PIEDMONT DESIGN ASSOCIATES, P.A.
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125 East Plaza Drive
Mooresville, North Carolina 28115-8812
Telephone (704) 664-7888 Fax (704) 664-1778

Field B

Engineering
Surveying
Planning

Project: **Tomlin Mill One Stop Septic System**

Job No. 2014-05-17-EH Date: 10/22/2014 Revision Date: 10/22/2014

Existing Septic System Use: Convienence Store
Existing Septic System Sizing: Field A

Ex. Septic Tank Size:	1,500	Gallons
Ex. Drainfield Size:	555	LF
Ex. Drainfield Type:	Conventional with Gravel	
Ex, Design Flow:	500	G/D
Ex. LTAR:	0.30	G/D/SF

(Based on Non-24 Hr C-Store w/o Food Service)

Existing Septic System Sizing: Field B

Ex. Septic Tank Size:	2,000	Gallons
Ex. Drainfield Size:	521	LF
Ex. Drainfield Type:	25% Reduction (Chambers)	
Ex, Design Flow:	625	G/D
Ex. LTAR:	0.30	G/D/SF

NORTH CAROLINA PROFESSIONAL SEAL 17827 ENGINEER DONALD L. MONDAY

Field B was installed to allow new fixtures installed in 2008 into new system and existing fixtures to remain plumbed to existing system.

New Fixtures included 1 toilet, 1 sink in womens restroom, 1 urinal in mens restroom and 1 toilet and 1 sink in managers office.

Total Existing System Design Flow:	1,125.00	Gallons per Day
Total Existing System LF:	1,076.00	LF Drainline @ 0.30 G/D/SF

Owner is proposing to add food service to C-Store serving breakfast and lunch. Onwer is proposing to add 12 seats. Design Flow for 12 seats is 40 G/D/Seat, therefore requiring additional drainfield to accomodate 480 Gal./Day. Flow Reduction allows for design flow reduction per seat from 40 G/D/Seat to 11 G/D/Seat.

FIELD A SIZING CALCULATIONS

Since the current plumbing system does not break out the domestic waste from future kitchen waste, we are proposing that the client demo a portion of the floor and re-plumb the kitchen waste to a new 1,000 gallon grease trap.

Engineer is proposing to send all kitchen waste through a new 1,000 gallon grease trap and all flow from kitchen to existing Field A

Total Flow from Kitchen:	40	G/D/Seat
Number of Seats:	12	Seats
Unreduced Flow from Kitchen Waste:	480	G/D
Reduced Flow from Kitchen:	11	G/D/Seat (From Flow Reduction Request sent to Trish)
Number of Seats:	12	Seats
Reduced Flow from Kitchen Waste:	132	G/D
Proposed LTAR:	0.25	G/D/SF
LF Required:	176.00	LF Required

Justin Henderson, ICHD has proposed to remove lowest (2) laterals in Field A because of fill placed over system for driveway shoulder.

Length of Laterals to be removed:	90	LF (Lateral #5)
	100	LF (Lateral #6)
	190	LF Total Removed
Remaining Lateral Length:	365	LF Remaining in Field A
Required LF:	176.00	LF
	273.75	Remaining Gallons to be allowed to Field A or
	0.12	G/D/SF Loading Rate for Proposed Kitchen Flow Only to Field A

Field A Tank Sizing Based on Unreduced Flow

	480.00	Gals./Day
	960.00	Gallons
Existing Tank	1,500.00	Gallons

Keep Existing Tank in Use. No Need to Add Additional Volume

FIELD B SIZING CALCULATIONS

The Engineer is proposing to send all from from the domestic waste to Field B septic system

Unreduced Flow from Domestic Waste:	1,125.00	G/D
Prop. Flow Reduction for Domestic:	724.20	G/D (From Flow Reduction Request sent to Trish)
Existing LTAR:	0.30	G/D/SF
Proposed LTAR:	0.25	G/D/SF
LF Required:	724.20	LF Required (Using 25% Accepted System)

Existing System Size	5	Laterals
	105	LF Each
	525	LF Total

Permit States Current System Size is 521 LF Total

Proposing to Add:	2	New Laterals
Length of Each New Lateral:	105	LF Each of 25% Accepted Laterals (Chambers)
	210	LF Total of New Laterals
	735	LF Total for Field B (Domestic Waste Only)

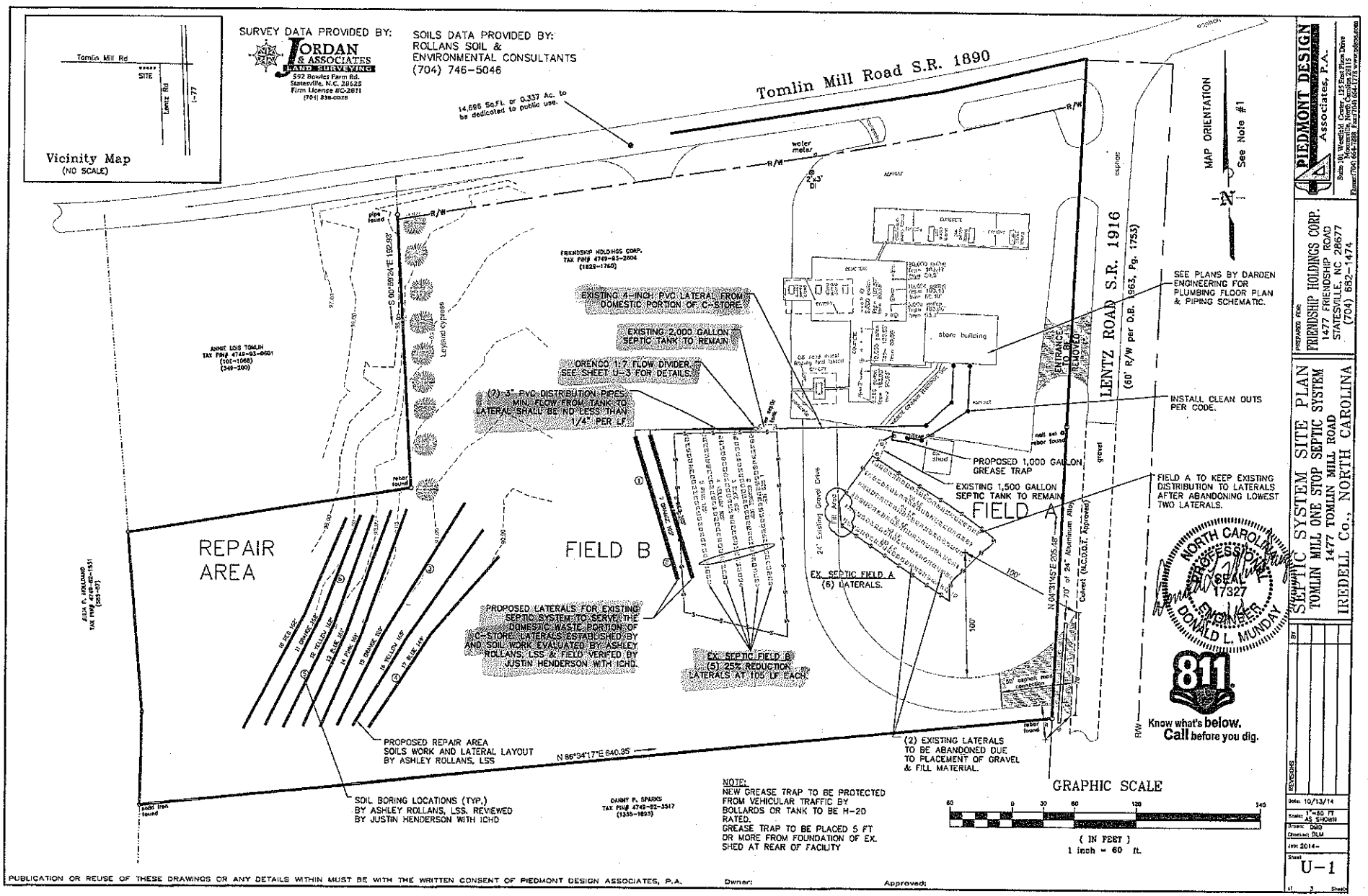
Engineer is Proposing to Replace Existing Effluent Spiller (per ICHD permit) & Replacewith New Orenco Flow Splitter with 1 Inlet 7 Outlet Option (See Plan Details) Contractor to Contact AQWA at 888-552-2792 for ordering information

New Laterals & Repair for the Entire System has Already Been Located in the Field, Shown on the Plan & Evaluated by Ashley Rollans, LSS and Justin Henderson with ICHD

Field B Tank Sizing Based on Unreduced Flow

	1,125.00	Gals./Day
	1,816.25	Gallons
Existing Tank	2,000.00	Gallons

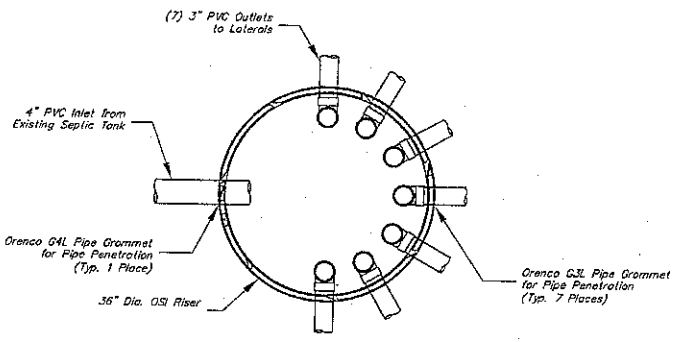
Keep Existing Tank in Use. No Need to Add Additional Volume



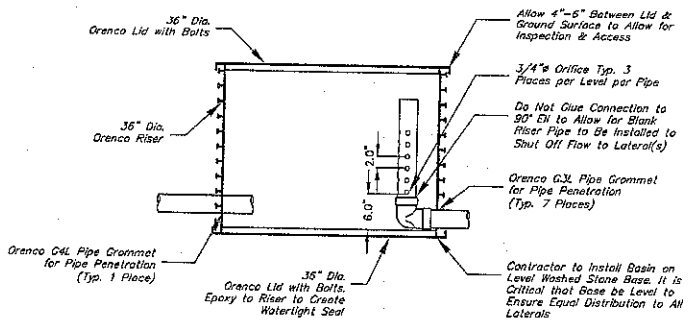
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Owner:

Approved:



PLAN VIEW: ORENCO FLOW DIVIDER



SECTION VIEW: ORENCO FLOW DIVIDER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17821 DONALD L. MUNDAY

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PREPARED FOR:
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1477 FRIENDSHIP ROAD
STATESVILLE, NC 28677
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FLOW SPLITTER DETAIL
TOMLIN MILL ONE STOP SEPTIC SYSTEM
1477 TOMLIN MILL ROAD
IREDELL Co., NORTH CAROLINA

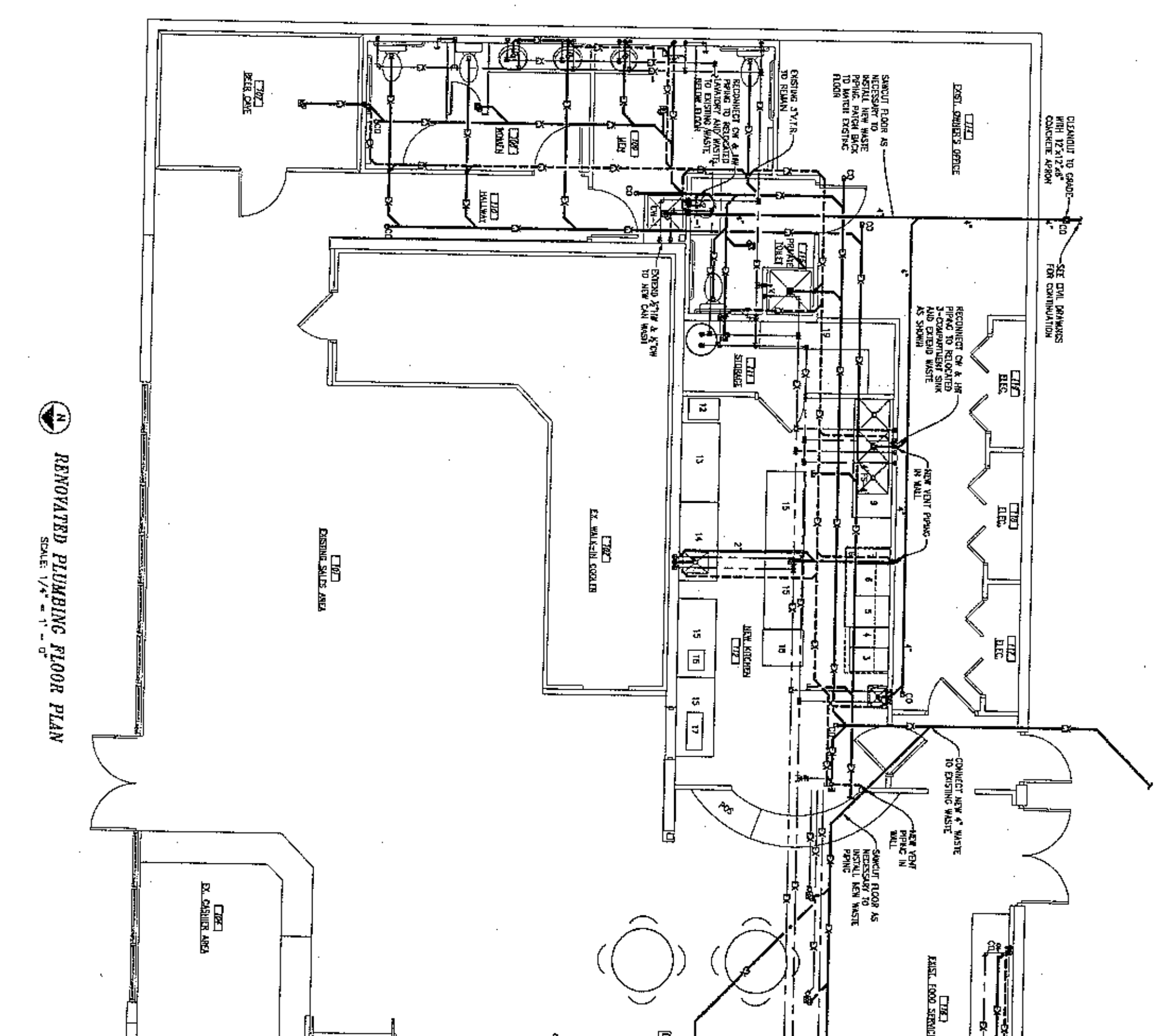
BY	REVISIONS

Date: 10/13/14
Scale: 1"=20' FT AS SHOWN
Drawn: DLD
Checked: DLM
Job: 2014-
Sheet: U-3
of 3 Sheets

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Owner:

Approved:



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(336) 765-8780

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 6012 WILLIAM G. ROBINSON, JR.

P-1

TMOS
STATESVILLE, N.C.

PLUMBING FLOOR PLAN
SCALE: AS NOTED

NO.	DATE	DESCRIPTION	BY	CHKD.
		REVISIONS		

APPROVED FOR CONTRACT

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DESIGN NO.
PROJECT NO.
DRAWN BY WES
CHECKED BY WSR
OCT 09 2014

DARDEN ENGINEERING SERVICES
152 BRAWLEY SCHOOL RD., SUITE 207
MOORESVILLE, N. C. 28117