

CODE SUMMARY:

**PROJECT DESCRIPTION:** 8,900 SF ADDITION TO EXISTING TITAN MACHINERY BUILDING. THE EXISTING BUILDING IS BEING USED AS A MOTOR VEHICLE REPAIR GARAGE. THE EXISTING BUILDING DOES NOT HAVE AN AUTOMATIC FIRE PROTECTION SYSTEM.

**JURISDICTION:** CITY OF BISMARCK INTERNATIONAL BUILDING CODE 2009

**OCCUPANCY CLASSIFICATION:** (S-1) MODERATE-HAZARD STORAGE

**CONSTRUCTION TYPE:** TYPE IIIB, SPRINKLERED

**NUMBER OF STORIES:** ONE W/ MEZZANINE

**TABULAR BUILDING AREA:** 17,500 SF (TABLE 503)

**FRONTAGE INCREASE:** (PER 506.2)

IF = (F/P-0.25)W/30  
BUILDING PERIMETER (P) = 600'  
BUILDING PERIMETER THAT FRONTS ON A PUBLIC WAY OR OPEN SPACE HAVING 20' (F) = 600'  
WIDTH OF OPEN SPACE (W) PER 506.2.1

NORTH	185' (30' MAX)	31% OF PERIMETER	4.3'
SOUTH	185' (30' MAX)	31% OF PERIMETER	4.3'
EAST	114' (30' MAX)	19% OF PERIMETER	5.7'
WEST	114' (30' MAX)	19% OF PERIMETER	5.7'

WEIGHTED AVERAGE WIDTH 30'  
IF = (600/600-0.25) 30/30  
IF = (0.75) 1  
IF = 0.75

**BUILDING ALLOWABLE AREA:** (AS PER SECTION 506)

A<sub>2</sub> = [A<sub>1</sub> + [A<sub>1</sub> x I]] + [A<sub>2</sub> x I]  
A<sub>2</sub> = [17,500 + [17,500 x 75%]] + [17,500 x 300%]  
A<sub>2</sub> = 17,500 + 13,125 + 52,500  
A<sub>2</sub> = 83,125 SF

**ACTUAL BUILDING AREA:** = 19,050 SF

**OCCUPANCY SEPARATION:** AS PER TABLE 508.4, BUSINESS (B) AND MODERATE HAZARD STORAGE (S-1) OCCUPANCIES DO NOT REQUIRE SEPARATION. MODERATE HAZARD STORAGE (S-1) AND LOW HAZARD STORAGE (S-2) DO NOT REQUIRE SEPARATION.

**FIRE AREA SEPARATION:** AS PER SECTION 903.2.9.1, A GROUP S-1 FIRE AREA MAY NOT EXCEED 12,000 SF WITHOUT PROVIDING AN AUTOMATIC SPRINKLER SYSTEM. THE S-1 FIRE AREA IS 12,970 SF WHICH REQUIRES AN AUTOMATIC SPRINKLER SYSTEM OR PORTIONS OF THE BUILDING TO BE SEPARATED INTO FIRE AREAS PER SECTION 903.7. A 3 HOUR FIRE-RESISTANCE RATING SHALL BE REQUIRED ACCORDING TO TABLE 707.3.9 FOR THE SEPARATION OF AN S-1 OCCUPANCY INTO DIFFERENT FIRE AREAS.

AN OWNER PROVIDED SPRINKLER WILL BE PROVIDED IN LIEU OF DIVIDING THE S-1 OCCUPANCY INTO DIFFERENT FIRE AREAS.

**FIRE RESISTANCE REQUIREMENTS:** FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE PER TABLE 602. NO RATINGS ARE REQUIRED BECAUSE FIRE SEPARATION DISTANCES ARE GREATER THAN 30 FEET ON ALL SIDES.

(PER TABLE 602)

FIRE SEPARATION DISTANCE (FEET)	RATING (HOURS)
X < 5'	2
5' < X < 10'	1
10' < X < 30'	0
X > 30'	0

(PER TABLE 601)

BUILDING ELEMENT PROTECTION (TYPE IIIB)	RATING (HOURS)
PRIMARY STRUCTURAL FRAME	0
BEARING WALLS (EXTERIOR)	2
BEARING WALLS (INTERIOR)	0
NONBEARING WALLS AND PARTITIONS (EXTERIOR)	0
NONBEARING WALLS AND PARTITIONS (INTERIOR)	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

**OCCUPANT LOAD:**

B OCCUPANCY (EXISTING): 100 GROSS SF/OCCUPANT	= 1,910 SF / 100 = 20 OCCUPANTS
S-1 OCCUPANCY (EXISTING): 300 GROSS SF/OCCUPANT	= 4,320 SF / 300 = 15 OCCUPANTS
S-2 OCCUPANCY (EXISTING): 300 GROSS SF/OCCUPANT	= 3,340 SF / 300 = 12 OCCUPANTS
S-1 OCCUPANCY (ADDITION): 300 GROSS SF/OCCUPANT	= 8,900 SF / 300 = 30 OCCUPANTS
TOTAL OCCUPANTS	= 77 OCCUPANTS

**PLUMBING FIXTURES:** AS PER TABLE 2902.1, ONE (1) WATER CLOSET & ONE (1) LAVATORIES WILL BE REQUIRED FOR EACH SEX PER 2902.2. ONE (1) SERVICE SINK WILL ALSO BE REQUIRED.

**TOILETS**

MALE		FEMALE	
(BUSINESS)	10/25 = 0.4	10/25	= 0.4
(STORAGE)	57/100 = 0.57	57/100	= 0.57
REQUIRED	= 1	REQUIRED	= 1
PROVIDED	= 4	PROVIDED	= 1

**LAVATORIES**

MALE		FEMALE	
(BUSINESS)	10/40 = 0.25	10/40	= 0.25
(STORAGE)	57/100 = 0.57	57/100	= 0.57
REQUIRED	= 1	REQUIRED	= 1
PROVIDED	= 2	PROVIDED	= 1

**DRINKING FOUNTAIN**

(BUSINESS)	20/100 = 0.2
(STORAGE)	57/1000 = 0.06
REQUIRED	= 1
PROVIDED	= 2

**SERVICE SINK**

(BUSINESS)	REQUIRED = 1
(STORAGE)	REQUIRED = 1
	PROVIDED = 1

**PARKING:**

**PARKING REQUIREMENTS**

- = (1) SPACE PER EMPLOYEE ON LARGEST SHIFT
- = 14 FULL-TIME EMPLOYEES
- = 14 PARKING SPACES

**BUSINESS AREA**

- = (1) SPACE PER 250 SF OF OFFICE SPACE
- = 2,200 SF
- = 2,200 SF / 250 SF
- = 9 PARKING SPACES

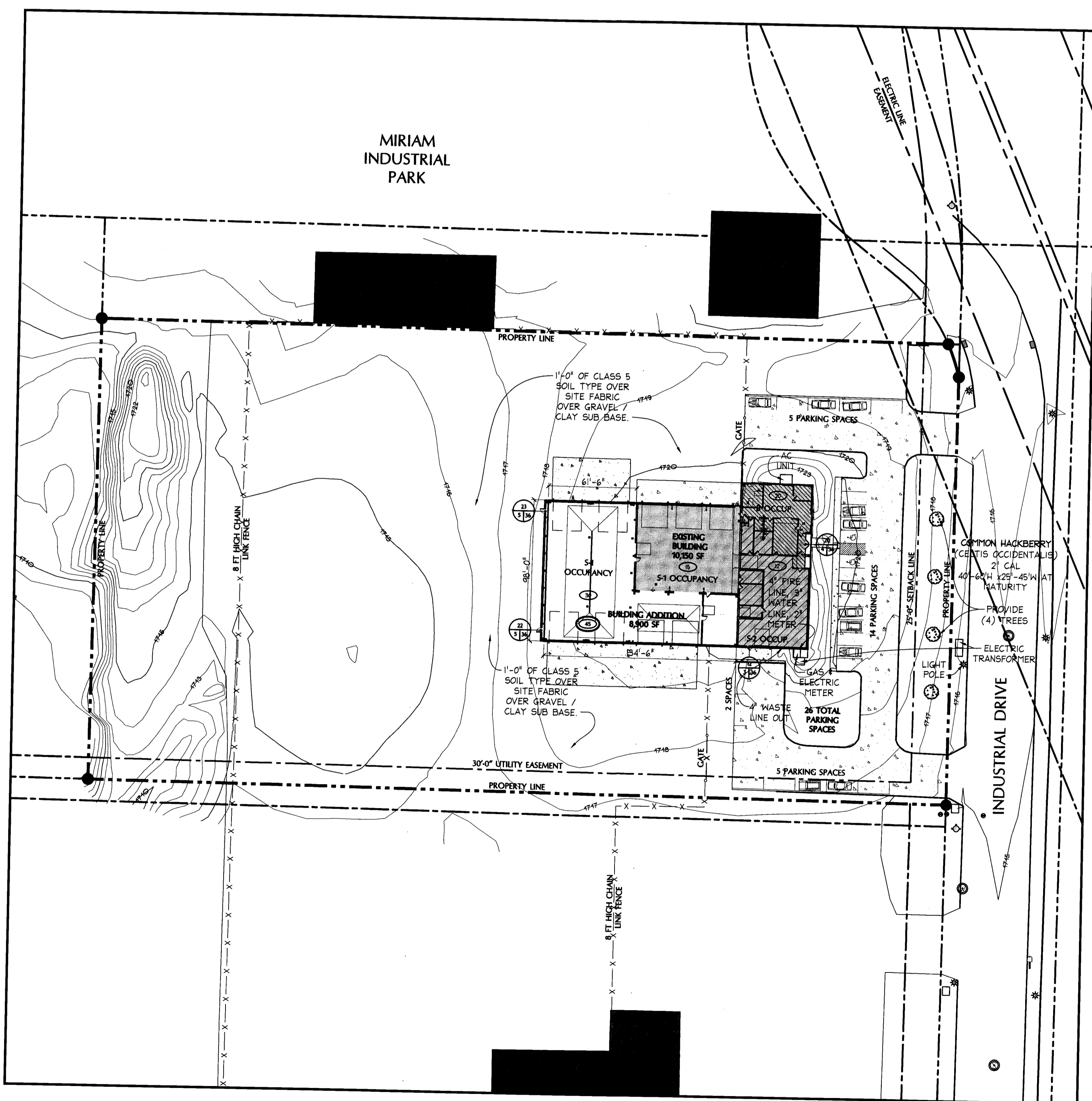
**COMPANY VEHICLES**

- = 3 VEHICLES

**TOTAL REQUIRED PARKING**

- = 14 + 9 + 3
- = 26
- = 26 PARKING SPACES

AS PER TABLE 1106.1, 26 PARKING SPACES WILL REQUIRE A MINIMUM OF TWO ACCESSIBLE PARKING SPACES.



1 TITAN MACHINERY SITE PLAN  
SCALE: 1" = 50'-0"

**Code Plan Legend:**

- ## OCCUPANTS SERVED BY EXIT
- ## OCCUPANT WIDTH PROVIDED
- ## OCCUPANT WIDTH REQUIRED
- NOTE: THE MINIMUM WIDTH OF EACH DOOR SHALL PROVIDE A CLEAR WIDTH OF 32" PER SECTION 1008.1.1
- ## OCCUPANT LOAD BY ROOM OR AREA
- ## CUMULATIVE OCCUPANT LOAD BY BUILDING AREA
- ## OCCUPANTS W/ DIRECTION OF TRAVEL

**INDEX OF DRAWINGS**

**Architectural**

- A1.0R - Revised Site Plan
- Code Summary
- A3.0 - Floor Plan
- A5.0 - Exterior Elevations

EACH SET OF DRAWINGS CONTAINS THE ABOVE NOTED SHEETS. IF ANY SHEETS ARE OMITTED CONTACT THE OFFICE OF ZERR BERG ARCHITECTS IMMEDIATELY FOR A REPLACEMENT SET OF DRAWINGS.

APPROVED BY FORESTRY  
9.6.13  
CITY FORESTER 1-24-13  
TITLE DATE

APPROVED BY PLANNING  
1/14/13  
PLANNER 01-24-13  
TITLE DATE

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Architect under the laws of the State of North Dakota.  
Print Name: Brian C. Berg  
Signature: [Signature]  
Date: 1/14/13 Registration No. 1778



**TITAN MACHINERY**  
BUILDING ADDITION  
BISMARCK, NORTH DAKOTA

- REVISED SITE PLAN  
- CODE SUMMARY