FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-8087

FACILITY NAME K & N Electric Motors, Inc

SUMMARY

K&N Electric Motors is a family owned company. They moved into their new 54,000 square feet location in May 2002. This facility was acquired from Grand Eagle, Inc. The company also has two other facilities- one in Moses Lake, Washington and the other in Missoula, Montana. The business is located in the City of Spokane Valley, but the wastewater discharge is to a City of Spokane sewer line. Because there is no interlocal agreement between the City of Spokane, the City of Spokane Valley, and Spokane County for pretreatment and permitting, the Department of Ecology is the permitting authority for this company.

The Spokane Valley facility can provide apparatus repair and re-manufacturing of electric motors, steam turbine generator repair and re-manufacture, crane and hoist manufacturing, control systems and integration, predictive maintenance, and engineering and field engineering services. The company remanufactures and/or repairs apparatus of 4,000 electrical motors per year.

The process of "apparatus repair and remanufacturing of electric motors" generates the wastewater. In general, this process consists of disassemble of the motor, steam cleaning, stripping/baking the "old" finish off, rewinding, varnish/baking, reassembly, testing, painting, shipping. The motors are washed off with a steam cleaner. The wastewater generated from the steam cleaner flows into a grease interceptor. This process produces between 465 gallons per working day (June 2003) to 1,870 gallons per working day (August 2003) of wastewater.

Currently, the facility has no pretreatment system (except for a grease inceptor) and has not looked at AKART to determine what type of system may be needed to protect the waters of the State and/or City of Spokane Wastewater Treatment Plant. Also, from previous sampling, there was a high BTEX and copper readings from the steam cleaning area. This seemed to violate the local limits of the Spokane Wastewater treatment facility. Thus, a schedule has been developed in condition of S9 of the Permit to evaluate the wastewater and design and construct a wastewater treatment facility that will meet pretreatment standards if necessary. With this schedule, an approved wastewater treatment system would be installed before the permit expires.

The Department proposes that the permit be issued for three years. The three year limit is to ensure that pretreatment compliance is met in a timely manner.

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. **ST-8087**. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to City of Spokane Wastewater Treatment Plant. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 WAC).

This fact sheet and draft permit are available for review by interested persons as described in Appendix A—Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D—Response to Comments.

GENERAL INFORMATION	
Applicant	K&N Electric Motors, Inc
Facility Name and Address	K&N Electric Motors, Inc, 415 N. Fancher Road, City of Spokane Valley, Washington 99212
Type of Facility:	SIC 3599, 3536, 5063, & 7694 Electrical motors/Machine Shop
Facility Discharge Location	Latitude: 47° 39' 37" N Longitude: 117° 19' 29" W.
Treatment Plant Receiving Discharge	City of Spokane Wastewater Treatment Plant, Spokane, Washington
Contact at Facility	Bob Schmidlkofer, 509-838-8000:
Responsible Official	Name: Bob Schmidlkofer Title: Business Manager Address: 415 N Fancher Road, City of Spokane Valley, WA 99212 Telephone #: 509-838-8000 FAX #509-838-4435

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

The facility has over 54,000 square feet. The floor plan of the facility is located in Appendix E, Diagram #1. This facility can provide apparatus repair and re-manufacturing of electric motors, steam turbine generator repair and re-manufacture, crane and hoist manufacturing, control systems and integration, predictive maintenance, and engineering and field engineering services. The facility typically operates 18 hours a day, 5 days a week, and 52 weeks a year. There are a total of 65 employees that work at the facility on a daily basis. The total gallons per month are from a low of 14,960 gallons per month (June 2003) to a high of 37,400 gallons (August 2003). The company remanufactures and/or repair apparatus of 4,000 electrical motors per year.

HISTORY

K&N Electric Motors is a family owned company. They moved into their new location in May 2002. This facility was acquired from Grand Eagle, Inc. The company also has two other facilities- one in Moses Lake, Washington and the other in Missoula, Montana. The business is located in the City of Spokane Valley, but the wastewater discharge is to a City of Spokane sewer line. The location of the facility can be seen on Map #1 in Appendix E. Because there is no interlocal agreement between the City of Spokane, the City of Spokane Valley, and Spokane County for pretreatment and permitting, the Department of Ecology is the permitting authority for this company. From previous sampling, there was a high BTEX and copper readings from the steam cleaning area. This seem to violate the local limits of the Spokane Wastewater treatment facility. With BTEX, it was the xylene that was causing the greatest problem. In researching this problem, the company discovered that motors were being cleaned with Xylene and Brake cleaner. After this cleaning, the motors were being steam cleaned. Now, they have changed the process for the use of Xylene and Xylene is also under lock and key in their storage area. See Picture #1 and #2 in Appendix E. They are also looking for ways to eliminate Xylene from their process.

INDUSTRIAL PROCESSES

The process of “apparatus repair and remanufacturing of electric motors” generates the wastewater. The Diagram #2 in Appendix E shows this process. In general, this process consists of disassemble of the motor, steam cleaning, stripping/baking the “old” finish off, rewinding, varnish/baking, reassembly, testing, painting, and shipping. A picture (Picture #3) of a typical finished electric motor is shown in Appendix E.

TREATMENT PROCESSES

The motors are washed off in the steam cleaning area. This is occurs with a steam cleaner. The wastewater generated from the steam cleaner flows into a grease interceptor. Diagram #3 shows the grease interceptor size. This process produces between 465 gallons per working day (June 2003) to 1,870 gallons per working day (August 2003) of wastewater. Approximately 1,000 to 2,000 electrical motors are washed per year. This calculates between 4 to 8 motors washed per working day. See Table #2 and Graph #1 in Appendix C for calculations and graphically representation of the facility water use. Picture #4 in Appendix E shows the steam cleaner and the grease interceptor. The sewer lines for the facility and steam cleaning area are located in

Appendix E, Diagram #4. The sampling for this treatment process was taken in sample "vault" after effluent discharge of the grease interceptor.

PERMIT STATUS

An application for a permit was submitted to the Department on June 17, 2003 and accepted by the Department on July 17, 2003.

The facility last received a technical assistance visit on July 23, 2003.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application. See Appendix C-Table #1 for more information of these parameters. The proposed wastewater discharge is characterized for the following parameters:

Parameter	Minimum Concentration (mg/l)	Maximum Concentration (mg/l)	Average Concentration (mg/l)
pH	8.11	8.71	8.40
Arsenic	ND	.016	.006
Cadmium	ND	.035	.009
Copper	.008	2.49	.761
Chromium	.005	.04	.013
Lead	.071	.22	.080
Mercury	ND	.0001	0
Nickel	.002	.031	.018
Silver	ND	.0001	0
Zinc	.358	1.87	.875
Fats, Oil, and Grease (FOG)	0	25.9	12.95
BTEX [a]	.038	.71	.443

[a] BTEX has the following: Benzene, Toluene, Ethyl benzene, and Xylene and the sum of these four constituents' analytical results are shown above.

SEPA COMPLIANCE

The company received Determination of Nonsignificance October 23, 2002 from Spokane County Air Pollution Control Authority.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The minimum requirements to demonstrate compliance with the AKART standard and specific design criteria for this facility will be determined by a wastewater study and an engineering report as described in the State Waste Discharge permit Section S9 (Compliance Schedule).

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). This facility does not have any federal categorical limitations found under 40 CFR Part 405-471.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect City of Spokane Wastewater Treatment Plant from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, limitations for certain parameters are necessary. These limitations are based on local limits established by City of Spokane Wastewater Treatment Plant and codified in ordinance. Applicable limits for this discharge may include the following after the wastewater study and engineering report are completed as described in the State Waste Discharge permit section S9:

Parameter	Concentration (mg/l)
pH	5 to 12 s.u.
Copper	1.4
Arsenic	.94
Cadmium	.11
Chromium	5.0
Lead	0.32
Mercury	.2
Nickel	3.98
Silver	.43
Zinc	7.47

Fats, Oil, and Grease (FOG)	100
BTEX [a]	0.5 [a]
[a] BTEX has the following: Benzene, Toluene, Ethyl benzene, and Xylene and the sum of these four constituents' analytical results are not to exceed .5 mg/l.	

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Condition S2, S3 and S9. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Monitoring for BTEX, Copper, Chromium, Lead, Nickel, Zinc, and FOG are being required to further characterize the effluent. These pollutant(s) could have a significant impact on the receiving POTW.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110 and 40 CFR 403.12 (e),(g), and (h)).

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment. The proposed permit requires submission of an O&M manual for the entire wastewater system.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under authority of RCW 90.48.080, that the Permittee develop and submit to the Department a solid waste plan to prevent solid waste from causing pollution of waters of the state. The plan must also be submitted to the local solid waste permitting agency for approval.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

COMPLIANCE SCHEDULE FOR MEETING PRETREATMENT STANDARDS

Currently, the facility has no pretreatment system (except for a grease inceptor) and has not looked at AKART to determine what type of system may be needed to protect the waters of the State and/or City of Spokane Wastewater Treatment Plant. Thus, a schedule has been developed in condition of S9 of the Permit to evaluate the wastewater and design, construct a wastewater treatment facility that will meet pretreatment standards if necessary. With this schedule, an approved wastewater treatment system would be installed before the permit expires.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G10 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G11 requires the payment of permit fees. Condition G12 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. The Department proposes that the permit be issued for three years. The three year limit is to ensure that pretreatment compliance is met in a timely manner.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws and Regulations(http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information
(http://www.ecy.wa.gov/programs/wq/wastewater/index.html

APPENDICES

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on August 4 and August 11, 2003 in the Spokesman-Review to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on January 2, 2004 in the Spokesman-Review to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Eastern Regional Office
4601 North Monroe Street
Spokane, WA 99205-1295

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 509-329-3400, or by writing to the address listed above.

This permit was written by Scott Mallery.

APPENDIX B—GLOSSARY

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity—Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial User—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference— A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Pass-through— A discharge which exits the POTW into waters of the-State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase

in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;

b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)--

1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;

2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids—That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C—TECHNICAL CALCULATIONS-K&N ELECTRIC MOTORS-TABLE #1: SAMPLING DATA AND CALCULATIONS

All in mg/l for K and N Electric							
	Spokane Local Limits	11/20/2002	3/26/03	4/21/03	6/2/03	Total	Average
BTEX							
Benzene			0	0	0		
Toluene			0	0.108	0		
Ethylbenzene			0.157	0.067	0.002		
Xylene			0.553	0.405	0.036		
Total	0.5		0.71	0.58	0.038	1.328	0.443
pH	5 to 12	8.37		8.71	8.11	25.190	8.397
Arsenic	0.94	0.004	0	0.016	0.003	0.023	0.006
Cadmium	0.11	0.011	0.02	0.004	0	0.035	0.009
Copper	1.4	0.395	2.49	0.152	0.008	3.045	0.761
Chromium	5	0.005	0.04	0.008	0	0.053	0.013
Lead	0.32	0.071	0.22	0.026	0.002	0.319	0.080
Mercury	0.2	0.0001	0	0	0	0.000	0.000
Nickel	3.98	0.031	0.008	0.029	0.002	0.070	0.018
Silver	0.43	0	0	0.001	0	0.001	0.000
Zinc	7.47	0.358	1.14	1.87	0.132	3.500	0.875
FOG	100			25.9	0	25.900	12.950

APPENDIX C—TECHNICAL CALCULATIONS: K&N ELECTRIC MOTORS: TABLE #2:- CALCULATIONS FOR WATER USEAGE

748 gallons per unit

Average work day per month 20

work days per year 52 5 260

2003	units	Total gallons per month	Total Water Use Average per work day	Average (estimated) water use of total person per work day	Calculated steam cleaner water use per work day
March	50	37,400	1,870	293	1,578
April	30	22,440	1,122	293	830
May	40	29,920	1,496	293	1,204
June	20	14,960	748	293	456
July	50	37,400	1,870	293	1,578
Aug	50	37,400	1,870	293	1,578
Sept	40	29,920	1,496	293	1,204

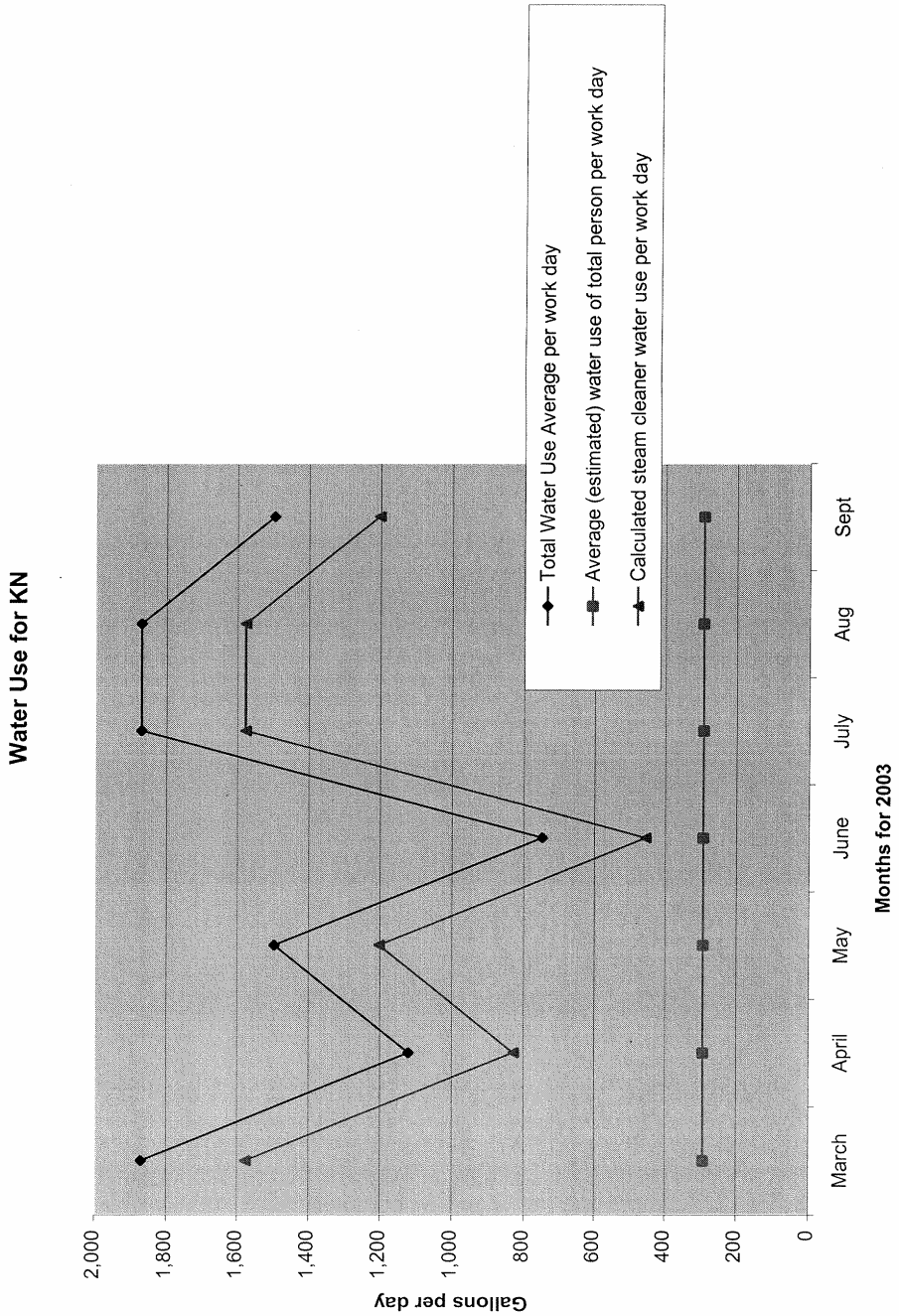
how the numbers were calculated	based off monthly water bill	units* gallons per unit	total gallons per month/the work days per month	gallons per work day per person*low value	total water useage average per work day - average water use per total person per work day
estimate	low flow toliets (1.5 gallons) 3 flushes per work day)	gallons per work day low value	gallons per work day high value		
	per person per 8-hr shift	5	15		
total people per day (8hour shift) at KN	65	293	4,388	use low value. No showers-just toliets	

electric motors per year (average)	average electric motor needing washing per year	average electric motor per work day
4,000	1,000	4
	2,000	8
	3,000	12
	4,000	15

average electric motor needing washing per year/ work days per year

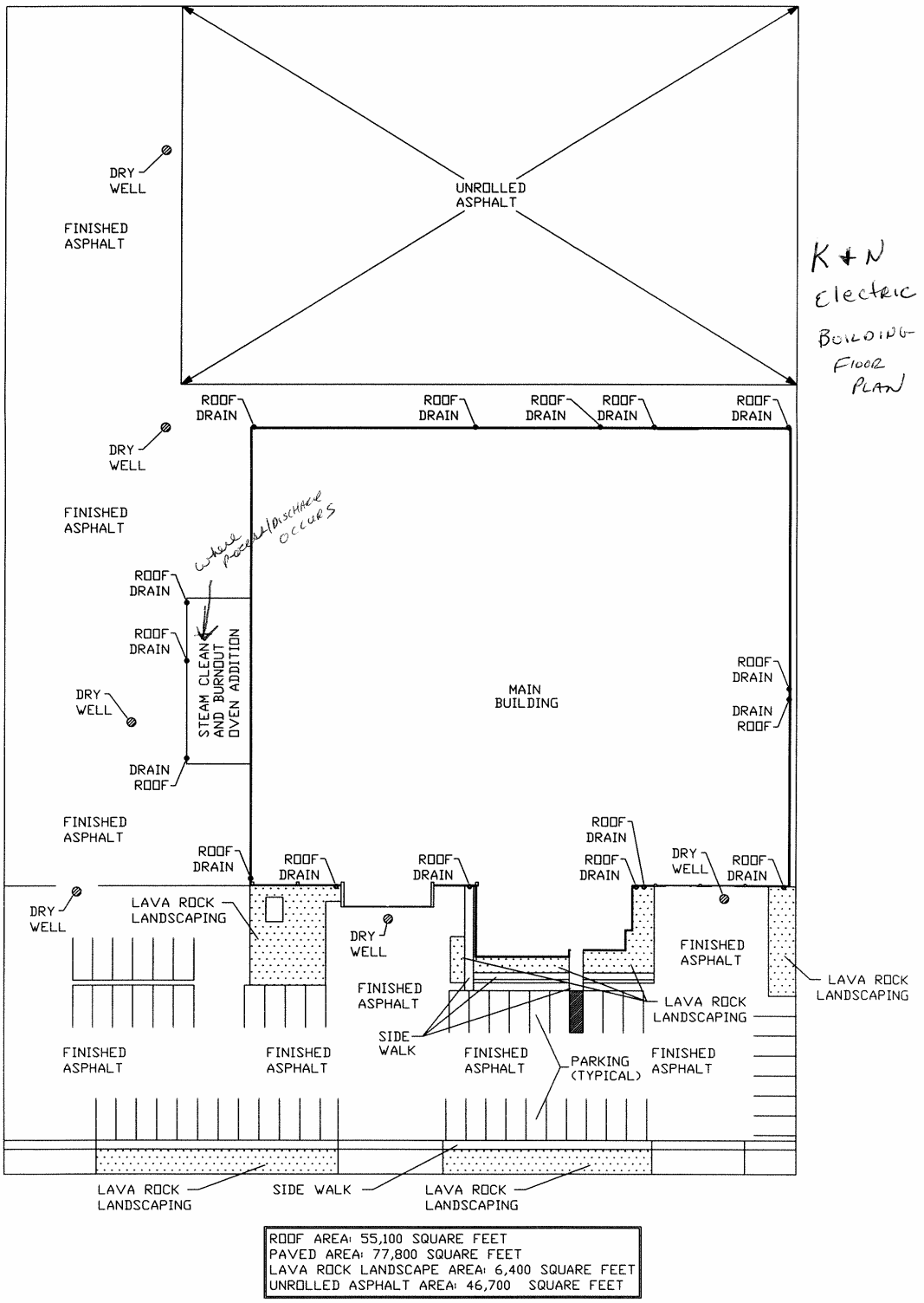
Use 1000 to 2000 a year washed per year
Thus, 4 to 8 motors per day

APPENDIX C—-K&N ELECTRIC MOTORS: GRAPH #1: WATER USEAGE



APPENDIX D—RESPONSE TO COMMENTS

APPENDIX E –DIAGRAMS AND PICTURES OF K&N ELECTRIC - DIAGRAM #1: KN ELECTRICAL MOTORS FLOOR PLAN



APPENDIX E: PICTURE #1: K&N ELECTRIC MOTORS STORAGE AREA

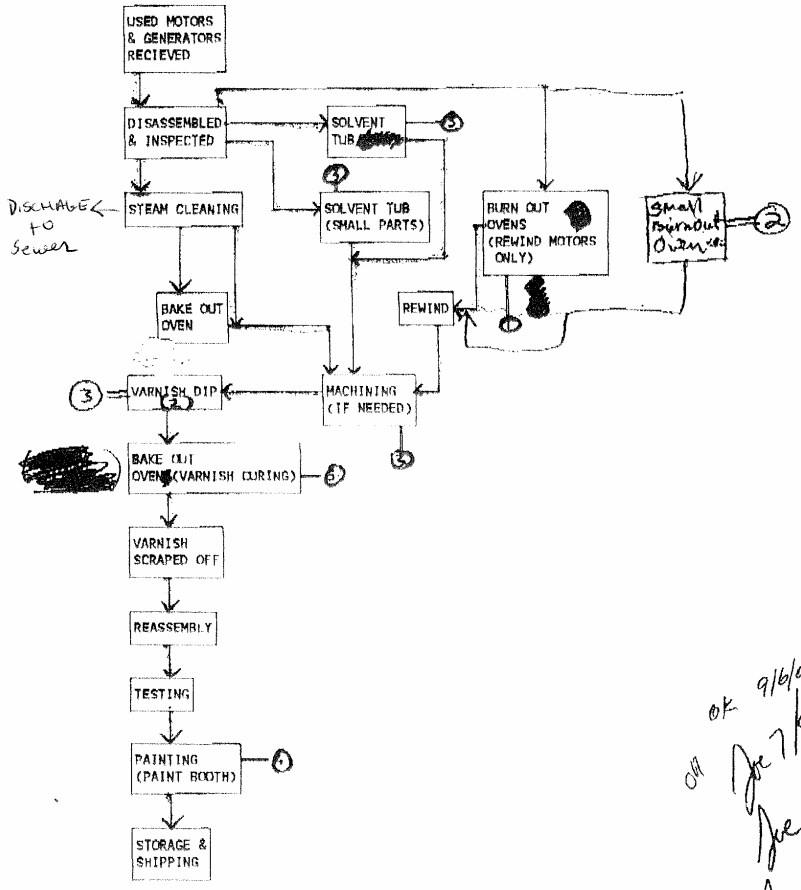
Picture #2- K&N Electric Motors Xylene in the Storage area with lock and key

APPENDIX E: DIAGRAM #2: K&N ELECTRIC MOTORS PROCESS FLOW

06-16-03 04:13PM FROM-SCAPCA 5094776828 T-886 P.02/02 F-491

Process for KN Electric

FLOW CHART MAGNETEK 415 N. FANCHER WAY



PROCESS FLOW

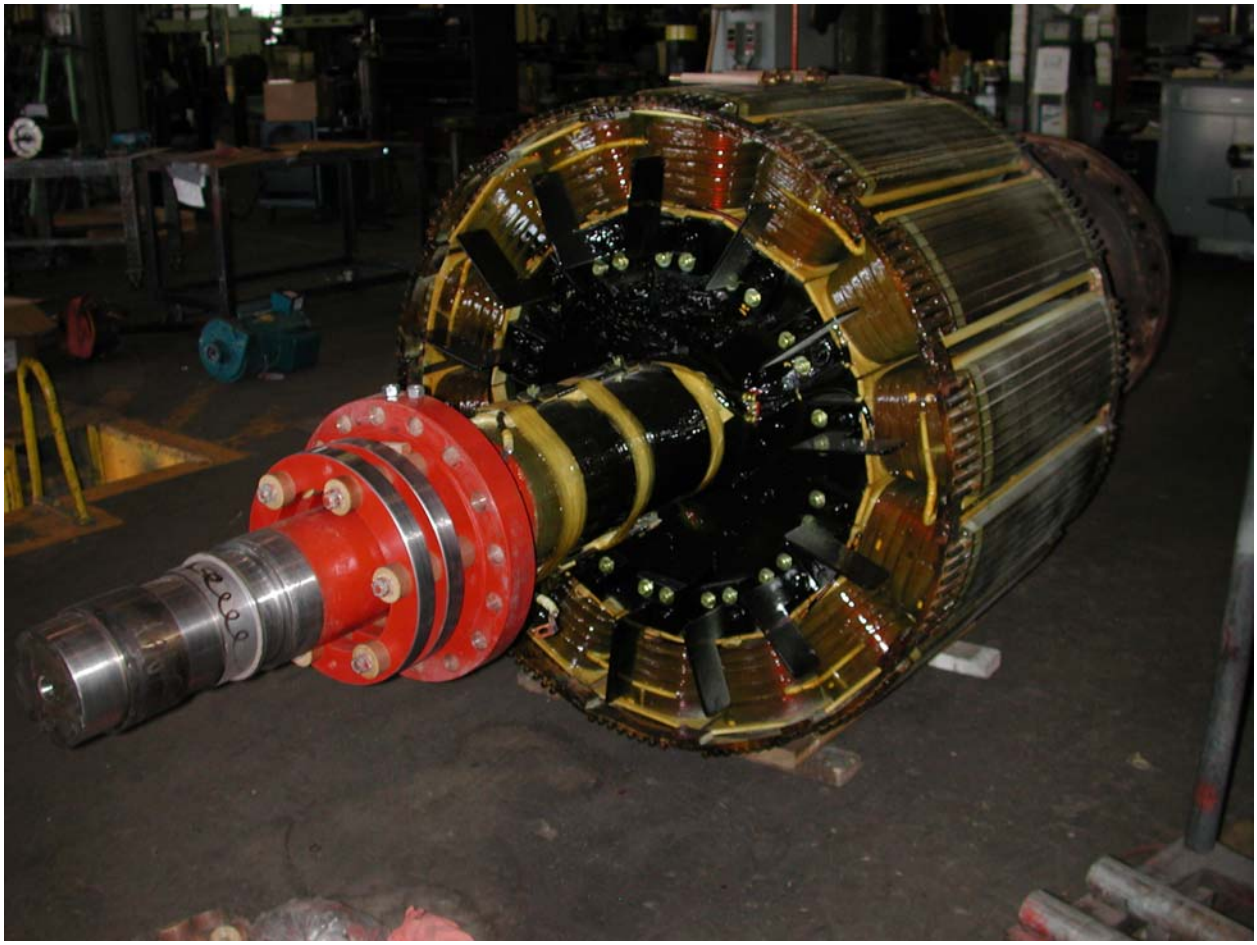
EMISSION FLOW

EMISSION PTS

1. LARGE BURN OUT OVEN (960,000 BTU)
2. SMALL BURN OUT OVEN (120,000 BTU)
3. SOLVENT TUB/BOOTH/Machine shop/fugitives
4. PAINT BOOTH
5. BAKE OUT OVENS (NATURAL GAS FIRED: 500,000BTU) (and one electric fired)
6. ~~MACHINE SHOP (FUGITIVES)~~

OK 9/6/01 - al
OK Jue 7/99
Jue 7/98
Jue 7/97
OK as amended Jue 2-3-96
OK Crystal 199
al - 1994
JRS: 1993

APPENDIX E: PICTURE #3: K&N ELECTRIC MOTORS-FINISHED ELECTRICAL MOTOR



APPENDIX E: DIAGRAM #3: K&N ELECTRIC MOTORS WASTEWATER TREATMENT IN STEAM CLEANING AREA

05/20/03 12:58 ID:K+N ELECTRIC MOTORS FAX:5098384435 PAGE 3
02/28/2003 11:18 509-226-1332 ELLER CORP PAGE 02

Feb-27-03 15:06 White Block Co. Inc. 509 534 0664 P.01

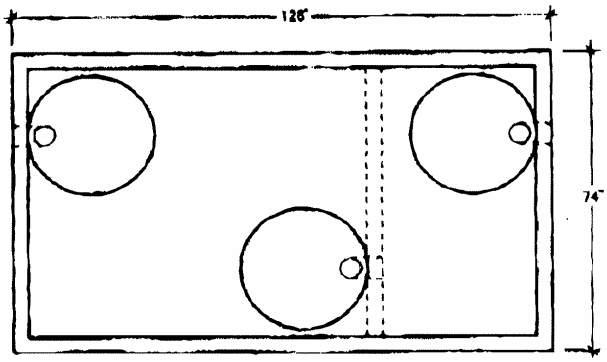
WHITE BLOCK CO., INC.
CONCRETE · PUMICE · BUILDING PRODUCTS
QUALITY MANUFACTURER SINCE 1947
6219 East Trent Spokane, WA 99212-1280 509/534-0661 Fax 509/534-0664

GREASE INTERCEPTOR

NOTES:

1. ALL TANKS are constructed with a poly seal on the inlet and outlet openings.
2. Tank holes must be 18" larger than the dimensions of tank
3. Our drivers CANNOT enter any excavation.
4. Tanks must be backfilled before use.
5. All measurements are approximate.

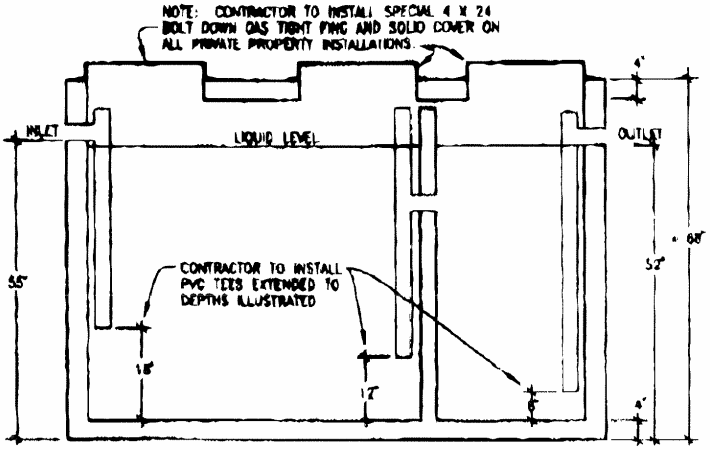
NON TRAFIC SIZE	PRODUCT #
1500 GALLON	CI 12868-NT
* TRAFIC RATED SIZE	PRODUCT #
1500 GALLON	CI 12872-TR



1500 GALLON

* HEIGHT	68"
LENGTH	126"
WIDTH	74"
INLET	55"
OUTLET	52"

* FOR TRAFFIC TOP ADD 4" TO TOTAL HEIGHT. ADDITIONAL REINFORCING IN TOP OF #4 REBAR 8" OCEW.



6X6 - 10/10 MESH REINFORCED TWO PIECE DOUBLE COMPARTMENT

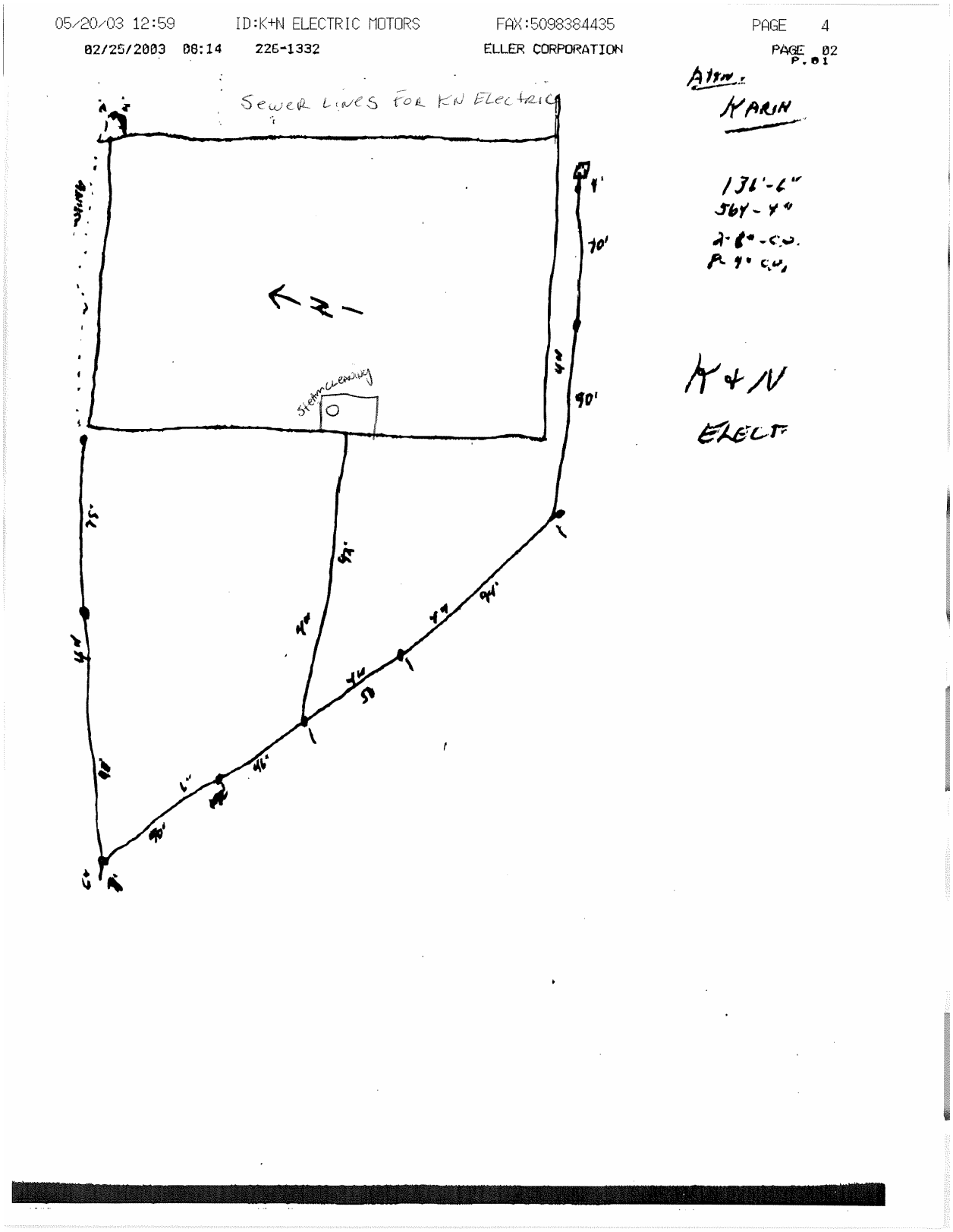
DRAWINGS NOT TO SCALE

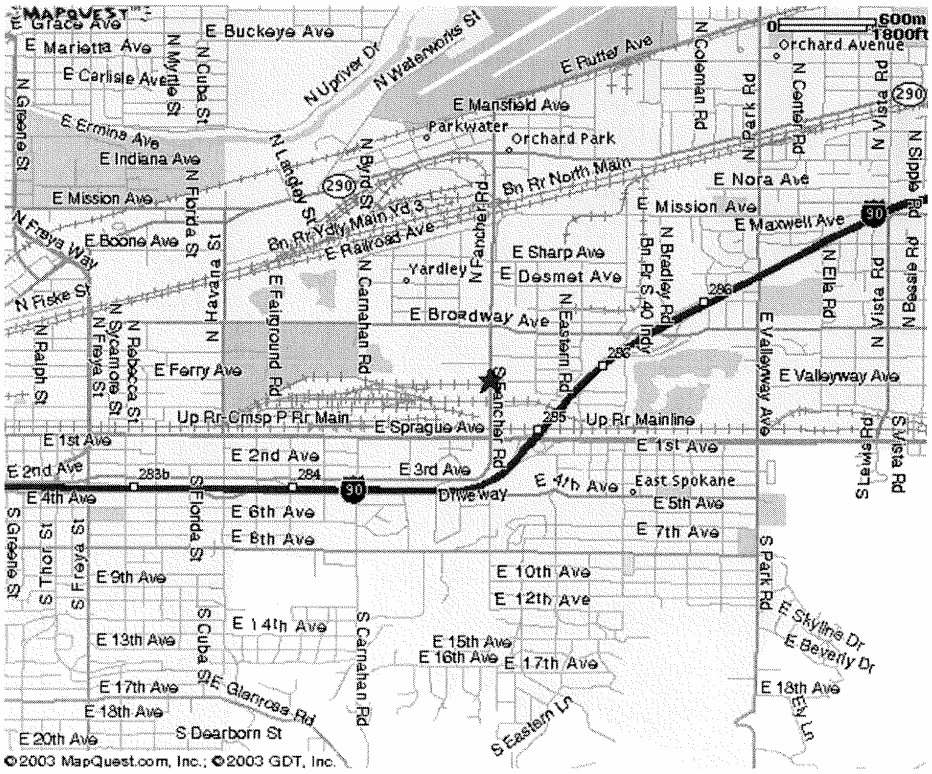
PAGE 38
3/12/97

K + N Electric → for Steam Cleaning

APPENDIX E-PICTURE #4: K&N ELECTRIC MOTORS STEAM CLEANER AND GREASE INCEPTOR

APPENDIX E-DIAGRAM #4: K&N ELECTRIC MOTORS SEWER LINES



APPENDIX E: MAP #1: K&N ELECTRIC MOTORS LOCATION

415 N Fancher Rd
Spokane WA
99212-1059 US