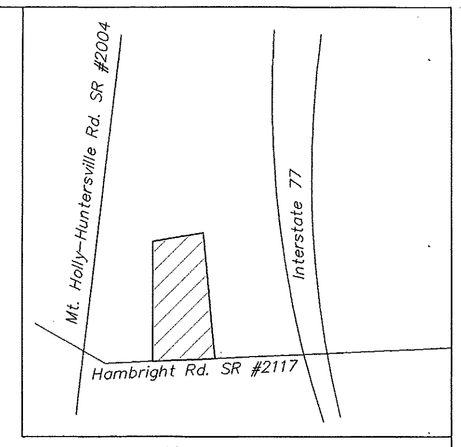
PROJECT DATA:
1. OWNER: SB LAND, LLC
86887 HARBOR OAKS CIRCLE
CONCORD, NC 28027
2. DESIGNER: CHRIS L. HOPE, P.E.
2617 ROLLING HILLS DRIVE
MONROE, NORTH CAROLINA 28110
704-882-1500
3. SITE ADDRESS:
11101 HAMBRIGHT ROAD
HUNTERSVILLE, NC 28078
4. PARCEL I.D. #01721107
5. SITE LOCATION: HUNTERSVILLE - ETJ
6. LOT SIZE: 27.9 ACRES
7. DISTURBED SOIL: 4.51 ACRES
8. SOIL TYPE: VaB (VANCE SANDY LOAM)
2 TO 8 PERCENT SLOPES
9. ZONING: CB - CORPORATE BUSINESS
10. ZONING OF ADJACENT PROPERTIES: CB
11. EXISTING USE: VACANT
12. PROPOSED USE: OFFICE/LIGHT MANUFACTURING AND ASSEMBLY (16,692 SF)
13. PROPOSED NEW IMPERVIOUS = 53,533 SF
14. BUILT UPON AREA: 4.5%
15. SETBACKS: TO BE VERIFIED WITH THE TOWN OF HUNTERSVILLE BEFORE CONSTRUCTION.
16. BUILDING HEIGHT: 32'-4"
17. LOT TYPE/BUILDING TYPE: HIGHWAY COMMERCIAL
18. BUFFERS: I-77 BUFFER DEPTH = 50'



VICINITY MAP
(NTS)

EXISTING FIRE HYDRANT
MT. HOLLY-HUNTERSVILLE ROAD
B-40 TRUCK
B-40 TRUCK (FIRE)
B-40 TRUCK (FIRE)
B-40 TRUCK (FIRE)
PROPOSED FIRE HYDRANT
STORMWATER DETENTION POND
FUTURE PROPERTY LINE
PHASE II
PHASE I
NOTE: SEE ENLARGED SITE PLAN ON SHEET SP-2
S84°15'07"W 763.58'
80' BUFFER (DO NOT DISTURB)
PIRAINO INVESTMENTS LLC
D.B. 20939, PG. 962
PIN: 017-211-05
(ZONED: CB)
POSSIBLE GAP CREATED BETWEEN M.B. 5, PG. 285 & D.B. 20939, PG. 962
N19°48'50"E 1345.98'(T)
SEWER DRAIN FIELD LOCATION (TO BE DESIGNED BY OTHERS)
DUKE POWER R/W D.B. 419A, PG. 619 M.B. 19, PG. 648
75.0'
75.0'
200.0'
480.63'
JACK M. STEWART & DOROTHY M. STEWART
D.B. 2638, PG. 443
PIN: 017-211-04
(ZONED: CB)
JOYCE McKINNEY KELLER
D.B. 19764, PG. 312
PIN: 017-211-03
(ZONED: CB)
JOHN W. DELLINGER
D.B. 12529, PG. 524
PIN: 017-211-02
(ZONED: CB)
NGS MONT. "SIREN"
NC GRID NAD 83
N=599,799.75
E=1,447,795.15
N20°24'18"E 1044.25'(T) 563.62'
N69°35'42"W 13.25'
DUKE POWER R/W D.B. 2684, PG. 337, 343
AHMADIYYA MOVEMENT IN ISLAM INC.
D.B. 7150, PG. 992
PIN: 017-211-09
(ZONED: CB)
POSSIBLE GAP CREATED BETWEEN M.B. 5, PG. 285 & D.B. 7150, PG. 992
S19°09'51"W 1138.12'(T)
50' BUFFER
S16°29'26"E 704.78'
S14°40'28"E 440.59'
WIRE FENCE
INTERSTATE HIGHWAY 77
(STATE PROJ. NO. 8.1654402)
(VARIABLE PUBLIC R/W)

OVERALL SITE PLAN

100 0 100 200 150
Scale 1" = 100'

CUMMINGS CONSTRUCTION CORPORATION
POST OFFICE BOX 692
MATTHEWS, NC 28106
(704) 845-9968
www.cummingscoxed.com

PROPOSED OFFICE AND SHOP FOR
S B PROPERTIES
11101 HAMBRIGHT ROAD
HUNTERSVILLE, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 5044 ENGINEER CHRISTOPHER L. HOPE, JR.
4-25-2011

Rev.		
6	4/25/11	
5	3/30/11	
4	3/23/11	
3	3/16/11	
2	1/17/11	
1	1/4/11	

Scale NOTED
Drawn By CLH
Checked By CLH
Date 12/21/10
Job No. 13710

SP-1
OF 3

CHRIS HOPE/PROFESSIONAL ENGINEER/2617 ROLLING HILLS DRIVE/MONROE, NC 28110/(704) 882-1500

MOORE CABINET SHOP INC.
D.B. 2772, PG. 245
PIN: 017-211-06
(ZONED: CB)

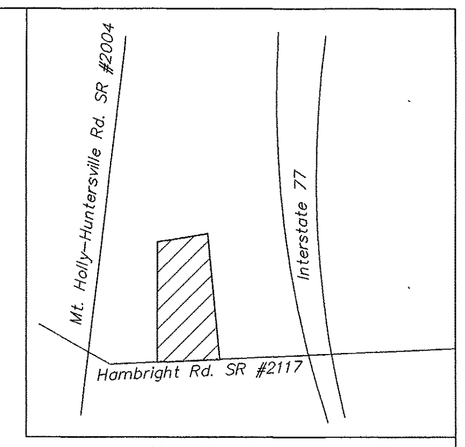
IMPERVIOUS CALCULATIONS:

TOTAL SITE OUTSIDE EXISTING R/W =1,191,220 SF

PROPOSED IMPERVIOUS AREA = 53,533 SF

BUILT UPON AREA = 53,533 / 1,191,220 SF = 4.5%

(LESS THAN 6% NO WATER QUALITY REQUIRED)



VICINITY MAP
(NTS)

NOTE:
WHEN THE PROPERTY IS SUBDIVIDED THE PROPOSED STORMWATER DETENTION POND WILL BE ABANDONED AND A NEW POST CONSTRUCTION WATER QUALITY POND WILL BE DESIGNED TO HANDLE THE ENTIRE SITE.

NOTE:
NO SPECIMEN TREES ARE PROPOSED TO BE REMOVED FROM THIS SITE

12" WATER MAIN TO BE EXTENDED FROM EXIST. FIRE HYDRANT PAST PROPOSEDNEW DRIVEWAY BY CMUD (300' ±) SEE SHT. U-1 FOR DETAILS
NOTE: SIZE TO BE DETERMINED BY CMUD.

PROPOSED NEW 5' WIDE CONCRETE SIDEWALK TYPICAL ACROSS FRONTAGE OF HAMBRIGHT ROAD 1' OFF THE FUTURE RIGHT OF WAY

PROPOSED RAMPS WITH TRUNCATED DOMES TYPICAL WHERE SHOWN. SEE DETAILS 10.35A AND 10.35B ON SHEET SP-3.

2'-6" CURB AND GUTTER IN RIGHT OF WAY SEE DETAIL SHEET SP-3

10'x70' SITE TRIANGLE

STOP CURB AND GUTTER AT THIS POINT

30" STOP SIGN W/ PRISMATIC SHEETING

PROPOSED ASPHALT

EDGE OF ASPHALT

PROPOSED 28' MOTORIZED GATE

PROPOSED 6" THICK CONCRETE DUMPSTER AND RECYCLING PAD WITH 6'-0" AFF POST AND PLANK SCREENING AND WOOD GATES. PROVIDE (6) 8" CONCRETE FILLED PIPE BOLLARDS AT REAR.

CHAIN LINK FENCE WITH SLATS ACROSS THE FRONT OF THE PARKING AREA TO SCREEN REAR PARKING AREA AND HVAC UNITS

CHAIN LINK FENCE TO ENCLOSE REAR PARKING AREA

3' WIDE CURB CUT

WATER METERS AND BACKFLOW PREVENTERS SEE UTILITY PLAN SHEET U-1

HCP. SIGN

GRASS

CONCRETE APRON

PROPOSED ASPHALT SPECIFICATIONS FOR THE DRIVEWAY TIE IN INSIDE THE RIGHT OF WAY IS TO BE:
4" B 25.0 B +
4" I-19.0 B +
(2) LAYERS - 1.5" 9.5 B

STANDARD 1'-6" CURB AND GUTTER SEE DETAIL SHEET SP-3

PROPOSED NEW 5' WIDE CONCRETE SIDEWALK TYPICAL ACROSS FRONTAGE OF HAMBRIGHT ROAD

ELECT. METER

AIR COMP.

GAS METER W/ (2) CONCRETE FILLED BOLLARDS

NOTE: ALL ROOFTOP EQUIPMENT MUST BE ENCLOSED

PROPOSED BUILDING 16,692 SF FFE = 816.00

ROOF SLOPE

165' OUT/OUT METAL PANELS

PROPOSED ASPHALT

BICYCLE RACK SEE DETAIL 50.21 SHT. SP-3

WHEEL STOPS (TYPICAL) AS SHOWN

CHAIN LINK FENCE TO ENCLOSE REAR PARKING AREA

EDGE OF ASPHALT

GRASS

GATE

2" FORCE MAIN TO A DRAIN FIELD DESIGNED BY OTHERS.

6" SOIL PIPE

PROPOSED SEPTIC TANK AND PUMP. P.C. VERIFY LOCATION BEFORE CONSTRUCTION.

DUMPSTER TO RECEIVE OPAQUE SCREENING USING PLANTED VEGETATION PER SECTION 7.6.2 OF THE HUNTERSVILLE ZONING ORDINANCE. SEE SHT. LP-2 FOR DETAILS

STORMWATER DETENTION POND

STREET FRONT DOOR WILL BE FULLY FUNCTIONAL TO GIVE GENERAL ACCESS TO THE BUILDING

NOTE: SIDEWALK EASEMENT TO BE RECORDED ON FINAL PLAT IF SIDEWALK IS OUTSIDE RIGHT OF WAY

FUTURE 5' WIDE CONCRETE SIDEWALK TYPICAL TO BE INSTALLED 1' OFF THE FUTURE RIGHT OF WAY ACROSS FRONTAGE OF HAMBRIGHT ROAD DURING PHASE II

30' WIDE LANDSCAPING AND SIDEWALK EASEMENT FOR TWO ROWS OF LARGE MATURING TREES TYPICAL ACROSS THE FRONTAGE OF HAMBRIGHT ROAD SEE LANDSCAPING PLANS SHEETS LP-1 AND LP-2

FUTURE STREET TREES TO BE PLANTED DURING PHASE II

PHASE I / PHASE II

FUTURE PROPOSED PROPERTY LINE

NOTE:
138.58' PARKING AREA
138.58' / .45 = 308'±
308' TO THE PROPOSED PROPERTY LINE (MINIMUM)
331.37' SHOWN (OK)

NOTE:
THERE WILL BE NO SITE LIGHTING OTHER THAN WALL PACKS ON THE BUILDING. SEE NOTES ON SHEET A-3.

NOTE: A FINAL PLAT MUST BE APPROVED PRIOR TO CO ISSUANCE.

PARKING SUMMARY FOR BUILDING:
OFFICE AREA (4,114 SF):
1 SPACE PER 500 SF REQUIRED

MANUFACTURING AREA (12,578 SF):
1 SPACE PER 500 SF REQUIRED

PARKING SPACES REQUIRED:
OFFICE = 4,114/500 = 8 SPACES
MANUFACTURING = 12,578/500 = 25 SPACES

TOTAL SPACES REQUIRED = 33 SPACES
TOTAL SPACES PROVIDED = 33 SPACES
HANDICAP SPACES PROVIDED = 2 SPACES

ONE BICYCLE SPACE W/ RACK PROVIDED

PROJECT DATA:
1. OWNER: SB LAND, LLC
86887 HARBOR OAKS CIRCLE
CONCORD, NC 28027
2. DESIGNER: CHRIS L. HOPE, P.E.
2617 ROLLING HILLS DRIVE
MONROE, NORTH CAROLINA 28110
704-882-1500
3. SITE ADDRESS:
11101 HAMBRIGHT ROAD
HUNTERSVILLE, NC 28078
4. PARCEL I.D. #01721107
5. SITE LOCATION: HUNTERSVILLE - ETJ
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7. DISTURBED SOIL: 4.51 ACRES
8. SOIL TYPE: VaB (VANCE SANDY LOAM)
2 TO 8 PERCENT SLOPES
9. ZONING: CB - CORPORATE BUSINESS
10. ZONING OF ADJACENT PROPERTIES: CB
11. EXISTING USE: VACANT
12. PROPOSED USE: OFFICE/LIGHT MANUFACTURING AND ASSEMBLY (16,692 SF)
13. PROPOSED NEW IMPERVIOUS = 53,533 SF
14. BUILT UPON AREA: 4.5%
15. SETBACKS: TO BE VERIFIED WITH THE TOWN OF HUNTERSVILLE BEFORE CONSTRUCTION.
16. BUILDING HEIGHT: 32'-4"
17. LOT TYPE/BUILDING TYPE: HIGHWAY COMMERCIAL
18. BUFFERS: I-77 BUFFER DEPTH = 50'

ENLARGED PARTIAL SITE PLAN

20 0 20 40 60
Scale 1" = 20'

PROPOSED OFFICE AND SHOP FOR
S B PROPERTIES
11101 HAMBRIGHT ROAD
HUNTERSVILLE, NORTH CAROLINA

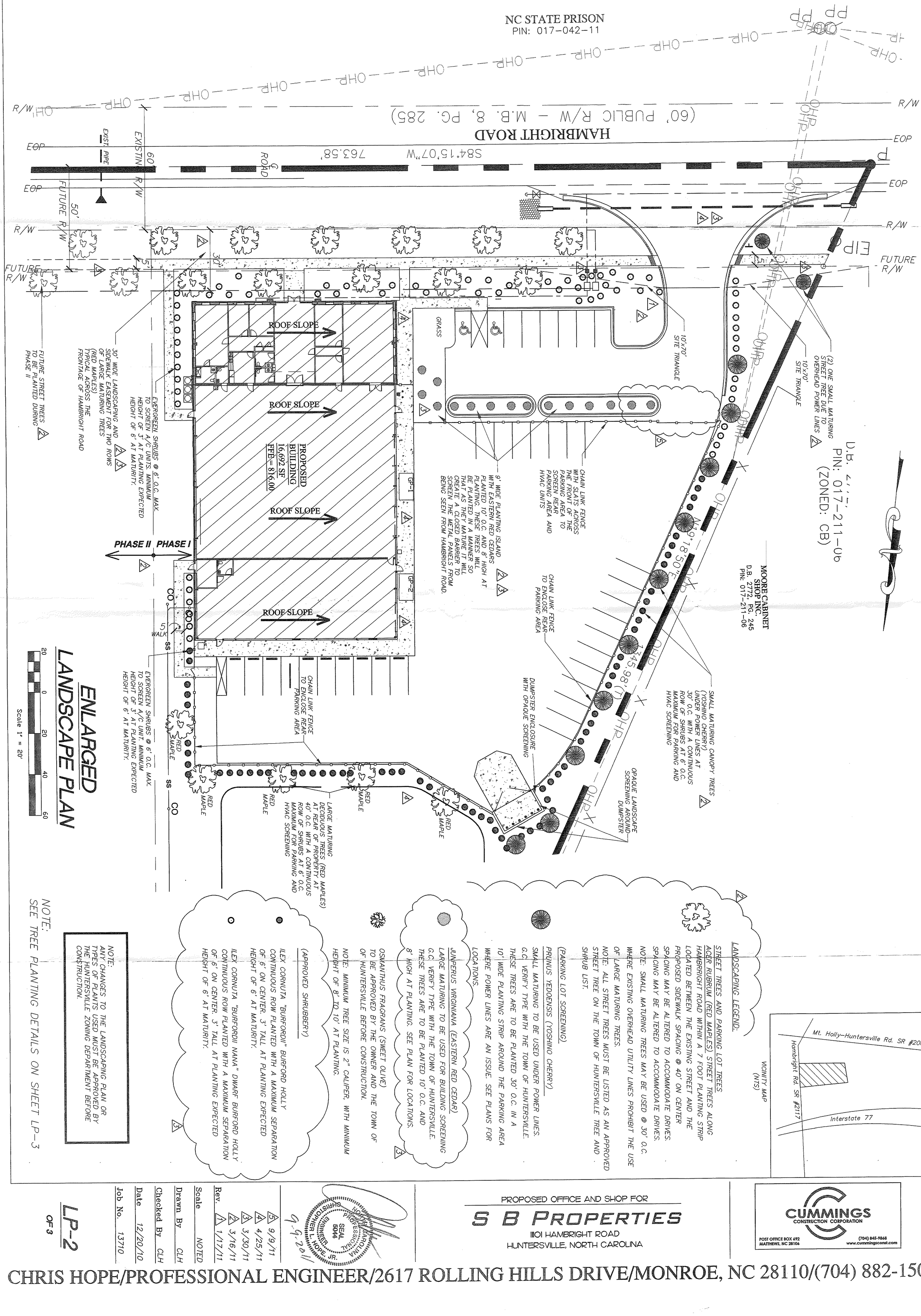
NORTH CAROLINA PROFESSIONAL SEAL 5044 ENGINEER CHRISTOPHER L. HOPE
9.9.2011

Rev.		
5	9/9/11	
4	6/21/11	
3	4/25/11	
2	3/30/11	
1	3/23/11	
5	3/16/11	
2	1/17/11	
Rev. 1	1/4/11	

Scale NOTED
Drawn By CLH
Checked By CLH
Date 12/21/10
Job No. 13710

SP-2
OF 3

CHRIS HOPE/PROFESSIONAL ENGINEER/2617 ROLLING HILLS DRIVE/MONROE, NC 28110/(704) 882-1500



ENLARGED LANDSCAPE PLAN

Scale 1" = 20'

NOTE:
SEE TREE PLANTING DETAILS ON SHEET LP-3

NOTE:
ANY CHANGES TO THE LANDSCAPING PLAN OR TYPES OF PLANTS USED MUST BE APPROVED BY THE HUNTERSVILLE ZONING DEPARTMENT BEFORE CONSTRUCTION.

LANDSCAPING LEGEND:

STREET TREES AND PARKING LOT TREES
ACER RUBRUM (RED MAPLES) STREET TREES ALONG HAMBRIGHT ROAD WITHIN A 7 FOOT PLANTING STRIP LOCATED BETWEEN THE EXISTING STREET AND THE PROPOSED SIDEWALK SPACING @ 40' ON CENTER SPACING MAY BE ALTERED TO ACCOMMODATE DRIVES. SPACING MAY BE ALTERED TO ACCOMMODATE DRIVES.
NOTE: SMALL MATURING TREES MAY BE USED @ 30' O.C. WHERE EXISTING OVERHEAD UTILITY LINES PROHIBIT THE USE OF LARGE MATURING TREES.
NOTE: ALL STREET TREES MUST BE LISTED AS AN APPROVED STREET TREE ON THE TOWN OF HUNTERSVILLE TREE AND SHRUB LIST.

(PARKING LOT SCREENING)
PRUNUS YEDOENSIS (YOSHINO CHERRY)
SMALL MATURING TO BE USED UNDER POWER LINES. G.C. VERIFY TYPE WITH THE TOWN OF HUNTERSVILLE. THESE TREES ARE TO BE PLANTED 30' O.C. IN A 10' WIDE PLANTING STRIP AROUND THE PARKING AREA WHERE POWER LINES ARE AN ISSUE. SEE PLANS FOR LOCATIONS.

JUNIPERUS VIRGINIANA (EASTERN RED CEDAR)
LARGE MATURING TO BE USED FOR BUILDING SCREENING G.C. VERIFY TYPE WITH THE TOWN OF HUNTERSVILLE. THESE TREES ARE TO BE PLANTED 10' O.C. AND 8' HIGH AT PLANTING. SEE PLAN FOR LOCATIONS.

OSMANTHUS FRAGRANS (SWEET OLIVE)
TO BE APPROVED BY THE OWNER AND THE TOWN OF OF HUNTERSVILLE BEFORE CONSTRUCTION.

NOTE: MINIMUM TREE SIZE IS 2" CALIPER, WITH MINIMUM HEIGHT OF 8' TO 10' AT PLANTING.

(APPROVED SHRUBBERY)

ILEX CORNUTA "BURFORDII" BURFORD HOLLY CONTINUOUS ROW PLANTED WITH A MAXIMUM SEPARATION OF 6' ON CENTER. 3' TALL AT PLANTING EXPECTED HEIGHT OF 6' AT MATURITY.

ILEX CORNUTA "BURFORDII NANA" DWARF BURFORD HOLLY CONTINUOUS ROW PLANTED WITH A MAXIMUM SEPARATION OF 6' ON CENTER. 3' TALL AT PLANTING EXPECTED HEIGHT OF 6' AT MATURITY.

VICINITY MAP (NTS)

Rev.	Date
5	9/9/11
4	4/25/11
3	3/30/11
2	3/16/11
1	1/17/11

Scale NOTED
Drawn By CLH
Checked By CLH
Date 12/20/10
Job No. 13710

LP-2
OF 3

CHRISTOPHER L. HOPE, JR. ENGINEER SEAL 5044 NORTH CAROLINA PROFESSIONAL
9-9-2011

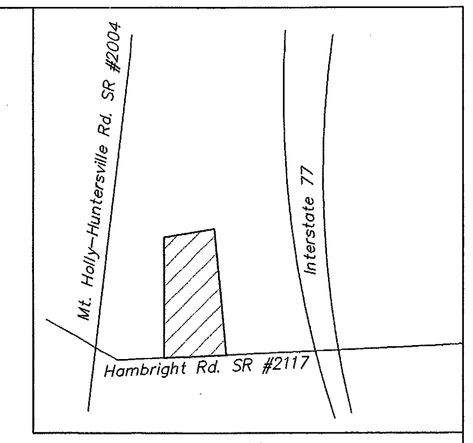
PROPOSED OFFICE AND SHOP FOR
S B PROPERTIES
11101 HAMBRIGHT ROAD
HUNTERSVILLE, NORTH CAROLINA

CUMMINGS CONSTRUCTION CORPORATION
POST OFFICE BOX 492
MATTHEWS, NC 28106
(704) 845-9868
www.cummingsconst.com

CHRIS HOPE/PROFESSIONAL ENGINEER/2617 ROLLING HILLS DRIVE/MONROE, NC 28110/(704) 882-1500

HUNTERSVILLE ROAD

NOTE:
REFER TO THE COMMERCIAL FLOW EQUALIZATION WASTEWATER TREATMENT DESIGN AND DISPOSAL SYSTEM DESIGN CALCULATIONS PREPARED BY:
ROLLANS SOIL AND ENVIRONMENTAL SERVICES, INC.
PO BOX 832
MOORESVILLE, NC 28115
PHONE: 704-278-0989
FAX: 704-278-0989
ROLLANS.ASHLEY@YAHOO.COM



VICINITY MAP
(NTS)

PROJECT DATA:
1. OWNER: SB LAND, LLC
86887 HARBOR OAKS CIRCLE
CONCORD, NC 28027
2. DESIGNER: CHRIS L. HOPE, P.E.
2617 ROLLING HILLS DRIVE
MONROE, NORTH CAROLINA 28110
704-882-1500
3. SITE ADDRESS:
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5. SITE LOCATION: HUNTERSVILLE - ETJ
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7. DISTURBED SOIL: 4.51 ACRES
8. SOIL TYPE: VaB (VANCE SANDY LOAM)
2 TO 8 PERCENT SLOPES
9. ZONING: CB - CORPORATE BUSINESS
10. ZONING OF ADJACENT PROPERTIES: CB
11. EXISTING USE: VACANT
12. PROPOSED USE: OFFICE/LIGHT MANUFACTURING AND ASSEMBLY (16,692 SF)
13. PROPOSED NEW IMPERVIOUS = 53,533 SF
14. BUILT UPON AREA: 4.5%
15. SETBACKS: TO BE VERIFIED WITH THE TOWN OF HUNTERSVILLE BEFORE CONSTRUCTION.
16. BUILDING HEIGHT: 32'-4"
17. LOT TYPE/BUILDING TYPE: HIGHWAY COMMERCIAL
18. BUFFERS: I-77 BUFFER DEPTH = 50'

MOORE CABINET SHOP INC.
D.B. 2772, PG. 245
PIN: 017-211-06
(ZONED: CB)

PIRAINO INVESTMENTS LLC
D.B. 20939, PG. 962
PIN: 017-211-05
(ZONED: CB)

HAMBRIGHT ROAD
(60' PUBLIC R/W - M.B. 8, PG. 285)
NCSR #2117 (HAMBRIGHT RD.)

FUTURE R/W

STORMWATER DETENTION POND

4" SOIL PIPE GRAVITY FED TO SEPTIC TANK

PROPOSED SEPTIC TANK (1500 GALLONS) P.C. VERIFY LOCATION BEFORE CONSTRUCTION.

PROPOSED FLOW EQUALIZATION/ DOSING TANK (1500 GALLONS) P.C. VERIFY LOCATION BEFORE CONSTRUCTION.

PROPOSED 2" FORCE MAIN (SCH. 40 PVC) TO DRAIN FIELD 597'± TOTAL LENGTH

PROPOSED DRAIN FIELD LINES (250' TOTAL) SEE DETAILS AND SPECIFICATIONS BY: ROLLANS SOIL & ENVIRONMENTAL SERVICES, INC.

POSSIBLE GAP CREATED BETWEEN M.B. 8, PG. 285 & D.B. 20939, PG. 193

N19°18'50"E 1345.98'(T)

REPAIR AREA

10	R	811.14'	136'
9	O	811.56'	140'
8	R	812.27'	170'
7	R	812.71'	165'
6	R	813.08'	165'
5	O	813.39'	145'
4	R	814.79'	175'
3	P	815.02'	90'
2	R	815.71'	90'
1	O	816.45'	70'

PRESSURE MANIFOLD SEE DETAIL ON SHT. WT-2

DUKE POWER R/W
D.B. 4194, PG. 819
M.B. 19, PG. 648

75.0'

75.0'

200.0'

DUKE POWER R/W
D.B. 4194, PG. 819 &
D.B. 2684, PG. 343
M.B. 19, PG. 648

50'

S84°15'07"W 763.58'

ASPHALT

CP

TPED

WOODS

WOOD POST

COMMERCIAL FLOW EQUALIZATION
WASTEWATER TREATMENT AND DISPOSAL SYSTEM DESIGN

50 0 50 100 150
Scale 1" = 50'

CUMMINGS CONSTRUCTION CORPORATION
POST OFFICE BOX 692
MATTHEWS, NC 28106
(704) 845-7864
www.cummingsconst.com

PROPOSED OFFICE AND SHOP FOR
S B PROPERTIES
11101 HAMBRIGHT ROAD
HUNTERSVILLE, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 5044 ENGINEER CHRISTOPHER L. HOPE, JR.
4-25-2011

Rev.	
Scale	NOTED
Drawn By	CLH
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Job No.	13710

WT-1
OF 3

CHRIS HOPE/PROFESSIONAL ENGINEER/2617 ROLLING HILLS DRIVE/MONROE, NC 28110/(704) 882-1500

MODELS

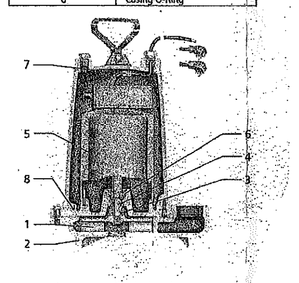
Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance Start	Resistance Line-Line	Power Cable Size	Weight (lbs.)
WE0311L			115			10.7	30.0	M	54	11.9	1.7		
WE0318L			208			6.8	19.5	K	51	9.1	4.2		
WE0312L	0.33		230	1750	5.38	4.9	14.1	L	53	14.5	8.0	16/3	56
WE0311M		1	115			10.7	30.0	M	54	11.9	1.7		
WE0318M			208			6.8	19.5	K	51	9.1	4.2		
WE0312M			230			4.9	14.1	L	53	14.5	8.0		
WE0511H			115			14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518H			208			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0512H			230			7.3	34.5	M	53	9.6	4.0		
WE0538H			200			4.9	22.6	R	68	NA	3.8		
WE0532H		3	230		3.56	4.9	22.6	R	68	NA	3.8	14/4	60
WE0534H			460			3.3	18.8	R	70	NA	5.8		
WE0537H			575			1.7	9.4	R	70	NA	23.2		
WE0511HH	0.5		115			1.4	7.5	R	62	NA	35.3		
WE0518HH		1	208			14.5	46.0	M	54	7.5	1.0	14/3	60
WE0512HH			230			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0538HH			200			7.3	34.5	M	53	9.6	4.0		
WE0532HH		3	230		3.88	4.9	22.6	R	68	NA	3.8		
WE0534HH			460			3.6	18.8	R	70	NA	5.8	14/4	60
WE0537HH			575			1.8	9.4	R	70	NA	23.2		
WE0718H		1	208			1.5	7.5	R	62	NA	35.3		
WE0712H			230			11.0	31.0	K	68	9.7	2.4	14/3	70
WE0738H			200			10.0	27.5	J	65	12.2	2.7		
WE0732H	0.75		230			6.2	20.6	L	64	NA	5.7		
WE0734H		3	460		4.06	5.4	15.7	K	68	NA	8.6	14/4	70
WE0737H			575			2.7	7.9	K	68	NA	34.2		
WE1018H		1	208			2.2	9.9	L	78	NA	26.5		
WE1012H			230	3450		14.0	59.0	K	68	9.3	1.1	14/3	70
WE1038H			200			12.5	36.2	J	69	10.3	2.1		
WE1032H	1		230			8.1	37.6	M	77	NA	2.7		
WE1034H		3	460		4.44	7.0	24.1	L	79	NA	4.1	14/4	70
WE1037H			575			3.5	12.1	L	79	NA	16.2		
WE1518H		1	208			2.0	9.9	L	78	NA	26.5		
WE1512H			230			17.5	59.0	K	68	9.3	1.1	14/3	80
WE1538H			200			15.7	50.0	H	68	11.3	1.6		
WE1532H		3	230		4.56	10.6	40.6	K	79	NA	1.9		
WE1534H			460			9.2	31.7	K	78	NA	2.9	14/4	80
WE1537H	1.5		575			4.6	15.9	K	78	NA	11.4		
WE1518HH		1	208			3.7	13.1	K	75	NA	16.9		
WE1512HH			230			17.5	59.0	K	68	9.3	1.1	14/3	80
WE1538HH			200			15.7	50.0	H	68	11.3	1.6		
WE1532HH		3	230		5.50	10.6	40.6	K	79	NA	1.9		
WE1534HH			460			9.2	31.7	K	78	NA	2.9	14/4	80
WE1537HH			575			4.6	15.9	K	78	NA	11.4		
WE2012H		1	230			3.7	13.1	K	75	NA	16.9		
WE2038H			200			18.0	49.6	F	78	3.2	1.2	14/3	83
WE2032H	2	3	230		5.38	12.0	42.4	K	78	NA	1.7		
WE2034H			460			11.6	42.4	K	78	NA	1.7	14/4	83
WE2037H			575			5.8	21.2	K	78	NA	6.8		
						4.7	16.3	L	78	NA	10.5		

PERFORMANCE RATINGS (gallons per minute)

Total Head-Feet of Water	Order No.	WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE20HH	WE15HH	WE20M
	HP	⅓	½	½	½	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
	5	86	--	--	--	--	--	--	--	--
	10	70	63	78	94	--	--	58	95	--
	15	52	52	70	90	103	128	53	93	138
	20	27	35	60	83	98	123	49	90	136
	25	5	15	48	76	94	117	45	87	133
	30	--	--	35	67	88	110	40	83	130
	35	--	--	22	57	82	103	35	80	126
	40	--	--	--	45	74	95	30	77	121
	45	--	--	--	35	64	86	25	74	116
	50	--	--	--	25	53	77	--	70	110
	55	--	--	--	--	40	67	--	66	103
	60	--	--	--	--	30	56	--	63	96
	65	--	--	--	--	20	45	--	58	89
	70	--	--	--	--	--	35	--	55	81
	75	--	--	--	--	--	25	--	51	74
	80	--	--	--	--	--	--	--	47	66
	90	--	--	--	--	--	--	--	37	49
	100	--	--	--	--	--	--	--	28	30

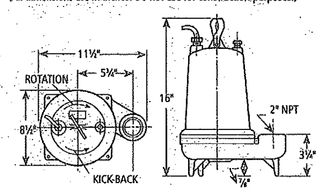
COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



GOULDS PUMPS
Wastewater

APPLICATIONS

Specifically designed for the following uses:

- Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¼" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on ½ – 1½ HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

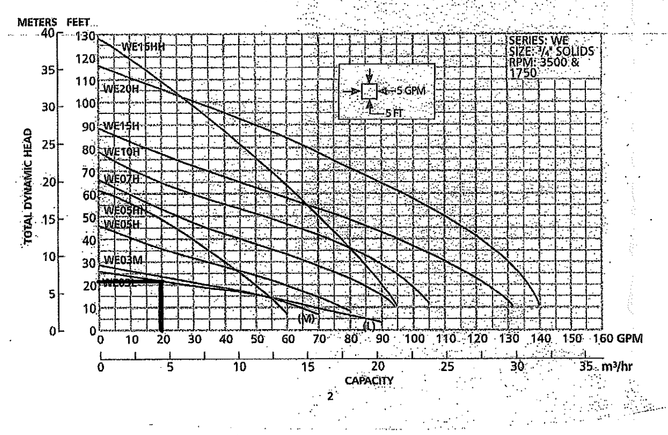
- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ½ – 1 HP models have NEMA three prong grounding plugs.
- 1½ HP and larger units have bare lead cord ends.

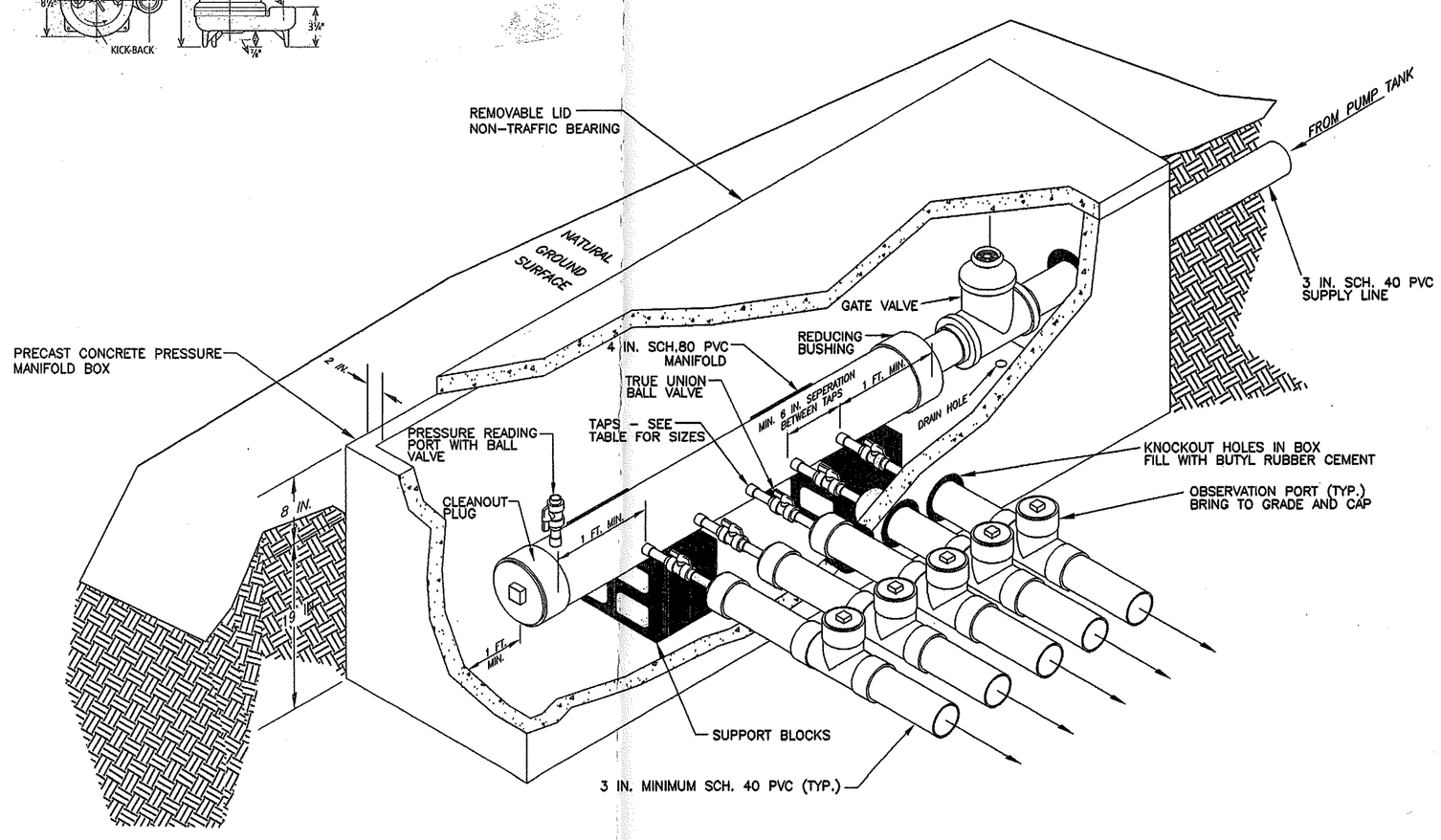
Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- **Bearings:** Upper and lower heavy duty ball bearing construction.
- **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

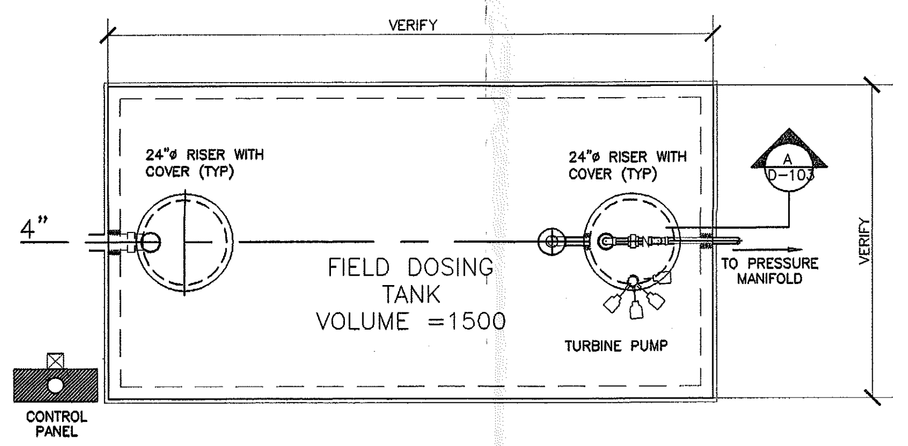
Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #1303549
Goulds Pumps is ISO 9001 Registered.





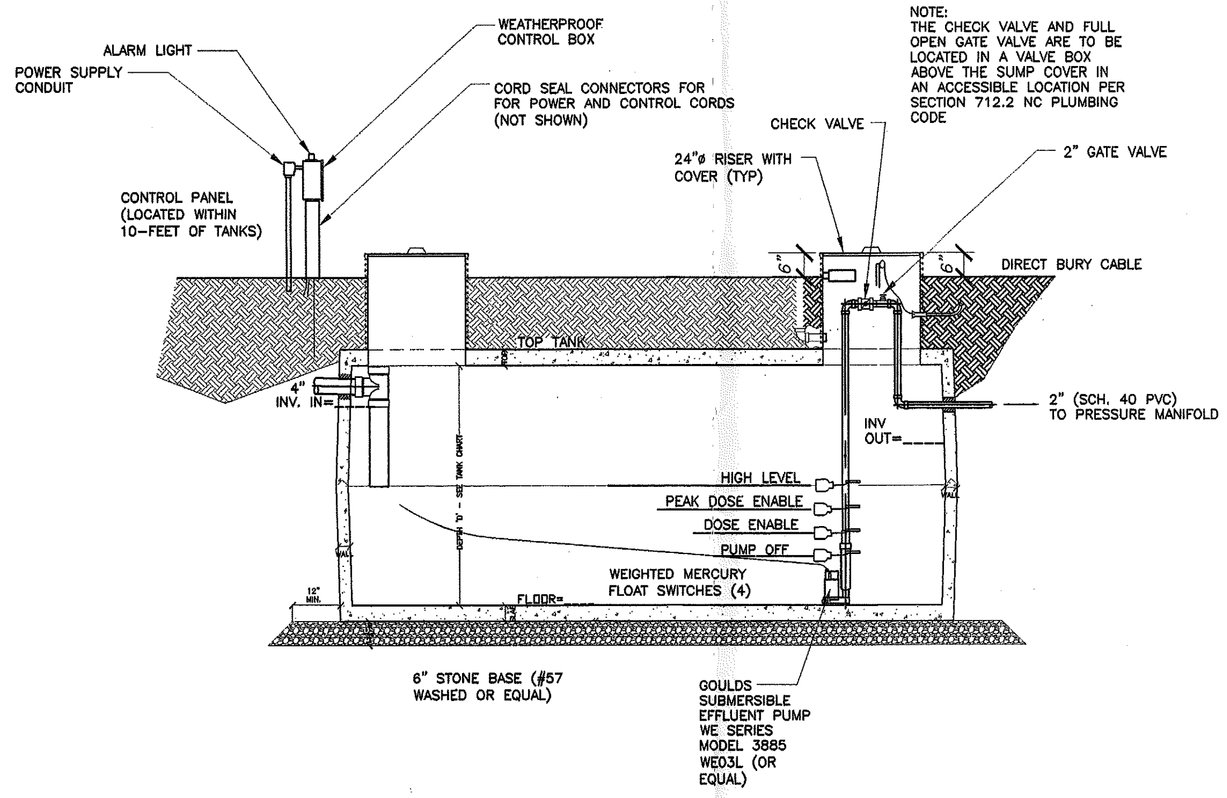
TYPICAL PRESSURE MANIFOLD DETAIL

NOTE:
REFER TO THE COMMERCIAL FLOW EQUALIZATION WASTEWATER TREATMENT DESIGN AND DISPOSAL SYSTEM DESIGN CALCULATIONS PREPARED BY:
ROLLANS SOIL AND ENVIRONMENTAL SERVICES, INC.
PO BOX 832
MOORESVILLE, NC 28115
PHONE: 704-278-0989
FAX: 704-278-0989
ROLLANS.ASHLEY@YAHOO.COM



PLAN

FLOW EQUALIZATION/DOSING TANK (1500 GALLONS)



SECTION

FLOW EQUALIZATION/DOSING TANK (1500 GALLONS)

THE DOSING / EQUALIZATION TANK SHALL BE STATE APPROVED, WATERTIGHT, STRUCTURALLY SOUND.

CUMMINGS CONSTRUCTION CORPORATION
(704) 847-4666
www.cummings-const.com
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MATTHEWS, NC 28106

PROPOSED OFFICE AND SHOP FOR
S B PROPERTIES
11101 HAMBRIGHT ROAD
HUNTERSVILLE, NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 5044 ENGINEER CHRISTOPHER L. HOPE, JR.
4-25-2011

Rev.	
Scale	NOTED
Drawn By	CLH
Checked By	CLH
Date	4/25/11
Job No.	13710

WT-2
OF 3

CHRIS HOPE/PROFESSIONAL ENGINEER/2617 ROLLING HILLS DRIVE/MONROE, NC 28110/(704) 882-1500

NOTE: THE CONTROL PANEL FOR THIS SYSTEM MUST BE AN APPROVED FLOW EQUALIZATION PANEL THAT MEETS THE ADDITIONAL REQUIREMENTS OF:

- HIGH-WATER LEVEL ALARM EVENT COUNTER
- TIMER OVER-RIDE COUNTER
- PUMP EVENT COUNTER
- PUMP ELAPSED TIME METER
- MAGNETIC MOTOR CONTACTOR
- HOA SWITCH
- CONTROL CIRCUIT FUSE
- ALARM CIRCUIT FUSE
- FLOAT SWITCH TERMINAL BLOCK
- PROGRAMMABLE TIMER WITH VARIABLE CONTROLS FOR SETTING THE ON AND OFF TIMES FOR 0.05 SECONDS TO 30 HOURS, OR A REPEAT CYCLE TIMER THAT AFFORDS THE AMOUNT OF CONTROL NEEDED FOR PUMP RUN TIME AND OFF TIME.
- CIRCUIT BREAKER FOR THE PUMP
- CIRCUIT BREAKER FOR THE ALARM / CONTROL CIRCUIT
- NEMA 4X ALARM STROBE BEACON
- NEMA 4X ALARM HORN (83 DECIBELS AT 3 FEET MINIIMUM) WITH AUTO RESET
- NEMA 4X EXTERIOR HORN TEST / NORMAL / SILENCE SWITCH
- GROUND LUG
- 2 LOCKABLE HASPS OR ONE LOCKABLE HASP AND 2 CAPTIVE SCREWS OPPOSITE THE HINGES OF THE NEMA 4X ENCLOSURE
- PUMP RUN LIGHT

NOTE: THE FOLLOWING FLOATS SHALL BE PROVIDED AND SHALL MEET THE REQUIREMENTS OF RULE .1952(C)(5):

- A LOW-LEVEL/REDUNDANT-OFF SWITCH SHALL PREVENT THE PUMP FROM RUNNING IN THE EVENT THE LEVEL IN THE TANK IS BELOW THE PUMP INTAKE.
- A TIMER-ENABLING SWITCH SHALL BE SET AT OR ABOVE THE PUMP SUBMERGENCE LEVEL AND SHALL NOT ALLOW FOR PARTIAL DOSES.
- A HIGH-LEVEL ALARM SHALL ACTIVATE AFTER THE EQUALIZATION VOLUME IS EXCEEDED. IF THERE IS A CONTROLLED DELAY BEFORE THE ALARM ACTIVATION, THE DELAY SHALL BE NO MORE THAN 5 MINUTES. AFTER BEING SILENCED, THE ALARM HORN SHALL AUTOMATICALLY RESET AND SHALL BE AUDIBLE WITH EACH ACTIVATION OF THE ALARM.
- A TIMER OVERRIDE SWITCH LOCATED AT OR ABOVE THE ALARM SHALL DOSE NO MORE THAN A DESIGN DOSE EVENT TO THE DRAIN FIELD. THE ALARM SHALL RE-ACTIVATE AT EACH OVERRIDE EVENT. THE TIMER OVERRIDE FLOAT MAY BE INTEGRAL WITH THE ALARM FLOAT.

HYDROSTATIC TANK CHECK (OPTIONAL PRESSURE TEST

A) ALL TANKS SHALL UNDERGO A 24 HOUR HYDROSTATIC CHECK AFTER INSTALLATION AND BACKFILL. A WATER LEVEL CHANGE OF 1/2 INCH OR MORE, WITHIN A 24" RISER, OVER 24 HOURS, OR VISUAL OBSERVATION OF LEAKAGE SHALL BE CAUSE FOR FAILURE OF THE WATER TIGHTNESS TEST. INITIAL WATER LEVEL SHALL BE TO 2" ABOVE THE RISER/ADAPTER SEAM.
B) TANKS MAY ALSO BE PRESSURE TESTED IN LIEU OF THE HYDROSTATIC TEST.

PIPE AND FITTINGS

A) ALL DISCHARGE PIPING, SUPPLY LINES, VALVES AND DISCONNECTS SHOULD BE MADE OF PVC AND PRESSURE RATED.
B) ALL JOINTS MUST BE PROPERLY "WELDED" UTILIZING THE APPROPRIATE PVC CEMENT FOR EACH APPLICATION.
C) THE SUPPLY LINE FROM THE PUMP TANK TO THE PRESSURE MANIFOLD SHALL BE 2 INCH SCHEDULE 40 PVC (APPROXIMATE LENGTH OF SUPPLY LINE IS 597 FEET).

PRESSURE MANIFOLD

THERE WILL BE THREE (1) 1/2 INCH SCH 80 PVC AND TWO (2) 1/2 INCH SCH. 40 PVC TAPS IN THE PRESSURE MANIFOLD. THE MANIFOLD PIPING SHALL BE 4 INCH SCH. 80 PVC.

PROPER OPERATION CHECK

A) AFTER ALL COMPONENTS OF THE WASTE WATER DISPOSAL SYSTEM HAVE BEEN INSTALLED AND CONNECTED, THE SYSTEM SHALL BE CHECKED FOR PROPER OPERATION.
B) A PUMP DELIVERY RATE SHALL BE MEASURED AND THE TIMER CONTROL DEVICE ADJUSTED ACCORDING TO THE MEASURED DELIVERY RATE ACHIEVE THE EQUALIZED DAILY FLOW. THE TIME DOSING CONTROL PANEL MANUFACTURERS RECOMMENDATIONS SHALL BE FOLLOWED FOR SYSTEM START-UP.
C) THE TIMER CONTROL PANEL DEVICE SHALL BE SETUP PER THE SYSTEM DESIGN SPECIFICATIONS IN ACCORDANCE WITH THE MEASURED PUMP DELIVERY RATE BY THE ORC.
D) ALL FLOATS, COUNTERS, METERS, TIMERS, AND ALARMS SHALL BE TESTED FOR FUNTIONALITY.

PRESSURE HEAD ADJUSTMENT

A 2-FOOT SECTION OF PIPE (STANDPIPE) SHALL BE THREADED INTO THE "PRESSURE HEAD CHECK TAP" AND THE PUMP ACTIVATED ONCE AGAIN. THE GATE VALVE SHOULD BE ADJUSTED SO THAT THE WATER EXITING THIS 2-FOOT SECTION OF PIPE IS BARELY TRICKLING OUT OF IT. ONCE THE 2-FEET OF HEAD PRESSURE HAS BEEN PROPERLY SET, THE PUMP CAN BE TURNED OFF AND STANDPIPE REMOVED. A MALE THREADED PLUG SHOULD BE USED TO REPLACE THE STANDPIPE.

DESIGN SPECIFICS

DAILY DESIGN FLOW:	250 GPD
SEPTIC TANK SIZE:	1500 GALLONS
DOSING/EQUALIZATION TANK SIZE:	1500 GALLONS
DOSING/EQUALIZATION TANK PUMP:	GOULDS WE03L (OR EQUIV.)
EFFLUENT LOADING RATE:	DESIGN = 0.25 GPD PER SQ. FT.
SUPPLY LENGTH AND DIAMETER:	ACTUAL LENGTH ±597 FEET OF 2 INCH SCH 40 PVC
PRESSURE MANIFOLD SIZE:	4 INCH SCH 80 PVC
NUMBER AND SIZE OF DRAIN LINES:	(1) ½ INCH (SCH 80 PVC) @ 70 FEET (2) ½ INCH (SCH 40 PVC) @ 90 FEET (25% REDUCTION PRODUCT)
PRESSURE MANIFOLD:	(1) 4 INCH (SCH 80 PVC)
DOSING VOLUME:	114.28 GALLONS PER DOSE
FLOW RATE:	20 GALLONS PER MINUTE (MINIMUM)
FRICTION LOSS:	.84 FT./100 FT. EQUIVALENT LENGTH
PRESSURE HEAD:	2 FEET
DRAIN FIELD PUMP REQUIREMENTS:	20 GPM AT AT 20 FEET HEAD TOTAL EQUIVALENT LENGTH 700 FT. x .84/100 FT. = 5.88 ELEVATION HEAD = 8.0 PRESSURE HEAD = 2.0 16' HEAD ±

NOTE:
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WT-3
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