 146-195

STATE PROJECT NO. 146-195

FEDERAL AID PROJECT NO. 1146(111)

FROM STA. 99+57 TO STA. 146+37.71

LENGTH 4,680.71 ft

DESIGN SCALES:
- PLAN 1 in = 40 ft
- PROFILE HORZ. 1 in = 40 ft VERT. 1 in = 4 ft
- CROSS SECTIONS 1 in = 5 ft

OTHER SCALES AS NOTED

TO BE MAINTAINED BY THE TOWN OF VERNON

MAYOR
DAN CHAMPAGNE

TOWN ENGINEER
DAVID A. SMITH, P.E., L.S.

STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 816 INCLUDING SUPPLEMENT THERETO DATED JANUARY 2016 GOVERN.
ALL ELEVATIONS ON THIS PROJECT BASED ON N.G.V.D. OF 1929, IN FEET. ALL COORDINATES BASED ON CONNECTICUT COORDINATE GRID (NAD 1983), IN FEET

DESIGN STANDARDS: CONN. HIGHWAY DESIGN MANUAL 2003 EDITION & AASHTO 2004

DESIGN SPEED: 40 MPH

FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR
TRAFFIC VOLUME: SOUTH STREET:
2010 ADT 2836 VPD
2030 ADT 3390 VPD

DESIGN BY: CARDINAL ENGINEERING ASSOCIATES, INC

SIGNATURE: _____

CONN. PROF. ENG. REG. NO.: _____

DATE SUBMITTED: _____

TOWN OF VERNON
CONNECTICUT

RECOMMENDED FOR APPROVAL BY: _____

DAVID A. SMITH, P.E., L.S., TOWN ENGINEER DATE

APPROVED: _____

DANIEL A. CHAMPAGNE, MAYOR DATE

LIST OF SUBSETS

SUBSET NO.	SUBSET TITLE	* SUBSET SHEET COUNT
01	GENERAL	3
02	REVISIONS	1
03	HIGHWAYS	60
04	TRAFFIC	6
05	CT WATER-FOR INFORMATION ONLY	9
06	FRONTIER/EVERSOURCE AERIAL UTILITY	
	RELOCATION-FOR INFORMATION ONLY	4
07	EVERSOURCE ENERGY-FOR INFORMATION ONLY	–
08	CTDOT HIGHWAY STANDARD SHEETS	14
09	CTDOT TRAFFIC STANDARD SHEETS	7

* THE INITIAL SUBSET SHEET COUNT DOES NOT INCLUDE ADDENDUMS AND CHANGE ORDERS.

01-General
INDEX OF DRAWINGS

DRAWING NO.	SHEET NO.	DRAWING TITLE
GEN-01	01.01	TITLE SHEET
DES-01	01.02	DETAILED ESTIMATE SHEET
GEN-02	01.03	ABBREVIATIONS, LEGEND & GENERAL NOTES

P:\Civil 3d Projects 2014\Vernon South St64\Production Drawings\title.dwg, Layout1, 9/20/2016 1:05:33 PM, DWG To PDF.pc3, ANSI expand D (34.00 x 22.00 Inches)

PARTICIPATING ITEMS

ITEM NO.	0201001	0202000	0202100	0202200	0202351	0202451A	0202529	0205001	0205002	0205003	0205004	0205005	0205006	0209001	0211000	0212000	0213100	0216012A	0219001	0219011A	0304002	0406002A	0404100A	0406171	0406236	0506001	0507001	0507006	0507011	0507021	0507022	0507051	0507080	0507090	0507701	0651001	0651012	0651013	0651015	0651017	0651051	0651055	0651057
ITEM	CLEARING & GRUBBING	EARTH EXCAVATION	ROCK EXCAVATION	CHANNEL EXCAVATION - EARTH	UNSUITABLE MATERIAL EXCAVATION	TEST PIT EXCAVATION	CUT BITUMINOUS CONCRETE PAVEMENT	TRENCH EXCAVATION (0'-4' DEEP)	ROCK IN TRENCH EXCAVATION (0'-4' DEEP)	TRENCH EXCAVATION (0'-10' DEEP)	ROCK IN TRENCH EXCAVATION (0'-10' DEEP)	TRENCH EXCAVATION (0'-15' DEEP)	ROCK IN TRENCH EXCAVATION (0'-15' DEEP)	FORMATION OF SUBGRADE	ANTI-TRACKING PAD	SUBBASE	GRANULAR FILL	CONTROLLED LOW STRENGTH MATERIAL	SEDIMENTATION CONTROL SYSTEM	SEDIMENT CONTROL AT CATCH BASIN	PROCESSED AGGREGATE BASE	TEMPORARY PAVEMENT	BITUMINOUS CONCRETE PATCHING - FULL DEPTH	HMA S0.50	MATERIAL FOR TACK COAT	CONCRETE FOR STEPS & COPINGS	TYPE "C" CATCH BASIN	TYPE 'C' CATCH BASIN TOP	TYPE 'C' CATCH BASIN (MODIFIED)	TYPE "C" CATCH BASIN DOUBLE GRATE TYPE I	TYPE "C" CATCH BASIN DOUBLE GRATE TYPE II	TYPE "C" CATCH BASIN OVER 10' DEEP	TYPE "C" CATCH BASIN DOUBLE GRATE TYPE I (MODIFIED)	SPECIAL ROUND TYPE "C" CATCH BASIN	RESET TYPE "C" CATCH BASIN	BEDDING MATERIAL	15" R.C.P.	18" R.C.P.	24" R.C.P.	30" R.C.P.	12" R.C.P. CLASS V	24" R.C.P. CLASS V	30" R.C.P. CLASS V
UNIT	L.S.	C.Y.	C.Y.	C.Y.	C.Y.	CY	LF	C.Y.	CY	CY	CY	C.Y.	C.Y.	SY	SY	CY	C.Y.	CY	L.F.	EA	CY	SY	SY	TON	GAL	C.Y.	EA	EA	EA	EA	EA	EA	EA	EA	EA	CY	LF	LF	LF	LF	LF	LF	LF
SOUTH ST STA 99+57 TO STA 105+00		1200	31	0	60	0	948	7	0	480	7	37	0	1975	0	609	48	0	890	8	329	359	0	454	197	0.0	2	0	0	4	1	1	0	0	0	50	654	40	0	10	0	0	0
SOUTH ST STA 105+00 TO STA 111+00		1421	36	0	71	0	153	0	0	0	0	0	0	2062	0	644	0	0	957	0	344	0	0	474	206	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH ST STA 111+00 TO STA 117+00		2187	56	25	109	0	1191	6	0	990	5	117	8	2076	122	686	111	13	974	6	346	339	127	477	208	0.0	0	0	0	0	0	1	1	1	0	84	330	0	183	25	16	202	217
SOUTH ST STA 117+00 TO STA 123+00		2142	55	0	107	84	661	0	0	501	6	33	8	1851	0	621	51	0	828	5	309	146	0	426	185	0.0	4	0	1	0	0	0	0	0	0	37	537	0	0	0	0	0	0
SOUTH ST STA 123+00 TO STA 129+00		1793	46	0	90	0	479	0	0	161	0	0	0	2310	0	731	29	0	1034	2	385	180	0	531	231	0.0	1	0	0	0	0	0	0	0	0	22	309	0	0	0	0	0	0
SOUTH ST STA 129+00 TO STA 135+00		2397	61	0	120	60	203	0	0	0	0	0	0	2267	0	750	0	0	1396	0	378	0	0	521	227	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH ST STA 135+00 TO STA 141+00		3221	83	0	161	0	64	0	0	0	0	0	0	2085	0	740	0	0	1228	0	348	0	0	480	209	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH ST STA 141+00 TO STA 146+38		1504	263	0	75	0	259	7	35	122	0	0	0	1860	0	592	9	2	176	9	310	54	0	428	186	0.0	0	3	0	0	1	0	0	0	3	6	39	0	0	0	0	0	0
SUBTOTAL		15865	631	25	793	144	3958	21	35	2253	18	188	17	16487	122	5373	248	15	7483	30	2748	1079	127	3792	1649	0.7	7	3	1	4	2	2	1	1	3	198	1869	40	183	35	16	202	217
UNASSIGNED		5	9	5	7	16	242	79	5	147	2	12	83	833	78	277	12	5	377	2	352	121	73	208	91	0.3	0	0	0	0	0	0	0	0	0	12	101	10	18	5	4	18	13
TOTAL QUANTITY	L.S.	15870	640	30	800	160	4200	100	40	2400	20	200	100	17320	200	5650	260	20	7860	32	3100	1200	200	4000	1740	1	7	3	1	4	2	2	1	1	3	210	1970	50	200	40	20	220	230

PARTICIPATING ITEMS

ITEM NO.	0651656	0651719	0652014	0653001	0653100	0703012	0728032	0751120	0751831	0755009	0814005	0815001	0905011A	0905106A	0921001	0921005	0921039	0922001	0922500	0922501	0924002	0924007A	0942001	0943001	0943002	0944004	0946001	0950005	0969062A	0970007	0971001A	0975004	0976002	0977001	0978002	0979003	0980001	0981101A	1206023A	1208931	1208932	1209114	1209124
ITEM	12" CORRUGATED PE PIPE (SMOOTH INTERIOR)	12" DUCTILE IRON PIPE	30" REINFORCED CONCRETE CULVERT END	CLEAN EXISTING CATCH BASIN	CLEAN EXISTING CULVERT - 12" TO 42" DIAMETER	MODIFIED RIPRAP	NO. 6 CRUSHED STONE	UNDERDRAIN WITH 6" PERFORATED CORRUGATED POLYETHYLENE PIPE	6" OUTLET FOR UNDERDRAIN	GEOTEXTILE	RESET GRANITE CURVED STONE CURBING	BITUMINOUS CONCRETE LIP CURBING	RESET FENCE	6' STOCKADE FENCE	CONCRETE SIDEWALK	CONCRETE SIDEWALK RAMP	DETECTABLE WARNING STRIP	BITUMINOUS CONCRETE SIDEWALK	BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)	BITUMINOUS CONCRETE DRIVEWAY	CONCRETE DRIVEWAY RAMP	RELAY BELGIAN BLOCK PAVERS	CALCIUM CHLORIDE FOR DUST CONTROL	WATER FOR DUST CONTROL	SWEEPING FOR DUST CONTROL	FURNISHING & PLACING TOPSOIL	LIMING	TURF ESTABLISHMENT	CONSTRUCTION FIELD OFFICE, MEDIUM	TRAFFICPERSON (UNIFORMED FLAGGER)	MAINTENANCE & PROTECTION OF TRAFFIC	MOBILIZATION & PROJECT CLOSEOUT	BARRICADE WARNING LIGHTS HIGH INTENSITY	TRAFFIC CONES	TRAFFIC DRUMS	CONSTRUCTION BARRICADE TYPE III	CONSTRUCTION STAKING	OPPOSING TRAFFIC LANE DIVIDER	REMOVAL AND RELOCATION OF EXISTING SIGNS	SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)	SIGN FACE - SHEET ALUMINUM (TYPE IV RETROREFLECTIVE SHEETING)	HOT-APPLIED PAINTED PAVEMENT MARKINGS 4" YELLOW	HOT-APPLIED PAINTED PAVEMENT MARKINGS 4" WHITE
UNIT	LF	LF	EA	EA	L.F.	C.Y.	C.Y.	L.F.	L.F.	S.Y.	LF	LF	LF	LF	SF	SF	EA	SY	SY	SY	CY	SF	TON	M GAL	HR	SY	TON	SY	MO.	HR	L.S.	L.S.	DAY	EA	EA	EA	L.S.	EA.	L.S.	SF	SF	LF	LF
SOUTH ST STA 99+57 TO STA 105+00	0	0	0	1	61	0	0	382	130		0	1139	0	0	1801	131	1	0	0	265	26	0	1.0	138	11	992	0.2	992												9	19	1020	1010
SOUTH ST STA 105+00 TO STA 111+00	0	0	0	0	0	0	0	820	105		0	1093	0	0	2514	152	2	0	0	273	27	0	1.0	144	11	1075	0.2	1075												5	0	1106	1150
SOUTH ST STA 111+00 TO STA 117+00	9	0	1	1	76	13	0	200	0	38	0	1111	50	0	1925	280	2	0	200	122	23	0	1.0	145	11	693	0.1	693												5	0	1098	1149
SOUTH ST STA 117+00 TO STA 123+00	0	0	0	0	54	0	11	588	0		0	1063	130	0	2277	0	0	0	0	190	29	0	0.9	130	10	2144	0.4	2144												0	0	1200	1200
SOUTH ST STA 123+00TO STA 129+00	0	0	0	0	0	0	0	706	0		0	1154	66	0	2271	370	2	0	0	273	23	0	1.2	162	13	1035	0.2	1035												12	11	1014	1100
SOUTH ST STA 129+00 TO STA 135+00	0	0	0	0	0	0	0	600	0		0	1059	0	0	2059	129	2	2	0	491	36	78	1.1	159	12	1223	0.3	1223												9	13	1104	1150
SOUTH ST STA 135+00 TO STA 141+00	0	0	0	0	0	0	0	600	0		0	1234	0	87	2855	114	2	0	0	173	0	0	1.0	146	11	2058	0.4	2058												7	22	1108	1150
SOUTH ST STA 141+00 TO STA 146+38	0	57	0	1	6	0	11	495	0		56	972	0	0	1646	108	2	0	0	97	15	0	0.9	130	10	606	0.1	606												5	13	1006	1008
SUBTOTAL	9	57	1	3	198	13	22	4391	235	38	56	8825	246	87	17348	1284	13	2	200	1884	179	78	8	1154	91	9826	2.0	9826	14	1299			1200	70	70	8		34		54	77.5	8656	8917
UNASSIGNED	0	13	0	7	102	1	8	309	15	2	4	445	14	13	953	65	1	0	10	96	11	2	1	146	9	574	0.2	574	1	101			100	10	10	2		6		6	12.5	544	453
TOTAL QUANTITY	9	70	1	10	300	14	30	4700	250	40	60	9270	260	100	18300	1349	14	2	210	1980	190	80	9	1300	100	10400	2.2	10400	15	1400	L.S.	L.S.	1300	80	80	10	L.S.	40	L.S.	60	90	9200	9370

PARTICIPATING ITEMS

ITEM NO.	1209131	1210101	1210102	1210105	1211002	1220027	1400003A	1400004A	1400005A	1400006A	1403102A	1401038A	1401946A	1401977A	1403001A	1403501 A	1403504 A	1504010A
ITEM	HOT-APPLIED PAINTED LEGEND, ARROWS, AND MARKINGS	4" WHITE EPOXY RESIN PAVEMENT MARKINGS	4" YELLOW EPOXY RESIN PAVEMENT MARKINGS	EPOXY RESIN PAVEMENT MARKINGS, SYMBOLS, & LEGENDS	REMOVAL OF PAINTED PAVEMENT MARKINGS	CONSTRUCTION SIGNS	TRENCH EXCAVATION 0' - 10' DEEP (SANITARY SEWER)	ROCK-IN-TRENCH EXCAVATION 0' - 10' DEEP (SANITARY SEWER)	TRENCH EXCAVATION 0' - 15' DEEP (SANITARY SEWER)	ROCK-IN-TRENCH EXCAVATION 0' - 15' DEEP (SANITARY SEWER)	8" POLYVINYL CHLORIDE PIPE (SANITARY SEWER)	RECONSTRUCT SANITARY SEWER HOUSE LATERALS	CUT AND PLUG ABANDONED SANITARY SEWER	CONCRETE FOR ENCASEMENT AND CRADLE (SANITARY SEWER)	MANHOLE (SANITARY SEWER)	RESET MANHOLE (SAN SEWER)	RECONSTRUCT MANHOLE (SAN SEWER)	TEMPORARY SUPPORT OF UTILITIES
UNIT	SF	LF	LF	SF	SF	SF	CY	CY	CY	CY	LF	LF	EA	CY	EA	EA	VF	LS
SOUTH ST STA 99+57 TO STA 105+00	20	1010	1020	188	160		0	0	0		0	0	0			2	2	
SOUTH ST STA 105+00 TO STA 111+00	21	1150	1106	19	0		0	0	0		0	0	0			0	0	
SOUTH ST STA 111+00 TO STA 117+00	19	1149	1098	20	0		0	0	0		0	0	0			1	1	
SOUTH ST STA 117+00 TO STA 123+00	0	1200	1200	0	0		319	2	92	5	325	210	0	1.3		1	2	
SOUTH ST STA 123+00TO STA 129+00	45	1100	1014	41	0		0	0	0		0	0	0	0.0		3	3	
SOUTH ST STA 129+00 TO STA 135+00	163	1150	1104	20	0		98	2	0		0	180	0	0.3		0	11	
SOUTH ST STA 135+00 TO STA 141+00	22	1150	1108	20	0		19	1	0		0	0	0	0.1	1	1	0	
SOUTH ST STA 141+00 TO STA 146+38	198	1008	1006	660	236		156	4	0		209	0	2	0.5	1	1	2	
SUBTOTAL	488	8917	8656	968	396	290	592	9	92	5	533	390	2	2.1	2	9	21	
UNASSIGNED	32	453	544	52	24	210	38	1	5	0	37	20	0	0.9	0	0	9	
TOTAL QUANTITY	520	9370	9200	1020	420	500	630	10	97	5	570	410	2	3	2	9	30	L.S.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted: NOV. 18, 2016

DESIGNER/DRAFTER: AD

CHECKED BY: ME

CARDINAL ENGINEERING ASSOCIATES

3 Colony Street | Meriden, CT 06451 | 203-238-1969

Filename:P:\Civ3dProj2014\VernonSouthSt64\Prodwg\01 02 Detailed Estimate.dwg

SIGNATURE/ BLOCK: - -

PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: DETAILED ESTIMATE

PROJECT NO. 146-195

DRAWING NO. DES 01

SHEET NO. 01 02

P:\Civil 3d Projects 2014\Vernon South St64\Production Drawings\01 02 DETAILED ESTIMATE.dwg, Layout1, 11/18/2016 4:00:46 PM,
DWG To PDF.pc3, ANSI expand D (34.00 x 22.00 Inches)

GENERAL NOTES

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH SECTIONS 2 THRU 18 OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 816, 2004 WITH LATEST REVISIONS UNLESS OTHERWISE SPECIFIED IN THE TECHNICAL SPECIFICATIONS.

2. ALL DIMENSIONS ARE FEET UNLESS OTHERWISE NOTED.

3. PLANIMETRIC AND TOPOGRAPHIC FEATURES ARE BASED ON FIELD SURVEY PERFORMED BY CARDINAL ENGINEERING ASSOCIATES, FROM 2009 TO 2012. SURVEY BASELINE CONFORMS TO CLASS A-2 HORIZONTAL ACCURACY. STREETLINE AND PROPERTY LINE INFORMATION (IF SHOWN) ARE APPROXIMATE AND BASED ON LIMITED FIELD SURVEY. ALL ELEVATIONS ARE BASED ON NGVD29. HORIZONTAL COORDINATES ARE BASED ON THE CONNECTICUT COORDINATE GRID. VERTICAL ACCURACY IS CLASS T-2.

4. ALL DIMENSIONS AND ELEVATIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF MANUFACTURING AND CONSTRUCTION, AND NECESSARY ADJUSTMENTS MADE AS ORDERED BY THE ENGINEER.

5. EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 816, 2004 WITH LATEST REVISIONS, 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, DEP BULLETIN 34, UNLESS OTHERWISE SPECIFIED IN THE TECHNICAL SPECIFICATIONS.

6. THE CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE WITH A STAGING PLAN AND SEDIMENT AND EROSION CONTROL PLAN FOR APPROVAL PRIOR TO COMMENCING CONSTRUCTION.

7. ALL DISTURBED AREAS THAT WILL NOT BE PAVED SHALL RECEIVE 4" OF TOPSOIL AND TURF ESTABLISHMENT.

8. THE CONTRACTOR SHALL WALK THE PROJECT PRIOR TO CONSTRUCTION WITH A REPRESENTATIVE FROM THE TOWN AND THE ENGINEER. TREES TO BE REMOVED SHALL BE MARKED IN THE FIELD. EXTREME CARE SHALL BE EXERCISED TO PROTECT ALL TREES NOT DESIGNATED FOR REMOVAL. NO TREES SHALL BE REMOVED UNTIL AUTHORIZATION IS GIVEN BY THE TOWN. COST IS INCLUDED IN THE ITEM "CLEARING AND GRUBBING".

9. ANY PHYSICAL FEATURES DISTURBED BY THE CONTRACTOR SHALL BE REPLACED OR RECONSTRUCTED AS DIRECTED BY THE ENGINEER TO A CONDITION EQUAL TO OR BETTER THAN PRIOR TO CONSTRUCTION AT THE CONTRACTORS EXPENSE.

10. THE CONTRACTOR SHALL MAINTAIN ALL ROAD NAME SIGNS AS INDICATED ON THE PLANS AND SHALL MAINTAIN ALL TRAFFIC SIGNS AS NEEDED DURING CONSTRUCTION AND AS DIRECTED BY THE ENGINEER. COST IS INCLUDED IN THE ITEM "REMOVAL AND RELOCATION OF EXISTING SIGNS".

11. THE UTILITY INFORMATION SHOWN ON THESE PLANS IS BASED ON LIMITED INVESTIGATIONS AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OF WORK REQUIRED. LOCATIONS OF EXISTING UTILITIES AND UNDERGROUND STRUCTURES HAVE BEEN COMPILED FROM THE BEST AVAILABLE INFORMATION. THIS INFORMATION WAS COMPILED UTILIZING UTILITY COMPANY & TOWN RECORD MAPS AND FIELD SURVEY AND THEREFORE, IS CONSIDERED TO BE APPROXIMATE. ALL UTILITIES AND UNDERGROUND STRUCTURES MAY NOT BE SHOWN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE ACTUAL LOCATION OF ALL UTILITIES. THE TOWN SHALL NOTIFY UTILITY COMPANIES OF NECESSARY RELOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF THE UTILITY COMPANIES. UTILITY LINES DAMAGED BY THE CONTRACTOR SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND THE UTILITY COMPANY AND THE COST OF REPAIR WORK SHALL BE BORNE BY THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT CALL BEFORE-U-DIG AT 1-800-922-4455 FOR MARKING OF EXISTING UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF EXCAVATION (MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS).

12. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL PERFORM TEST PITS AS NECESSARY OR AS DIRECTED BY THE ENGINEER TO CONFIRM THE LOCATION OF UTILITIES.

13. WATER, GAS, AND SANITARY SEWER SERVICE CONNECTION LOCATIONS ARE APPROXIMATE ONLY. THE ACTUAL LOCATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL PERFORM THE REQUIRED SEWER RELOCATIONS AND COORDINATE ANY OTHER REQUIRED RELOCATIONS WITH THE RESPECTIVE UTILITY COMPANIES.

14. CONTRACTOR TO SUPPLY UTILITY COMPANIES WITH SUFFICIENT VERTICAL AND HORIZONTAL STAKEOUT OF PROPOSED STORM DRAINAGE, PROPOSED ROADWAY, AND OTHER PROPOSED IMPROVEMENTS TO PERFORM UTILITY RELOCATIONS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE ITEM "CONSTRUCTION STAKING."

15. ANTICIPATED UTILITY POLE RELOCATIONS ARE SHOWN ON THE PLANS. ADDITIONAL POLE RELOCATIONS MAY BE REQUIRED. CONTRACTOR TO PROVIDE STAKEOUT OF PROPOSED IMPROVEMENTS PRIOR TO COMMENCEMENT OF WORK TO DETERMINE IF ADDITIONAL POLE RELOCATIONS ARE REQUIRED. POLE RELOCATIONS MAY NOT BE COMPLETED PRIOR TO THE INSTALLATION OF STORM DRAINAGE AND ROADWAY IMPROVEMENTS. THE COST OF THIS WORK SHALL BE INCIDENTAL TO THE PROJECT.

16. ALL REQUIRED UTILITY RELOCATIONS FOR GAS, TELEPHONE, CABLE & ELECTRIC FACILITIES SHALL BE PERFORMED BY THE RESPECTIVE UTILITY COMPANY UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES PRIOR TO ANY WORK AND COORDINATE HIS WORK WITH THE UTILITY COMPANY WORK. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANY FOR THE UTILITY COMPANY TO HOLD ANY POLES THAT NEED TO BE SUPPORTED DURING THE CONTRACTOR'S TRENCHING OPERATIONS. THE COST TO COORDINATE THIS WORK WITH THE UTILITY COMPANIES SHALL BE INCIDENTAL TO THE PROJECT. THERE WILL BE NO COMPENSATION FOR DELAYS.

17. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES TO RESET ALL UTILITY BOXES TO FINISHED GRADE. THERE WILL BE NO SEPARATE PAYMENT TO COORDINATE THIS WORK OR CLAIM FOR TIME EXTENSION.

18. THE UTILITY COMPANIES SHALL RESET ALL WATER AND GAS VALVE BOXES, WATER CURB STOP BOXES AND PRIVATE UTILITY MANHOLES TO FINISHED GRADE. RESETTING SANITARY MANHOLES WILL BE PAID UNDER THE CONTRACT UNIT PRICE.

19. FOR LAYOUT PURPOSES, PIPE LENGTHS INDICATED ON THE PLANS ARE FROM CENTER OF CATCH BASIN/MANHOLE TO CENTER OF CATCH BASIN/MANHOLE, FACE OF ENDWALL OR OUTLET END OF FLARED END AND THE LENGTH OF THE FLARED END SECTION IS INCLUDED IN PIPE LENGTH. PAYMENT SHALL BE THE ACTUAL LENGTH INSTALLED MEASURED FROM THE INSIDE FACE OF THE STRUCTURE TO THE INSIDE FACE OF A STRUCTURE OR THE FACE OF AN ENDWALL AND SHALL NOT INCLUDE THE LENGTH OF THE CULVERT END. CULVERT ENDS ARE PAID SEPARATELY.

20. ALL TOP OF FRAME ELEVATIONS REFLECT THE ELEVATION WITH THE STANDARD DEPRESSION AS SHOWN ON "DETAILS OF DEPRESSED GUTTER STRIP" AND CTDOT STANDARD SHEETS HW-507_1, HW-507_2, AND HW-507_3 ENTITLED "TYPE "C", "C-L" DROP INLET CATCH BASINS", "TYPE "C", "C-L" DOUBLE GRATE TYPE I," AND "TYPE "C", "C-L" DOUBLE GRATE TYPE II." THE ELEVATION IS APPLIED AT THE FACE OF CURB. OFFSETS NOTED ON THESE PLANS ARE TO THE CENTERLINE OF THE CATCH BASIN STRUCTURE, NOT TO THE FACE OF CURB. THE CENTERLINE OF TYPE "C" CATCH BASINS (SINGLE GRATE AND DOUBLE GRATE TYPE II) ARE 10 3/16 INCHES IN FRONT OF THE FACE OF CURB. THE CENTERLINE OF TYPE "C" CATCH BASIN DOUBLE GRATE TYPE I STRUCTURES ARE 18 INCHES IN FRONT OF THE FACE OF CURB.

21. RCP SHALL BE CLASS IV UNLESS NOTED OTHERWISE. RCP PIPE WITH LESS THAN 2.0 FEET OF COVER SHALL BE CLASS V. ALL RCP SHALL HAVE PREFORMED PLASTIC OR RUBBER-TYPE GASKETS. PVC PIPE SHALL BE SDR-35 AND INSTALLED IN A TYPE II INSTALLATION WITH BEDDING MATERIAL FROM 4" BELOW (IN EARTH, 12" IN ROCK) TO 12" ABOVE THE PIPE. DUCTILE IRON PIPE SHALL BE CLASS 52.

22. ALL EXISTING CONNECTIONS FROM PRIVATE RESIDENCES TO THE TOWN'S STORM SYSTEM WILL BE EVALUATED BY THE DEPARTMENT OF PUBLIC WORKS AND CONNECTED DIRECTLY TO NEW STORM DRAIN SYSTEM PENDING A SIGNED AGREEMENT BY THE PROPERTY OWNER. NO DISCHARGE WILL BE ALLOWED INTO THE STREET.

23. ALL EXISTING DRAINAGE PIPES AND CULVERTS WITHIN THE PROJECT SLOPE LIMITS THAT ARE DESIGNATED TO BE REMOVED SHALL BE REMOVED AND BACKFILLED AS SPECIFIED IN SECTION 2.05 "TRENCH EXCAVATION" UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. COORDINATE THIS WORK WITH THE RECONNECTION OF ANY EXISTING FOUNDATION AND OTHER DRAINS TO THE PROPOSED DRAINAGE SYSTEM.

24. EXISTING PAVEMENT SHALL BE REMOVED IN FILL AREAS PRIOR TO PLACING FILL. EXISTING PAVEMENT OUTSIDE OF THE CUT AND FILL LIMITS THAT WILL NOT BE USED IN THE PROPOSED CONDITIONS SHALL BE REMOVED. PAYMENT SHALL BE MADE UNDER THE ITEM "EARTH EXCAVATION."

25. ALL TRENCHES SHALL BE BACKFILLED AND PAVED DAILY UNLESS OTHERWISE AUTHORIZED BY THE TOWN.

26. FRAMES AND COVERS ON ABANDONED MANHOLES SHALL BE REMOVED AND SALVAGED. THEY SHALL BE STORED AND TRANSPORTED TO THE TOWN YARD OR DISPOSED OF AS ORDERED BY THE ENGINEER. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK.

27. ALL EXCAVATED MATERIALS, CONSTRUCTION EQUIPMENT AND NEW MATERIALS FOR THE WORK SHALL BE PLACED SO AS NOT TO INJURE THE WORK OR ENDANGER PERSONS AND TO ALLOW FREE ACCESS AT ALL TIMES TO ALL PARTS OF THE WORK INCLUDING PUBLIC UTILITY INSTALLATIONS. MATERIALS SHALL BE STORED AT LOCATIONS WHICH WILL CAUSE A MINIMUM OF INCONVENIENCE TO PUBLIC TRAVEL OR THE ADJOINING TENANTS AND MINIMUM DAMAGE TO GRASSED OR OTHERWISE IMPROVED AREAS. LOCATION OF ALL STORED MATERIALS IS SUBJECT TO APPROVAL OF THE ENGINEER AND OWNER.

STANDARD CONVENTIONS

EXISTING		PROPOSED
	APPROXIMATE LIMIT OF CUT SLOPE	C
	APPROXIMATE LIMIT OF FILL SLOPE	F
	APPROXIMATE PROPERTY LINE	
	APPROXIMATE STREET LINE	
	TAKING LINE	
	BASELINE STATION	0+00
bit	BITUMINOUS CONCRETE DRIVEWAY	
	BORING NUMBER B10 (SEE BORING LOG SHEET)	B9 approx. location; B-10 surveyed
	CATCH BASIN	
	CONTROL POINT	
conc	CONCRETE DRIVEWAY RAMP, FLARE & SLOPED SIDEWALK	
	CULVERT END	
	DRAINAGE DITCH	BOT. WIDTH & SIDE SLOPES
size & type	DRAINAGE PIPE	SIZE & TYPE
	EASEMENT LINE (PERMANENT)	
	EASMENT LINE (TEMPORARY)	
E	ELECTRIC LINE (UNDERGROUND)	
type X	FENCE (CHAIN LINK)	TYPE
type	FENCE (SPLIT RAIL)	TYPE
type	FENCE (STOCKADE)	TYPE
G	GAS LINE	
TP G1	GAS TEST PIT	
gv wv	GAS VALVE or WATER VALVE	wv
Number or Name	HOUSE/ STRUCTURE	
	HYDRANT	
FED WL; CT WL	INLAND WETLAND LIMITS	
	MAILBOX	
S D	MANHOLE, SANITARY (S), DRAINAGE (D)	
mon	MONUMENT	MON
	NORTH ARROW	
OH	OVERHEAD TELEPHONE, CABLE AND/OR ELECTRIC	
	RETAINING WALL	
	RIPRAP APRON	
	SANITARY SERVICE CONNECTION	
size & type	SANITARY SEWER	SIZE & TYPE
	SEDIMENTATION CONTROL SYSTEM	
	SIGN	
x 33.2	SPOT ELEVATION	x 33.2
	STONE WALL	
T	TELEPHONE LINE (UNDERGROUND)	
	TREE	
	TREE LINE	
Size & Type	UNDERDRAIN	SIZE & TYPE
	"U" SHAPED STONE DIKE	
number & owner	UTILITY POLE	
	WATER COURSE	
W	WATER LINE	
TP W15 M W7	WATER TEST PIT (TP) / MEASUREMENT AT VALVE (M)	

LIST OF ABBREVIATIONS

AGGR	AGGREGATE	NOM	NOMINAL
AH	AHEAD	NO	NUMBER
A	ALGEBRAIC DIFFERENCE IN GRADES	OF	OUTFALL
APPROX	APPROXIMATE	PERF	PERFORATED
ASPH	ASPHALT	PCPP	PERFORATED CORRUGATED POLYETHYLENE PIPE
BK	BACK	PLNTR	PLANTER
℄	BASELINE	POB	POINT OF BEGINNING
BM	BENCHMARK	PCC	POINT OF COMPOUND CURVATURE
BIT	BITUMINOUS	PC	POINT OF CURVATURE
BCLC	BITUMINOUS CONCRETE LIP CURBING	POE	POINT OF ENDING
BC	BOTTOM OF CURB	PGA	POINT OF GRADE APPLICATION
CGR	CABLE GUIDERAIL	PI	POINT OF INTERSECTION
CI / CIP	CAST IRON PIPE	PRC	POINT OF REVERSE CURVE
CB	CATCH BASIN	PT	POINT OF TANGENCY
℄	CENTERLINE	PVC	POINT OF VERTICAL CURVATURE
CC	CONCRETE CURBING	PVCC	POINT OF VERTICAL COMPOUND CURVATURE
CL	CLASS	PVI	POINT OF VERTICAL INTERSECTION
CO	CONDUIT	PVRC	POINT OF VERTICAL REVERSE CURVATURE
CONC	CONCRETE	PVT	POINT OF VERTICAL TANGENCY
CP	CONTROL POINT	POC	POINT ON CURVE
COR	CORNER	POT	POINT ON TANGENT
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE PIPE
CPFE	CORRUGATED POLYETHYLENE FLARED END	⅊	PROPERTY LINE
CPP	CORRUGATED POLYETHYLENE PIPE	R	RADIUS
CY	CUBIC YARD	RR	RAILROAD
DIA	DIAMETER	K	RATE OF VERTICAL CURVATURE
DBL	DOUBLE	REINF	REINFORCED
DRIVE	DRIVEWAY	RCCE	REINFORCED CONCRETE CULVERT END
DI / DIP	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE
EA	EACH	REQD	REQUIRED
ESMT	EASEMENT	RT	RIGHT
EOP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EL / ELEV	ELEVATION	RSC	RIGID STEEL CONDUIT
EW	ENDWALL	RD	ROAD
EX / EXIST	EXISTING	SAN	SANITARY
FG	FINISHED GRADE	SS	SANITARY SEWER
FP	FLAGPOLE	SED	SEDIMENTATION
FE	FLARED END	SCB	SEDIMENT CONTROL BALES
FL	FLOW LINE	SCS	SEDIMENT CONTROL SYSTEM
FT	FOOT	SHLDR	SHOULDER
FND	FOUND	SF	SQUARE FOOT
FOUND	FOUNDATION	SY	SQUARE YARD
G	GAS	STD	STANDARD
GV	GAS VALVE	STA	STATION
GSC / GC	GRANITE STONE CURBING	SSD	STOPPING SIGHT DISTANCE
HP	HIGH POINT	ST	STREET
HORIZ	HORIZONTAL	SL	STREET LINE
HRS	HOURS	TBD	TO BE DETERMINED
HYD	HYDRANT	TC	TOP OF CURB
INV	INVERT	TF	TOP OF FRAME
IE	INVERT ELEVATION	TYP	TYPICAL
IP	IRON PIN	U'DRN	UNDERDRAIN
ISD	INTERSECTION SIGHT DISTANCE	VERT	VERTICAL
LT	LEFT	VC	VERTICAL CURVE
L	LENGTH	VF	VERTICAL FEET
LVC	LENGTH OF VERTICAL CURVE	VCP	VITRIFIED CLAY PIPE
LTP	LIGHT POLE	W	WATER
LF	LINEAR FEET	W/F	WOOD FROM FRAME
LP	LOW POINT	WV	WATER VALVE
LS	LUMP SUM		
MB	MAILBOX		
MH	MANHOLE		
MAX	MAXIMUM		
MBR	METAL BEAM RAIL		
MCE	METAL CULVERT END		
MIN	MINIMUM		
MON	MONUMENT		
N/F	NOW OR FORMERLY		
NTS	NOT TO SCALE		

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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-	-	-	-
-	-	-	-
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-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted: JUN. 30, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969
Filename:P:\Civ3dProj2014\VernonSouthSt64\Prodwg\GEN 02.dwg

SIGNATURE/ BLOCK: - -

PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: ABBREVIATIONS, LEGEND & GENERAL NOTES

PROJECT NO. 146-195
DRAWING NO. GEN 02
SHEET NO. 01 03

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02 - Revisions
INDEX OF DRAWINGS

DRAWING NUMBER	SHEET NUMBER	DRAWING TITLE
REV 01	02 01	INDEX OF REVISIONS

DESIGNED BY:
Cardinal Engineering Associates, Inc.
3 Colony Street
Meriden, Connecticut 06451

02—Revisions
INDEX OF DRAWINGS

DRAWING NO.	SHEET NO.	DRAWING TITLE
REV 01	02 01	INDEX OF REVISIONS

FINAL DESIGN REVIEW

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
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Plotted: APR. 29, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969
Filename:P:\Civ3dProj2014\VernonSouthSt64\Prodwg\02 01 Index of Revisions.dwg

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PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: INDEX OF REVISIONS

PROJECT NO. 146-195
DRAWING NO. REV 01
SHEET NO. 02 01

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03 - Highways
INDEX OF DRAWINGS

DRAWING NUMBER	SHEET NUMBER	DRAWING TITLE	DRAWING NUMBER	SHEET NUMBER	DRAWING TITLE
HWY 01	03 01	INDEX OF HIGHWAY PLANS			
IND 01	03 02	INDEX AND SURVEY LAYOUT PLAN			
BOR 01 TO BOR 04	03 03 TO 03 06	BORING LOGS			
MDS 01 TO MDS 03	03 07 TO 03 09	MISCELLANEOUS DETAILS			
TYP 01	03 10	TYPICAL SECTIONS & PAVEMENT TREATMENT DETAIL			
PLA 01 TO PLA 04	03 11 TO 03 14	ROADWAY PLAN SHEETS			
PRO 01 TO PRO 05	03 15 TO 03 19	ROADWAY PROFILE SHEETS			
XSC 01 TO XSC 35	03 20 TO 03 54	CROSS SECTIONS SOUTH STREET			
XSC 36 TO XSC 38	03 55 TO 03 57	CROSS SECTIONS SIDE STREETS			
GRA 01	03 58	INTERSECTION GRADING PLAN			
MDS 04	03 59	TRENCH DETAILS FOR STATE ROADS			
SAN 01	03 60	SANITARY SEWER DETAILS			

DESIGNED BY:
Cardinal Engineering Associates, Inc.
3 Colony Street
Meriden, Connecticut 06451

FINAL DESIGN REVIEW

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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-	-	-	-
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Plotted: JULY 11, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969
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PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: INDEX OF HIGHWAY PLANS

PROJECT NO. 146-195
DRAWING NO. HWY 01
SHEET NO. 03 01

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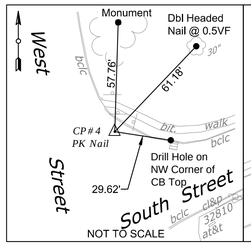

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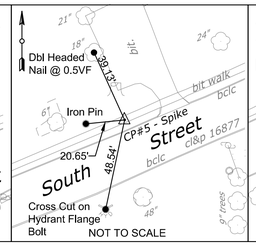

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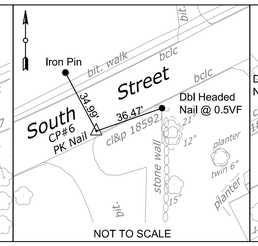

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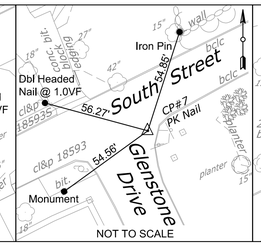

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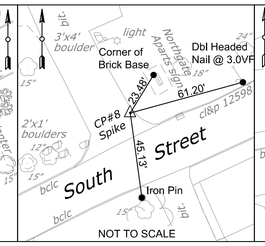

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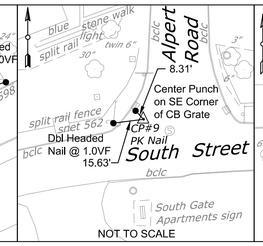

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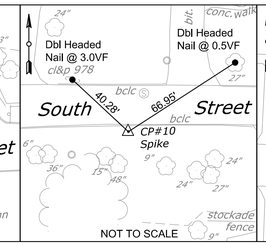

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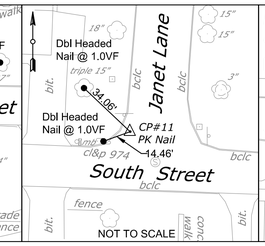

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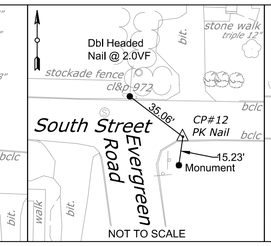

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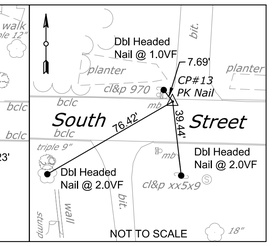

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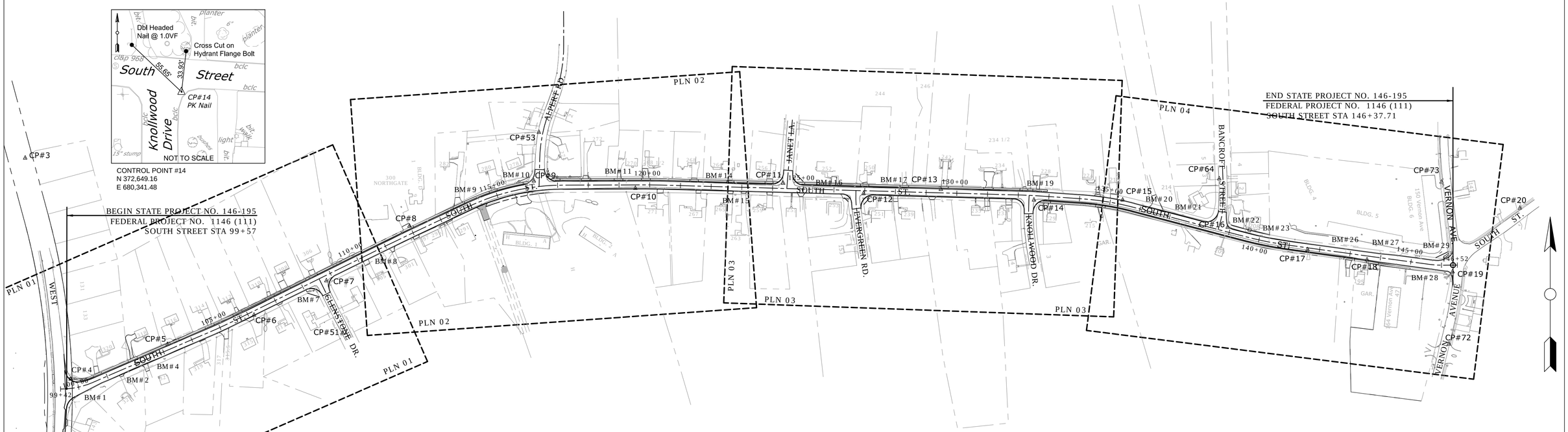

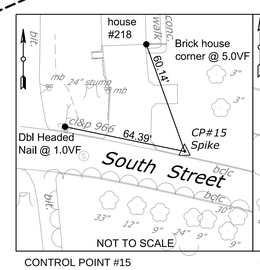

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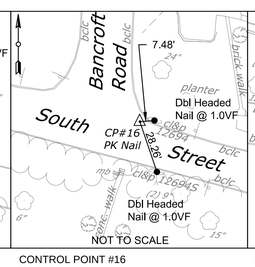

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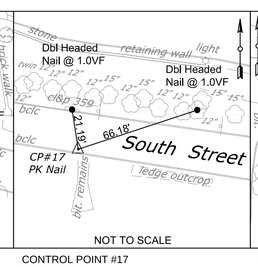

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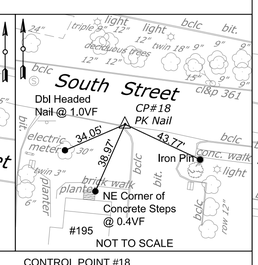

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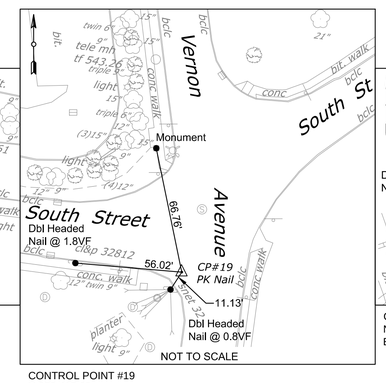

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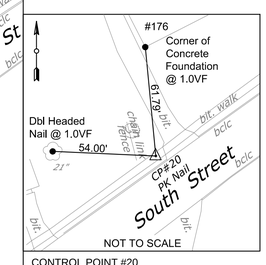

CONTROL POINT #20
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NOTE: CONTROL POINT TIE BOXES ARE NOT TO SCALE.

BENCHMARK		
NUMBER	DESCRIPTION	ELEVATION
BM 1	PK NAIL AT 1.0 VF ON CL&P POLE 3_ _ 10	447.29
BM 2	PK NAIL AT 1.0 VF ON CL&P POLE 6982	460.04
BM 4	CROSS CUT ON HYDRANT FLANGE BOLT IN FRONT OF HOUSE 321	473.70
BM 7	PK NAIL AT 1.0 VF ON CL&P POLE 18593	510.00
BM 8	PK NAIL AT 1.0 VF ON CL&P POLE 18715	512.25
BM 9	PK NAIL AT 1.0 VF ON BACK OF SNET POLE 563	503.11
BM 10	PK NAIL AT 1.0 VF ON SNET POLE 562	507.18
BM 11	PK NAIL AT 1.0 VF ON BACK OF SNET POLE 560	516.83
BM 14	PK NAIL AT 1.0 VF ON CL&P POLE 976	552.53
BM 15	CROSS CUT ON HYDRANT FLANGE BOLT IN FRONT OF HOUSE 263	559.71
BM 16	PK NAIL AT 0.5 VF ON CL&P POLE 973	565.74
BM 17	PK NAIL AT 1.0 VF ON CL&P POLE 971	574.05
BM 19	CROSS CUT ON HYDRANT FLANGE BOLT OPPOSITE OF KNOLLWOOD DRIVE	597.09
BM 20	PK NAIL AT 1.0 VF ON CL&P POLE 12696	594.97
BM 21	PK NAIL AT 1.0 VF ON CL&P POLE 12695	587.50
BM 22	PK NAIL AT 1.0 VF ON CL&P POLE 12694	577.67
BM 23	CROSS CUT ON HYDRANT FLANGE BOLT IN FRONT OF HOUSE 208	573.15
BM 26	PK NAIL AT 1.0 VF ON CL&P POLE 360	552.17
BM 27	PK NAIL AT 1.0 VF ON BACK OF CL&P POLE 361	545.74
BM 28	PK NAIL AT 1.0 VF ON CL&P POLE 32812	544.04
BM 29	CROSS CUT ON HYDRANT FLANGE BOLT AT CORNER OF VERNON AVENUE	545.75

FINAL DESIGN REVIEW

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Plotted: APR. 20, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME
SCALE IN FEET 0 160 320
SCALE 1"=160'

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969
Filename: P:\Civil3dProj2009\VernonSouthSt64\SourceDwgs\VFG-SouthStCL-(4)-(3).dwg

SIGNATURE/BLOCK: - -

PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: SURVEY DATA & INDEX PLAN

PROJECT NO. 146-195
DRAWING NO. INX 01
SHEET NO. 03 02

P:\Civil 3d Projects 2014\Vernon South St64\Source Drawings\VFG - SouthStCL - (4) - (3).dwg, 03 02 INX 01, 4/21/2016 12:11:29 PM,
DWG To PDF.pc3, ANSI expand D (34.00 x 22.00 Inches)

Hole No. B-1

DRILLER: **Trent Roew**		Hole No. **B-1**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **100+00**; Offset **16' Rt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate **372024.2**
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate **677234.8**

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f): **443.81**
Date Started: **10/23/15**
Date Finished: **10/23/15**
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4"	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
1.0-3.0	1	2.0	1.5	SS	13,10,6,6
3.0-5.0	2	2.0	0.8	SS	4,6,8,19
5.0-7.0	3	2.0	0.7	SS	40,95
10.0-10.6	4	0.6		SS	65, 100

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
443.8 / 0.5	Asphalt, 6".
443.3 / 1.0	Basecourse, sand and gravel.
442.8 / 5.0	Brown fine to coarse SAND, some gravel, trace silt.
438.8 / 7.0	Gray brown fine to medium GRAVEL and fine to coarse SAND, some gravel trace silt, occasional cobbles. -GLACIAL TILL.
436.8 / 10.0	Brown fine SAND, some gravel, trace little silt, trace cobble, -GLACIAL TILL.
433.8 / 10.6	Possible weathered rock
433.2	End of boring at 10'7".

Casing: Size / From / To — blank. Feet of: Earth **10.6 f**, Rock **0.0 f***. No. of Samples: **4**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-1 Sheet 1 Of 1

Hole No. B-2

DRILLER: **Michael St. John**		Hole No. **B-2**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **0+64**; Offset **10' Rt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate 372052.0
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate 677295.2

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f):
Date Started: **10/19/15**
Date Finished: **10/19/15**
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.7	SS	20,21,19,17
2.0-4.0	2	2.0	1.5	SS	16,18,17,17
5.0-7.0	3	2.0	1.3	SS	21,23,22,29

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
0.0 / 0.3	Asphalt, 3"
-0.3 / 0.4	Base, sand gravel, 2".
-0.4 / 4.0	Red brown SILT and fine to coarse SAND, little fine gravel
-4.0 / 8.0	Red brown fine to coarse GRAVEL and fine SAND, trace silt. Auger refusal at 8'; moist at bottom. -GLACIAL TILL
-8.0	End of boring at 8'.

Casing: Size / From / To — blank. Feet of: Earth **8.0 f**, Rock **0.0 f***. No. of Samples: **3**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-2 Sheet 1 Of 1

Hole No. B-3

DRILLER: **Michael St. John**		Hole No. **B-3**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **103+70**; Offset **6' Lt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate **372187.8**
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate **677570.4**

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f): **478.59**
Date Started: **10/19/15**
Date Finished: **10/19/15**
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.5	SS	38,41,22,18
2.0-4.0	2	2.0	1.0	SS	20,23,24,29
5.0-7.0	3	2.0	1.5	SS	18,18,21,22
8.0-10.0	4	2.0	1.7	SS	22,25,22,31

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
478.6 / 0.2	Asphalt, 5"
478.4 / 0.7	Base gravel, 3"
477.9 / 4.0	Brown fine to coarse SAND, little fine gravel, trace silt.
474.6 / 10.0	Brown fine SAND, little coarse sand, trace silt, trace fine gravel.
468.6	End of boring at 10'.

Casing: Size / From / To — blank. Feet of: Earth **10.0 f**, Rock **0.0 f***. No. of Samples: **4**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-3 Sheet 1 Of 1

Hole No. B-4

DRILLER: **Michael St. John**		Hole No. **B-4**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **104+51**; Offset **12' Rt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate **372203.4**
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate **677651.6**

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f): **485.11**
Date Started:
Date Finished:
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.3	SS	12,14,18,21
2.0-4.0	2	2.0	1.5	SS	20,24,16,17
5.0-7.0	3	2.0	1.7	SS	19,27,35,48

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
485.1 / 0.4	Asphalt, 4.5" Base gravel, 2".
484.7	Red brown fine to coarse SAND, some silt, little fine gravel.
10.0	Brown fine to coarse SAND, some fine to coarse gravel, little silt, trace to little cobbles. -GLACIAL TILL
475.1	End of boring at 10'.

Casing: Size / From / To — blank. Feet of: Earth **10.0 f**, Rock **0.0 f***. No. of Samples: **3**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-4 Sheet 1 Of 1

Hole No. B-5

DRILLER: **Michael St. John**		Hole No. **B-5**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **106+73**; Offset **6' Rt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate **372304.2**
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate **677849.4**

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f): **501.04**
Date Started: **10/19/15**
Date Finished: **10/19/15**
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.5	SS	6,12,20,24
2.0-4.0	2	2.0	1.6	SS	24,25,21,22
5.0-7.0	3	2.0	1.7	SS	25,35,39,47

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
501.0 / 0.4	Asphalt, 5"
500.6 / 0.7	Base gravel, 3"
500.4 / 8.0	Red brown fine SAND, little silt, trace fine gravel, cobbles. Auger refusal at 8'.
493.0	End of boring at 8'.

Casing: Size / From / To — blank. Feet of: Earth **5.0 f**, Rock **0.0 f***. No. of Samples: **3**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-5 Sheet 1 Of 1

Hole No. B-6

DRILLER: **Michael St. John**		Hole No. **B-6**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **108+62**; Offset **5' Rt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate **372388.9**
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate **678018.6**

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f): **509.48**
Date Started: **10/19/15**
Date Finished: **10/19/15**
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.3	SS	2,9,10,12
2.0-4.0	2	2.0	1.5	SS	13,15,12,15
5.0-7.0	3	2.0	1.7	SS	18,15,12,21
8.0-10.0	4	2.0	1.3	SS	30,32,39,49

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
509.5 / 0.4	Asphalt, 5"
509.1 / 7.5	Red brown fine to coarse sand, little fine to coarse gravel.
502.0 / 10.0	Brown fine to medium SAND, some fine to coarse gravel, little silt. -GLACIAL TILL.
499.5	End of boring at 10'.

Casing: Size / From / To — blank. Feet of: Earth **10.0 f**, Rock **0.0 f***. No. of Samples: **4**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-6 Sheet 1 Of 1

Hole No. B-7

DRILLER: **Michael St. John**		Hole No. **B-7**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **110+7**; Offset **10' Rt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate 372476.6
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate 678207.4

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f):
Date Started: **10/19/15**
Date Finished: **10/19/15**
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.3	SS	10,10,8,11
2.0-4.0	2	2.0	1.0	SS	12,20,26,19
5.0-6.8	3	1.8	1.1	SS	35,31,50,100/3"

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
0.0 / 0.4	Asphalt, 5".
-0.4 / 0.6	Gravel base, 2".
-0.6 / 4.0	Red brown fine SAND, little medium to fine gravel, cobbles. Red brown fine to medium SAND and SILT, trace to little clay, little medium to fine gravel, trace rock fragments.
-4.0 / 7.5	Red brown fine to medium SAND and SILT, trace to little clay, little medium to fine gravel, little weathered rock fragments. Auger refusal at 7.5'. -GLACIAL TILL
-7.5	End of boring at 7.5'.

Casing: Size / From / To — blank. Feet of: Earth **7.5 f**, Rock **0.0 f***. No. of Samples: **3**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-7 Sheet 1 Of 1

Hole No. B-8

DRILLER: **Walter Hoeckele**		Hole No. **B-8**
INSPECTOR: **IOO**	TOWN: **Vernon, CT**	Line; Station **127+62**; Offset **6' Lt.**
SOILS ENGINEER: **Earth Design Associates, .**	PROJECT NAME: **South Street Reconstruction Project**	N. Coordinate **372683.2**
	PROJECT NUMBER: **State Project No. 146-195**	E. Coordinate **679852.3**

Boring Contractor: **New England Boring Contractors of CT.** Client: **Cardinal Engineering Associates, Inc.**

Surface Elevation (f): **570.83**
Date Started: **10/16/15**
Date Finished: **10/16/15**
Groundwater Observations: @ **Dry** f after **0** hours; @ ___ f after ___ hours

	BW	NW	HW	FJ	Solid	Hollow	Mud	SS		B (st)	B (dt)	NX (st)	NX (dt)
Utilized					Y								
Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
Fall (in)	30	30	30	24				30		of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.5-2.5	1	2.0	1.3	SS	14,16,15,18
2.5-4.5	2	2.0	1.3	SS	18,9,14,13
5.0-7.0	3	2.0	1.7	SS	6,9,20,30
10.0-12.0	4	2.0	1.5	SS	26,39,31,34

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
570.8 / 0.5	Asphalt, 6".
570.3 / 0.8	Basecourse, red brown coarse to fine SAND, some gravel, 3".
570.1 / 2.5	Red brown fine to caorse SAND, some silt, little gravel, trace to some cobble, -GLACIAL TILL.
568.3 / 5.0	Red brown coarse to fine GRAVEL, some coarse to fine sand, some silt.
565.8 / 12.0	Red brown fine to medium SAND, some gravel, little cobbles; rock fragments at bottom. Red brown fine to medium SAND and SILT, some clay, little gravel, little cobble.
558.8	End of boring at 12'.

Casing: Size / From / To — blank. Feet of: Earth **12.0 f**, Rock **0.0 f***. No. of Samples: **4**. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%
Hole No. B-8 Sheet 1 Of 1

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted: APR. 29, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969
Filename: P\Civ3dProj2014\VernonSouthSt64\Prodwg\bor01 to bor04.dwg

SIGNATURE/ BLOCK: - -

PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET
TOWN: VERNON
DRAWING TITLE: BORING LOGS
PROJECT NO. 146-195
DRAWING NO. BOR 01
SHEET NO. 03 03

BORING LOGS

Boring B-9

DRILLER: Michael St. John		Hole No. B-9
		Line
INSPECTOR: IOO		Station 114+45
	TOWN: Vernon, CT	Offset 8' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372638.3
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 678545.0

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): / Utilized					Y							
Date Started: 10/19/15 / Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3	1 3/8			
Date Finished: 10/19/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ Dry f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	0.7	SS	8,11,13, 6
2.0-4.0	2	2.0	0.8	SS	4,5,10, 13
5.0-7.0	3	2.0	1.5	SS	3,4,11, 27
10.0-12.0	4	2.0	1.7	SS	66,71, 65,45

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
0.0	Asphalt, 4.5"
0.4 / -0.4	Base, sand and gravel 2".
0.5 / -0.5	Red brown fine to medium SAND and SILT, little fine to medium gravel, trace cobbles.
	Red brown SILT and fine SAND, little fine gravel.
	Red brown coarse to fine SAND and SILT, trace clay, some cobbles, weathered siltstone rock fragments at 10-11' and weathered schistose and gneiss fragments at bottom. -GLACIAL TILL
12.0 / -12.0	End of boring at 12'.

Casing: Size / From / To — blank. Feet of Earth: 12.0 f; Rock: 0.0 f*. No. of Samples: 4. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-9, Sheet 1 Of 1

Boring B-10

DRILLER: Michael St. John		Hole No. B-10
		Line
INSPECTOR: IOO		Station 116+25
	TOWN: Vernon, CT	Offset 6' Lt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372697.6
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 678714.6

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): 506.39 / Utilized												
Date Started: 10/19/15 / Size I.D. (in)	2 1/2	3	4	4		3 (1/4)		3	1 3/8			
Date Finished: 10/19/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ Dry f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.7	SS	14,15, 16,13
2.0-4.0	2	2.0	1.5	SS	8,12,18, 14
5.0-7.0	3	2.0	0.7	SS	4,3,3,5
8.0-10.0	4	2.0	0.8	SS	7,62,43, 61

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
506.4	Asphalt, 5".
0.4 / 506.0	Gravel base, 3".
0.7 / 505.7	Red brown fine to medium SAND and SILT, little medium gravel, little clay, cobbles.
2.0 / 504.4	Red brown fine to coarse SAND, little silt, some fine to medium gravel, little cobbles.
4.0 / 502.4	Red brown fine to medium SAND and SILT, little clay.
7.0 / 499.4 / 8.0 / 498.4	Red brown fine to coarse SAND, some silt, trace clay, little fine to medium gravel, little cobble, some weathered rock micaceous gneiss rock fragments. -GLACIAL TILL

Casing: Size / From / To — blank. Feet of Earth: 10.0 f; Rock: 0.0 f*. No. of Samples: 4. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-10, Sheet 1 Of 1

Boring B-11

DRILLER: Michael St. John		Hole No. B-11
		Line
INSPECTOR: IOO		Station 118+48
	TOWN: Vernon, CT	Offset 6' Lt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372703.9
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 678937.9

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): 523.34 / Utilized					Y							
Date Started: 10/20/15 / Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3	1 3/8			
Date Finished: 10/20/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ Dry f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.5	SS	12,14, 14,15
2.0-4.0	2	2.0	1.7	SS	11,10, 13,14
5.0-7.0	3	2.0	1.0	SS	21,25, 26,34

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
523.3	Asphalt, 6.5"
0.5 / 522.8	Base ground, 1".
0.6 / 522.7	Red brown fine to coarse SAND, some fine to coarse gravel, trace silt, augered from 7'to 9'. Auger refusal at 9'. -GLACIAL TILL
9.0 / 514.3	End of boring at 9'.

Casing: Size / From / To — blank. Feet of Earth: 9.0 f; Rock: 0.0 f*. No. of Samples: 3. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-11, Sheet 1 Of 1

Boring B-12

DRILLER: Michael St. John		Hole No. B-12
		Line
INSPECTOR: IOO		Station 119+50
	TOWN: Vernon, CT	Offset 11' Lt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372709.2
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 679040.4

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): / Utilized												
Date Started: 10/20/15 / Size I.D. (in)	2 1/2	3	4	4		3 (1/4)		3	1 3/8			
Date Finished: 10/20/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ 0 f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.0	SS	16,17, 13,14
2.0-4.0	2	2.0	1.5	SS	11,10, 10,13
5.0-7.0	3	2.0	1.7	SS	10,13, 31,69

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
0.0	Asphalt, 6".
0.5 / -0.5	"Base to coarse, gravel, 2".
0.7 / -0.7	Red brown fine to medium SAND and fine to coarse GRAVEL, some cobble, little silt.
2.0 / -2.0	Red brown medium to fine GRAVEL and coarse to fine SAND, some silt. -GLACIAL TILL
6.0 / -6.0	Weathered schistose gneiss bedrock at 6.5'.
9.0 / -9.0	Auger refusal in bedrock at 9'.

Casing: Size / From / To — blank. Feet of Earth: 9.0 f; Rock: 0.0 f*. No. of Samples: 3. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-12, Sheet 1 Of 1

Boring B-13

DRILLER: Mike St. John		Hole No. B-13
		Line
INSPECTOR: IOO		Station 122+11
	TOWN: Vernon, CT	Offset 3' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372689.5
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 679300.8

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): 553.40 / Utilized												
Date Started: 10/20/15 / Size I.D. (in)	2 1/2	3	4	4		3 (1/4)		3	1 3/8			
Date Finished: 10/20/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ 11 f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.0-2.0	1	2.0	1.3	SS	11,16, 17,22
2.0-4.0	2	2.0	1.7	SS	22,25, 24,24
5.0-7.0	3	2.0	1.5	SS	21,20, 14,40
10.0-12.0	4	2.0	1.8	SS	19,24, 23,28

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
553.4	Asphalt, 6".
0.5 / 552.9	Base gravel, 2".
0.7 / 552.7	Red brown fine SAND, some fine to coarse gravel, little silt, trace cobbles.
	Red brown fine SAND, some silt, little fine gravel, trace cobbles.
12.0 / 541.4	End of boring at 12'.

Casing: Size / From / To — blank. Feet of Earth: 12.0 f; Rock: 0.0 f*. No. of Samples: 4. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-13, Sheet 1 Of 1

Boring B-14

DRILLER: Walter Hoeckele		Hole No. B-14
		Line
INSPECTOR: IOO		Station 125+08
	TOWN: Vernon, CT	Offset 5' Lt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372689.4
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 679598.5

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): 564.05 / Utilized												
Date Started: 10/16/15 / Size I.D. (in)	2 1/2	3	4	4		3 (1/4)		3	1 3/8			
Date Finished: 10/16/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ 10.5 f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
1.0-3.0	1	2.0	1.3	SS	9,8,9,23
3.0-5.0	2	2.0	1.8	SS	32,35, 27,26
5.0-7.0	3	2.0	1.7	SS	16,14, 14,14
10.0-10.0 10.0-12.0	4	2.0	1.7	24 SS	16,23, 23,28

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
0.8	Asphalt, 9".
563.3 / 1.1	Base, 4", coarse SAND and gravel.
563.0	Red brown fine to medium SAND and SILT, some gravel.
	Red brown fine to medium SAND and SILT, broken red siltstone fragments @ 3.5 to 4'; some gravel, little cobbles.
	Red brown fine to medium SAND and SILT, little gravel, trace to some cobbles, little clay.
	Fine to medium SAND and SILT, little gravel, trace cobble, trace clay, very moist to wet at 10. 5'. Wet at spoon sample @ 10.5'.
12.0 / 552.1	End of boring at 12'.

Casing: Size / From / To — blank. Feet of Earth: 12.0 f; Rock: 0.0 f*. No. of Samples: 4. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-14, Sheet 1 Of 1

Boring B-15

DRILLER: Walter Hoeckele		Hole No. B-15
		Line
INSPECTOR: IOO		Station 130+05
	TOWN: Vernon, CT	Offset 4' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372666.3
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 680094.9

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): 581.32 / Utilized					Y							
Date Started: 10/16/15 / Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3	1 3/8			
Date Finished: 10/16/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ Dry f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
0.5-2.5	1	2.0	0.5	SS	13,8,8, 15
2.5-4.5	2	2.0	1.0	SS	13,14, 15,35
5.0-7.0	3	2.0	1.7	SS	45,87, 63,67
10.0-10.4	4	0.4	0.3	SS	100/5"

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
0.5	Asphalt, 6".
580.8	Base fine to coarse SAND, some gravel, trace cobbles, trace asphalt fragments.
2.5 / 578.8	Red brown fine to coarse SAND and SILT, trace to some gravel, little cobbles, broken rock fragments from 2.5 to 3', possible FILL. Red brown fine to coarse SAND and SILT, some gravel, some weathered rock fragments. -GLACIAL TILL
10.0 / 571.3 / 10.4 / 570.9	Red brown SAND and SILT, some gravel, some clay, little cobble, weathered schist rock fragments at bottom. Spoon refusal in possible weathered rock.
	End of boring at 10.42'.

Casing: Size / From / To — blank. Feet of Earth: 10.4 f; Rock: 0.0 f*. No. of Samples: 4.

NOTES: Boring could not be performed on left side of the road due to the lack of utility clearance; drilled boring on the right side.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-15, Sheet 1 Of 1

Boring B-16

DRILLER: Trent Roew		Hole No. B-16
		Line
INSPECTOR: IOO		Station 132+60
	TOWN: Vernon, CT	Offset 5' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372658.1
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 680349.4

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

	Casing BW	Casing NW	Casing HW	Casing FJ	Auger Solid	Auger Hollow	Mud	Sampler SS	Core Barrel B (st)	B (dt)	NX (st)	NX (dt)
Surface Elevation (f): 593.60 / Utilized					Y							
Date Started: 10/23/15 / Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3	1 3/8			
Date Finished: 10/23/15 / Hammer (lbs)	300	300	300	300			Bit	140	Type		Diamond	
Groundwater Observations: @ Dry f after 0 hours / Fall (in)	30	30	30	24				30	of Bit		Carbide	

Depth in feet from - to	No.	Pen. F	Rec. F	Type	Blows per 6 inches or RQD
1.0-3.0	1	2.0	1.2	SS	5,7,5,5
3.0-5.0	2	2.0	1.3	SS	14,19, 31, 46
5.0-7.0	3	2.0	1.5	SS	32,44, 31,24
10.0-12.0	4	2.0	1.5	SS	11,16, 17,21

Strata change: depth, elev.	Field identification of soil, remarks (incl. color, loss of wash water, etc.)
593.6	"Asphalt, 5".
1.3	Base coarse SAND and GRAVEL, 10".
592.4	Red brown SILT, and coarse to fine SAND, little fine gravel.
7.0 / 586.6	Red brown coarse to fine SAND, some coarse to medium gravel, some trace cobbles, -GLACIAL TILL
12.0 / 581.6	End of boring 12'.

Casing: Size / From / To — blank. Feet of Earth: 12.0 f; Rock: 0.0 f*. No. of Samples: 4. NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test. PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50%. Hole No. B-16, Sheet 1 Of 1

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted: APR. 29, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969

Filename: P\Civ3dProj2014\VernonSouthSt64\Prodwg\bor01 to bor04.dwg

SIGNATURE/ BLOCK: - -

PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: BORING LOGS

PROJECT NO. 146-195
DRAWING NO. BOR 02
SHEET NO. 03 04

B-17

DRILLER: Walter Hoeckle		Hole No. B-17
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 134+80
		Offset 5' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372640.1
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 680568.4

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): | Date Started: 10/16/15 | Date Finished: 10/16/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: Y				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	4 3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0	0.5	SS	1,2,2,4	0.0 / 0.3	Topsoil, 3", traceroot. Fine SAND and SILT, some clay, trace root, trace gravel.
								-0.3	
3									
		5.0-7.0	2	2.0	1.8	SS	18,20, 24,22		Red brown fine to medium SAND and SILT, trace to little clay, trace gravel, little cobbles. -GLACIAL TILL
6									
9		10.0-12.0	3	2.0	2.0	SS	14,34, 90,70		Red brown fine SAND and SILT, some clay, some gravel, trace to some cobbles.
								12.0	
12								-12.0	End of boring at 12'.
15									

Casing Size	From	To	Feet of Earth	Rock	NOTES:
			12.0 f	0.0 f*	
			No. of Samples 3		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-17
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

B-18

DRILLER: Michael St. John		Hole No. B-18
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 135+85
		Offset 6' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372617.7
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 680670.3

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): | Date Started: 10/25/15 | Date Finished: 10/25/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: X				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0	1.5	SS	10,8,4, 11	0.0 / 0.3	Asphalt, 4". Base course, gravel 2".
								-0.3 / 0.5	Red brown fine SAND and SILT, trace to some gravel, trace cobble, little clay.
3		2.0-4.0	2	2.0	1.3	SS	10,13, 10,12	-0.5	
								4.0	
								-4.0	Red brown SILT and coarse to fine SAND, little medium to fine gravel. - GLACIAL TILL
6		5.0-7.0	3	2.0	1.4	SS	12,14, 43,33		
		7.0-9.0	4	2.0	1.5	SS	25,26, 37,42		
9								9.0	
								-9.0	End of boring at 9'.
12									
15									

Casing Size	From	To	Feet of Earth	Rock	NOTES: Boring offset 12' to the east, 8' to the north of original location
			9.0 f	0.0 f*	
			No. of Samples 3		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-18
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

B-19

DRILLER: Walter Hoeckle		Hole No. B-19
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 135+85
		Offset 25' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372599.3
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 680665.5

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): | Date Started: 10/16/15 | Date Finished: 10/16/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: Y				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0	1.0	SS	2,3,3,3	0.0 / 0.3	Topsoil, 4". Fine SAND and SILT, some clay, trace gravel, trace cobble, trace roots.
								-0.3	
3									
								5.0	
		5.0-7.0	2	2.0	1.7	SS	29,32, 32,29	-5.0	Red brown SILT and coarse to fine SAND, little medium to fine gravel. -GLACIAL TILL
6									
9		10.0-12.0	3	2.0	1.8	SS	26,32, 26,29		Red brown, fine to coarse SAND and SILT, some gravel, litle cobble, and weathered rock fragments.-GLACIAL TILL
								12.0	
12								-12.0	End of boring at 12'.
15									

Casing Size	From	To	Feet of Earth	Rock	NOTES:
			12.0 f	0.0 f*	
			No. of Samples 3		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-19
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

B-20

DRILLER: Trent Roew		Hole No. B-20
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 138+52
		Offset 2' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372557
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 680930.1

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): 579.64 | Date Started: 10/23/15 | Date Finished: 10/23/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: Y				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0								579.6 / 0.5	Asphalt, 6". Base, 2", SAND and GRAVEL.
		1.0-3.0	1	2.0	1.3	SS	10,11,8, 7	579.1 / 0.7	Brown fine to coarse SAND, little gravel, trace silt.
3								579.0 / 2.0	Red brown fine to medium SAND, trace gravel, trace silt.
		3.0-5.0	2	2.0	0.3	SS	7,7,7,7	577.6	
6		6.0-8.0	3	2.0	1.7	SS	5,3,6,9		Red brown fine SAND, some silt, trace gravel, little, medium to coarse SAND.
								8.0	
9		8.0-10.0	4	2.0	0.8	SS	14,15, 15,15	571.6	Red brown fine to coarse SAND and SILT, little clay, some gravel, little cobbles, weathered rock fragments. -GLACIAL TILL
								10.0	
12								569.6	End of boring at 10'.
15									

Casing Size	From	To	Feet of Earth	Rock	NOTES:
			10.0 f	0.0 f*	
			No. of Samples 4		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-20
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

B-21

DRILLER: Walter Hoeckle		Hole No. B-21
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 138+50
		Offset 25' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): | Date Started: 10/15/15 | Date Finished: 10/15/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: Y				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0		SS	2,4,4,5	0.3	Topsoil, 3".
								-0.3	Gray to red brown, fine to medium SAND, trace root.
								2.0	
3		2.0-4.0	2	2.0		SS	18,27, 31,24	-2.0	Red brown fine to medium SAND and SILT, trace to some clay, trace medium gravel.
		4.0-6.0	3	2.0		SS	18,23, 21,27		Red brown, fine to medium SAND and SILT, trace gravel, trace cobbles, trace clay.
6		6.0-8.0	4	2.0		SS	45,46, 100/3*		Red brown fine to coarse SAND and SILT, trace clay, some gravel, some cobble -GLACIAL TILL
9								10.0	
		10.0-12.0	5	2.0	1.5	SS	22,24, 24,17	-10.0	Red brown coarse to fine SAND, some fine to coarse gravel, some silt, some clay, trace cobbles. -GLACIAL TILL
								12.0	
12								-12.0	End of boring at 12'.
15									

Casing Size	From	To	Feet of Earth	Rock	NOTES:
			12.0 f	0.0 f*	
			No. of Samples 5		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-21
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

B-23

DRILLER: Walter Hoeckle		Hole No. B-23
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 139+55
		Offset 25' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): | Date Started: 10/15/15 | Date Finished: 10/15/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: Y				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0	0.8	SS	5,5,6,5	0.0 / 0.3	Topsoil, 4".
								-0.3	Fine red to brown medium SAND, some SILT, trace gravel, trace rock fragments.
3									
								5.0	
		5.0-7.0	2	2.0	1.2	SS	28,32, 31,37	-5.0	Red brown fine to medium SAND and SILT,with weathered shale/ siltstone fragments; possible boulders in fine sand and silt matrix -GLACIAL TILL.
6									
9		10.0-12.0	3	2.0	1.6	SS	8,8,10, 15		Red brown medium to coarse SAND and SILT, little gravel, trace to some cobbles, some weathered rock fragments, -GLACIAL TILL.
								12.0	
12								-12.0	End of boring at 12'.
15									

Casing Size	From	To	Feet of Earth	Rock	NOTES: Auger grinding from 7 to 10'.
			12.0 f	0.0 f*	
			No. of Samples 3		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-23
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

B-24

DRILLER: Michael St. John		Hole No. B-24
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 140+50
		Offset 7' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): | Date Started: 10/22/15 | Date Finished: 10/22/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: Y				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0	1.2	SS	10, 17, 13, 11	0.0 / 0.4	Asphalt, 5". Base coarse, 4" sand and gravel.
								-0.4 / 0.8	Red brown fine to medium SAND, some fine to medium gravel, trace cobble.
3		2.0-4.0	2	2.0	1.3	SS	15,11, 17,12	-0.8 / 2.0	Red brown fine to medium SAND and SILT, some medium to fine gravel, trace cobble
								-2.0	
								4.0	
								-4.0	Red brown coarse to fine SAND and SILT, trace to little clay, some medium to fine gravel, little to some cobble, possible boulders from 5.5 to 6.5'; auger refusal at 9' in possibly boulder or fractured weathered rock, -GLACIAL TILL
6		5.0-7.0	3	2.0	2.0	SS	8,10,16, 16		
9								9.0	
								-9.0	End of boring at 9'.
12									
15									

Casing Size	From	To	Feet of Earth	Rock	NOTES:
			9.0 f	0.0 f*	
			No. of Samples 3		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-24
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

B-25

DRILLER: Walter Hoeckle		Hole No. B-25
		Line
INSPECTOR: IOO	TOWN: Vernon, CT	Station 140+50
		Offset 21' Rt.
SOILS ENGINEER: Earth Design Associates, .	PROJECT NAME: South Street Reconstruction Project	N. Coordinate
	PROJECT NUMBER: State Project No. 146-195	E. Coordinate

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): | Date Started: 10/15/15 | Date Finished: 10/15/15 | Groundwater Observations: @ Dry f after 0 hours; @ ___ f after ___ hours

Casing	Auger	Mud	Sampler	Core Barrel
Utilized: Y				
Type	Solid / Hollow		SS	B (st) B (dt) NX (st) NX (dt)
BW NW HW FJ				
Size I.D. (in): 2 1/2 3 4 4	3 (1/4)		3	1 3/8
Hammer (lbs): 300 300 300 300		Bit	140	Type: Diamond
Fall (in): 30 30 30 24			30	of Bit: Carbide

DEPTH	Casing blows per foot	DEPTH IN FEET FROM - TO	SAMPLE NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0	0.9	SS	4,3,3,2	0.0 / 0.3	Topsoil, 3". Red brown fine SAND and SILT, some clay.
								-0.3	
3									
		5.0-7.0	2	2.0	1.7	SS	23,24, 25,28		Red brown fine SAND and SILT, with weathered siltstone/shale and schist fragments at 5.5 to 6.5'; auger grinding from 6.5 to 7'. -GLACIAL TILL
6									
9		10.0-12.0	3	2.0	0.8	SS	18,19, 15,22		Red brown fine SAND and SILT, some clay, with weathered rock fragments. Auger grinding from 10.5 to 13' -GLACIAL TILL
12									
		13.0-15.0	4	2.0	1.6	SS	13,16, 18,22		Gray brown coarse to fine SAND, some medium to fine gravel, little silt. -GLACIAL TILL
								15.0	
15								-15.0	End of boring at 15'.

Casing Size	From	To	Feet of Earth	Rock	NOTES: Boring offset 4.5' SW of staked location.
			15.0 f	0.0 f*	
			No. of Samples 4		

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test — Hole No. B-25
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% — Sheet 1 Of 1

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
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-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted: APR. 29, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME

CARDINAL ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969
Filename: P:\Civ3dProj2014\VernonSouthSt64\Prodwg\bor01 to bor04.dwg

SIGNATURE/BLOCK: - -

PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: BORING LOGS

PROJECT NO. 146-195
DRAWING NO. BOR 03
SHEET NO. 03 05

Boring Log B-26

DRILLER		Hole No. B-26
Michael St. John		Line
INSPECTOR		Station 141+23
IOO	TOWN: Vernon, CT	Offset 7' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372492.1
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 681193.4

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): 562.86		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: 10/20/15	Utilized													
Date Finished: 10/20/15	Type	BW	NW	HW	FJ	Solid	Hollow		SS		B (st)	B (dt)	NX (st)	NX (dt)
Groundwater Observations	Size I.D. (in)	2 1/2	3	4	4		3 (1/4)		3		1 3/8			
@ Dry f after 0 hours	Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
@ f after hours	Fall (in)	30	30	30	24				30		of Bit		Carbide	

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.0-2.0	1	2.0	1.0	SS	14,17, 12,12	562.9	Asphalt, 3".
								0.3	Base coarse, SAND and GRAVEL 2".
								562.6	
								2.0	
		2.0-4.0	2	2.0		SS	7,8,11, 16	560.9	Red brown SILT, some medium to fine sand, little medium to fine gravel.
3									
								4.0	
								558.9	Augered to 3'; auger granding at 3'; top of weathered rock at 5'; augered from 5 to 7' in rock; cored from 7 to 12'.
		5.0-7.0	3	2.0		SS	50/1"		
6									
								7.0	
		7.0-12.0	RC-1	5.0	1.0	RC	0	555.9	Micaceous SCHIST and GRANTIE GNEISS, soft, gray to greenish, gray, angular joints and fractures, fractures along bedding plane.
9									
								12.0	
12								550.9	End of boring at 12'.
15									

Casing			Feet of	
Size	From	To	Earth	Rock
			7.0 f	5.0 f*
			No. of Samples	
			4	

NOTES: Water introduced into borehole during rock coring operations.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test | Hole No. B-26
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% | Sheet 1 Of 1

Boring Log B-27

DRILLER		Hole No. B-27
Walter Hoeckele		Line
INSPECTOR		Station 141+20
IOO	TOWN: Vernon, CT	Offset 27' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f):		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: 10/15/15	Utilized					Y								
Date Finished: 10/15/15	Type	BW	NW	HW	FJ	Solid	Hollow		SS		B (st)	B (dt)	NX (st)	NX (dt)
Groundwater Observations	Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
@ Dry f after 0 hours	Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
@ f after hours	Fall (in)	30	30	30	24				30		of Bit		Carbide	

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0								0.0	Topsoil, 4", trace roots.
								0.3	Fine SAND and SILT, little to some clay, trace rock fragments
								-0.3	
		1.0-3.0	1	2.0	0.8	SS	1,4,7,9		
3									
		5.0-7.0	2	2.0	0.6	SS	51,55, 38,39		Red brown coarse to fine SAND and SILT, little medium to fine gravel; trace rock fragments; auger grinding from 8 to 8.5', auger refusal at 9'. -GLACIAL TILL
6									
								9.0	
9								-9.0	End of boring at 9'.
12									
15									

Casing			Feet of	
Size	From	To	Earth	Rock
			9.0 f	
			No. of Samples	
			2	

NOTES: Due to access problems, boring offset 7.5' W of staked location.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test | Hole No. B-27
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% | Sheet 1 Of 1

Boring Log B-28

DRILLER		Hole No. B-28
Walter Hoeckele		Line
INSPECTOR		Station 142+06
IOO	TOWN: Vernon, CT	Offset 35' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372452.6
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 681272.1

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f):		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: 10/15/15	Utilized					Y								
Date Finished: 10/16/15	Type	BW	NW	HW	FJ	Solid	Hollow		SS		B (st)	B (dt)	NX (st)	NX (dt)
Groundwater Observations	Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
@ Dry f after 0 hours	Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
@ f after hours	Fall (in)	30	30	30	24				30		of Bit		Carbide	

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0								0.0	Topsoil, 3".
								0.3	Red brown fine to medium SAND and SILT, trace medium to fine gravel, trace cobble.
								-0.3	
		1.0-3.0	1	2.0	0.9	SS	3,7,5,7		
								3.0	
3								-3.0	Drove casing to 4', roller bit to 4.5'. Augered from 4.5 to 5'; sample with split spoon at 5'; spoon refusal. Augered to 6' and rock from 6' to 11'.
		5.0-5.0	2	0.0	0.0	SS	75/0.25"	6.0	
6								-6.0	Gray to dark gray and black GNEISS, medium moderate to strong, with schistose bonding and limestone, occaional angular fractures; Qu= 9747 psi; Yd= 172.5 lb/ft^3
9									
								11.0	
								-11.0	End of boring at 11'.
12									
15									

Casing			Feet of	
Size	From	To	Earth	Rock
			6.0 f	5.0 f*
			No. of Samples	
			3	

NOTES: Water introduced into borehole during rock coring operations.

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test | Hole No. B-28
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% | Sheet 1 Of 1

Boring Log B-29

DRILLER		Hole No. B-29
Trent Roew		Line
INSPECTOR		Station 143+26
IOO	TOWN: Vernon, CT	Offset 6' Rt.
SOILS ENGINEER	PROJECT NAME: South Street Reconstruction Project	N. Coordinate 372465.2
Earth Design Associates, .	PROJECT NUMBER: State Project No. 146-195	E. Coordinate 681390.7

Boring Contractor: New England Boring Contractors of CT. Client: Cardinal Engineering Associates, Inc.

Surface Elevation (f): 547.37		Casing				Auger		Mud	Sampler		Core Barrel			
Date Started: 10/23/15	Utilized					Y								
Date Finished: 10/23/15	Type	BW	NW	HW	FJ	Solid	Hollow		SS		B (st)	B (dt)	NX (st)	NX (dt)
Groundwater Observations	Size I.D. (in)	2 1/2	3	4	4	4	3 (1/4)		3		1 3/8			
@ Dry f after 0 hours	Hammer (lbs)	300	300	300	300			Bit	140		Type		Diamond	
@ f after hours	Fall (in)	30	30	30	24				30		of Bit		Carbide	

DEPTH	Casing blows per foot	SAMPLE DEPTH IN FEET FROM - TO	NO.	PEN. F	REC. F	Type	Blows per 6 inches or RQD	STRATA CHANGE: DEPTH, ELEV.	FIELD IDENTIFICATION OF SOIL, REMARKS (INCL. COLOR, LOSS OF WASH WATER, ETC.)
0		0.5-2.5	1	2.0	1.5	SS	7,5,7,8	0.4	Asphalt, 5".
								547.0	Base, 2".
								0.6	Red brown SILT and medium to fine SAND, little fine gravel.
								546.8	
		2.5-4.5	2	2.0	1.3	SS	9,10,9, 11		
3									
6		6.0-8.0	3	2.0	1.7	SS	14,12, 13,18		Red brown medium to fine SAND and SILT, some medium to fine gravel, trace little cobble, trace clay.
								8.0	
		8.0-10.0	4	2.0	1.7	SS	24,19, 20,19	539.4	-GLACIAL TILL
9									Red brown coarse to fine SAND, some coarse to fine gravel, trace coble, trace clay.
								10.0	
								537.4	-GLACIAL TILL
									End of boring at 10.
12									
15									

Casing			Feet of	
Size	From	To	Earth	Rock
			10.0 f	0.0 f*
			No. of Samples	
			4	

NOTES:

SAMPLE TYPE CODING: D=Driven C=Core A=Auger UP=Undisturbed Piston V=Vane Test | Hole No. B-29
PROPORTIONS USED: Trace = 1 - 10%, Little = 10 - 20%, SOME = 20 - 35%, And = 35 - 50% | Sheet 1 Of 1

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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-	-	-	-
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-	-	-	-
-	-	-	-

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Plotted: APR. 29, 2016

DESIGNER/DRAFTER: AD
CHECKED BY: ME

CARDINAL
ENGINEERING ASSOCIATES
3 Colony Street | Meriden, CT 06451 | 203-238-1969

Filename: P\Civ3dProj2014\VernonSouthSt64\Prodwg\bor01 to bor04.dwg

SIGNATURE/ BLOCK: - -

PROJECT TITLE: RECONSTRUCTION OF SOUTH STREET

TOWN: VERNON

DRAWING TITLE: BORING LOGS

PROJECT NO. 146-195
DRAWING NO. BOR 04
SHEET NO. 03 06