

Applicant: Linda McGinty; Luther Company
Consultant: Steven Sabraski; Landform
Ken Haberman; Landmark Environmental
Project: Bloomington Subaru
Location: 511 and 515 78th Street West, 500 American Boulevard and 7801 Lyndale Avenue: Bloomington
Rule(s): 4, 5, 11 and 12
Reviewer: BCO

General Background & Comments

The project proposes the removal of the buildings at 511 and 515 78th Street West and 500 American Boulevard in Bloomington. Bloomington Subaru, a 36,786 square foot retail building with the associated dealership lot, will be located on these three lots. The Site will comprise these 3 lots totaling 4.08 acres in area as one and owned by The Luther Company, LLP. The existing Bloomington Acura car dealership, 7801 Lyndale Avenue also owned by The Luther Company, will remain in its current location and not be disturbed by the project. The properties at 511 and 515 78th Street West were previously owned by Clarklift of Minnesota and used as a forklift dealership including repair that generated and disposed of significant quantities of hazardous substances or petroleum products. The Site is outside of but located along the northern boundary of the area identified as the Lyndale Avenue Corridor site by the Minnesota Pollution Control Agency. The Lyndale Avenue Corridor site is generally bounded by West 86th Street on the north, Aldrich Avenue – I-35W on the west, West 96th Street on the South and Wentworth Avenue on the east.

Correspondence received from Landmark Environmental, dated October 9, 2019 and attached for reference, identifies the environmental investigations that have been completed for the Site. Soil sampling results have indicated that concentrations of VOCs (volatile organic compounds), PAHs (polynuclear aromatic hydrocarbons), RCRA metals (Resource Conservation and Recovery Act metals), PCBs (polychlorinated biphenyls) and DRO (diesel range organics) were below the applicable soil leaching values, soil reference values and petroleum action levels. However trichloroethylene (TCE) was detected in a groundwater sample taken at 500 American Boulevard that exceeded the Minnesota Department of Health's health risk limit (HRL).

Storm water management is to be provided in three proposed underground systems (UGSWMF 100, 200, and 300) with volume retention provided through on-site infiltration. In our October 21, 2019 e-mail response to the most recent information provided, it was requested that an evaluation of the proposed infiltration at the site to comply with the District's storm water requirements be provided by the applicant showing that the proposed infiltration does not pose a risk for mobilizing contamination. Based on the October 29, 2019 information provided by Landform on behalf of the applicant, it is our opinion that the evaluation was conducted consistent with the best management practices outlined in Minnesota Pollution Control Agency's Screening assessment for contamination at potential stormwater infiltration sites (MPCA Stormwater Manual:

[https://stormwater.pca.state.mn.us/index.php?title=Screening assessment for contamination at potential stormwater infiltration sites](https://stormwater.pca.state.mn.us/index.php?title=Screening_assessment_for_contamination_at_potential_stormwater_infiltration_sites)).

The groundwater mounding calculator used by Landform indicated that a minimum distance of 48 feet (that includes a safety factor of 2) is required between the location of the proposed infiltration facilities and the point where the vertical mounding increase of 0.25 feet as a result of the proposed infiltration has been determined. A distance of 75 feet and 55 feet is provided for UGSWMF 2 and 3, respectively. UGSWMF 100 is not located within the proximity of the contamination identified on the site – a distance of approximately 490 feet. Based on the documentation submitted on behalf of the applicant and the representations made by both Landform and Landmark Environmental, we find no basis to require additional assessment of the suitability of the property for infiltration. The applicant, relying on the findings, analysis and conclusions of its consultant, has requested that NMCWD allow the applicant to meet the NMCWD stormwater-retention requirement through infiltration and has declined to either explore or request approval of other possible non-infiltration methodologies to meet the stormwater-retention standard. We do not represent that infiltration will not cause or exacerbate contamination conditions at or near the site. Given that, the remainder of this memo analyzes the proposed system's performance in meeting the NMCWD rules.

The project site information is:

- Total Site Area: 7.66 acres
- Existing Site Impervious Area: 297,133 square feet
- Proposed Site impervious area: 283,461 square feet
- 4.6% decrease in total site impervious area (13,672 square feet)
- Impervious Area Disturbed and Reconstructed: 171,626 square feet
- 57.8% of the site impervious area is to be disturbed and reconstructed
- Total Disturbed Area: 4.61 acres (200,812 square feet)

The District's requirements for both storm water management and erosion and sediment control apply to the project because more than 50 cubic yards of material will be disturbed and more than 5000 square feet or more of surface area is altered, Rules 4.2.1a and b and 5.2.1a and b.

The Nine Mile Creek Watershed District's Rule for Redevelopment, Rule 4.2.3, states, if a proposed activity will disturb more than 50% of the existing impervious surface on a parcel or will increase the imperviousness of the parcel by more than 50%, storm water management will apply to the entire project parcel. Otherwise, the storm water requirements will apply only to the disturbed areas and additional impervious area on the parcel. Since 57.8% of the existing site impervious area is to be disturbed and reconstructed, the storm water criteria in Section 4.3.1 applies to the entire Site.

In addition to the three UGSWMF providing volume retention, water quality management will also be provided within these systems. Rate control is met by the proposed reduction of the on-site imperviousness however the UGSWMF will provide further rate control by the detention of site runoff.

Silt fence, inlet protection and a gravel construction entrance are shown to be installed for erosion control.

Exhibits

1. Permit Application dated September 25, 2019.
2. Plan sheets dated September 26, 2019 prepared by Landform.
3. Storm water management computations dated August 21, 2019 prepared by Landform.
4. Geotechnical Report prepared by Braun Intertec dated August 23, 2019.
5. Phase II Environmental Investigation Report dated November, 2008 for 511 and 515 West 78th Street prepared by Landmark Environmental. Phase II Environmental Investigation Report, 500 American Boulevard prepared by Vieau Associates Inc. dated February 2, 2018 (referenced).
6. An e-mail dated August 2, 2018 to Landform providing comments on preliminary information submitted for the project.
7. E-mail correspondence dated October 3, 2019 prepared by Barr Engineering referencing an August 2, 2018 e-mail regarding an earlier submittal for the project describing environmental issues that needed to complete a permit application.
8. Correspondence dated October 9, 2019 prepared by Landmark Environmental to address Barr's October 3, 2019 e-mail correspondence.
9. Barr e-mail dated October 21, 2019 requesting additional information, groundwater mounding assessment not included in Landmark's October 9, 2019 correspondence/submittal.
10. Groundwater mounding assessment dated October 29, 2019 prepared by Landform.

4.0 Stormwater Management

The three UGSWMF to be constructed will provide rate control, volume retention and water quality management. Rate control will be provided by a reduction in the on-site impervious area. However, the three UGSWMF will further detain the surface runoff from the site. The 2, 10 and 100-year frequency discharges for existing and proposed conditions are as follows:

Frequency	Existing Discharge to MnDot R-O-W c.f.s.	Proposed Discharge to MnDot R-O-W c.f.s.
2 year	4.1	<1.0
10 year	6.1	2.8
100 year	8.1	8.1

Frequency	Existing Discharge to the East c.f.s.	Proposed Discharge to the East c.f.s.
2 year	6.8	<1.0
10 year	13.5	1.2
100 year	30.4	8.0

Frequency	Existing Discharge to the South c.f.s.	Proposed Discharge to the South c.f.s.
2 year	11.0	<1.0
10 year	18.2	2.2
100 year	29.8	22.8

Frequency	Existing Discharge to the West c.f.s.	Proposed Discharge to the West c.f.s.
2 year	<1.0	<1.0
10 year	<1.0	<1.0
100 year	1.1	1.1

Rule 4.3.1b is met.

A volume retention of 25,984 cubic feet is required for 1.1-inches of runoff from the 283,461 square feet of disturbed and reconstructed impervious area. The three UGSWMF combined will provide 36,729 cubic feet of volume retention. With the on-site underlying soils being classified as a poorly graded sand with silt (SP-SM), an infiltration rate of 0.45 inches/hour was used based on the Minnesota Stormwater Manual. Using this infiltration rate, an area of 14,436 square feet at a maximum depth of 1.8 feet is required for the 25,984 cubic feet of volume retention to be drawn down within 48 hours. An area of 25,255 square feet is to be provided within the underground systems. Rule 4.3.1a is met.

The District's water quality criterion requires a 60% annual removal efficiency for phosphorus and 90% annual removal efficiency for total suspended solids. The results of a MIDS calculator indicates the combined system will provide an annual removal efficiency of 92% for total suspended solids (2,073 lbs.) and an annual removal efficiency of 92% for total phosphorus (11.4 lbs.). Rule 4.3.1c is met.

District Rule 4.3.3 states that all new and reconstructed buildings must be constructed such that the low floor elevation and low opening where surface water can enter the structure is not less than two feet above the 100-year high water elevation of an adjacent facility or waterbody. The finished floor elevation of the proposed Subaru building is 851 M.S.L. The finished floor elevation of the existing Acura building is 851.9 M.S.L. The low opening elevation(s) are the same as the low floor elevation of both buildings. The following table shows the relationship between the building low floor elevation and the flood elevations of the BMP's:

BMP	100-year H.W. Elevation (M.S.L.)	Low Floor/Low Opening Elevation of the Proposed Subaru Building	Separation (feet)	Low Floor/Low Opening Elevation of the Acura Building	Separation (feet)
UGSWMF 100	847.3	851	3.7	851.9	4.6
UGSWMF 200	846.6	851	4.4	851.9	5.3
UGSWMF 300	845.2	851	5.8	851.9	6.7

The requirements of Rule 4.3.3 as met.

The geotechnical report indicates that groundwater was not encountered to the bottom of the borings taken, approximately at elevation 827.1 M.S.L. The following table shows the relationship between the proposed BMP's and groundwater.

BMP	Bottom Elevation of BMP (M.S.L.)	Groundwater Elevation (not encountered to bottom of boring)	Separation (feet)
UGSWMF 100	845.1	827.1	18
UGSWMF 200	840.5	827.1	13.4
UGSWMF 300	839.5	827.1	12.4

A minimum separation of 3 feet is required between the bottom of an infiltration facility and groundwater. Rule 4.5.4d (i) is met.

Rule 4.3.1a (i) requires the pretreatment of storm water upstream of an infiltration facility. An isolator row, specifically for sediment removal, will be installed as part of each UGSWMF system to provide the required pre-treatment of runoff.

In accordance with Rule 4.3.4, a post-project chloride management plan must be provided that will, 1) designate an individual authorized to implement the chloride-use plan and 2) designate an MPCA certified salt applicator engaged in the implementation of the chloride-use plan for the site.

5.0 Erosion and Sediment Control

The submitted erosion and sediment control plan includes silt fence at the limits of construction, inlet protection and rock construction entrances at the entryway onto the site. The project contact is Steve Sabraski, Landform.

11.0 Fees

Fees for the project are:

Rules 2.0-6.0	\$2,000
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12.0 Financial Assurances

Financial Assurances for the project are:

Rule 4.0 Volume Retention: 14,436 sq. ft. x \$12/sq. ft. = \$173,232	\$173,232
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Chloride Management:	\$5,000
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Rule 5: Silt fence: 1,511 L.F. x \$2.50/L.F. = \$3,778	
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Inlet Protection: 18 x \$100/each = \$1,800	
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Site restoration: 4.6 acres x \$2500/ acre = \$11,500	\$17,078
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Contingency and Administration	\$81,890
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Total	\$277,200
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Findings

The proposed project includes the information necessary, plan sheets and erosion control plan, for review.

1. Rules 4 and 5 are met.

Recommendation

Approval, contingent upon:

1. General Conditions
2. Submission of documentation showing that the Minnesota Pollution Control Agency has been advised of the proposed infiltration at the site.
3. Financial Assurance in the amount of \$277,200 - \$272,200 for erosion control and site restoration and \$5,000 for compliance with the chloride management requirements.
4. Submission of documentation that drainage easements over the stormwater-management facilities have been submitted to Bloomington (4.5.4i), if such easement are required by the city.

5. A receipt showing recordation of a maintenance declaration for the on-site storm water management facilities. A draft of the declaration must be approved by the District prior to recordation.

By accepting the permit, when issued, the applicant agrees to the following stipulations:

1. Per Rule 4.5.6, an as-built drawing of the storm water facilities, including stage volume relationships in tabular format for the underground systems conforming to the design specifications as approved by the District must be submitted.
2. Submission of a plan for post-project management of Chloride use on the site. The plan must include 1) the designation of an individual authorized to implement the chloride use plan and 2) the designation of a Minnesota Pollution Control Agency certified salt applicator engaged in the implementation of the chloride-use plan for the site. The release of the \$5,000 of the financial assurance required for the chloride-management plan requires that chloride-management plan has been provided and approved by the District's Administrator.
3. For the release of the \$272,200 financial assurance required in Recommendation #2, Rule 12.4.1b requires demonstration and confirmation that the storm water management facilities have been constructed or installed and are functioning as designed and permitted. Verification, through daily observation logs and photographs, must be provided showing the storm water facilities used for volume retention have drawn down within 48 hours from the completion of two 1-inch (approximate) separate rainfall events.



Landmark Environmental, LLC

2042 West 98th Street

Bloomington, MN 55431

Phone: 952-666-2444

October 9, 2019

Sent via email

www.landmarkenv.com

Ms. Linda McGinty
The Luther Company LLLP
3701 Alabama Avenue South
St. Louis Park, MN 55416

**Re: Environmental Investigations – Proposed Stormwater Infiltration Basin Areas
511 and 515 West 78th Street and 500 American Boulevard West, Bloomington**

Dear Ms. McGinty:

Landmark Environmental, LLC (Landmark) completed multiple environmental investigations regarding the above-referenced properties (hereafter collectively referred to as the “Property”) and prepared the following reports on behalf of The Luther Company LLLP:

- *Phase II Environmental Investigation Report, 511 and 515 West 78th Street, Bloomington, Minnesota, dated November 2008.*
- *Environmental Investigation Report, 511 and 515 West 78th Street, Bloomington, Minnesota, dated September 11, 2018.*
- *Phase II Environmental Investigation Report, 500 American Boulevard West, Bloomington, Minnesota, dated August 2018.*

In addition to the above-listed reports prepared by Landmark, Landmark was also provided and reviewed the following investigation reports:

- *Phase II Environmental Investigation Report, 500 American Boulevard, Bloomington, Minnesota, prepared by Vieau Associates, Inc., dated February 2, 2018.*
- *Preliminary Geotechnical Evaluation Report, Luther Subaru Bloomington – New Dealership, 7801 Lyndale Avenue S. Bloomington, Minnesota, prepared by Braun Intertec Corporation, dated August 23, 2019.*

The information provided in the investigation reports provide a summary of soil and groundwater results (field results and laboratory results) that can be used to make a determination regarding any potential environmental issues related to stormwater infiltration basins proposed to be installed in three (3) areas of the Property. Excerpts of the above-listed reports can be provided upon request.

INVESTIGATION RESULTS

Multiple soil samples were collected on the Property as part of the above-listed reports. Selected soil samples were analyzed for volatile organic compounds (VOCs), Resource Conservation and Recovery Act (RCRA) metals, diesel range organics, polynuclear aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs), based on field screening results. Based on the soil sampling results from each of the reports listed above, there was no indication of contamination based on field screening results and all of the laboratory analytical results reported concentrations of VOCs, PAHs, RCRA metals, PCBs and DRO below applicable soil leaching values, soil reference values and petroleum action levels.

Groundwater was not encountered in any of the investigation locations on the 511 and 515 West 78th Street parcel. Multiple groundwater samples were collected on the 500 American Boulevard parcel at a depth of approximately 33 feet below ground surface. All VOC concentrations in groundwater were reported to be below Minnesota Department of Health (MDH) Health Risk Limits with the exception of one of the sampling events, which reported trichloroethene (TCE) at a concentration of 0.85 micrograms per liter (ug/L). This concentration exceeds the MDH HRL of 0.4 ug/L. However, the location of this groundwater sample is on the far north side of the parcel outside the proposed infiltration basin area.

CONCLUSION AND RECOMMENDATIONS

Based on the results from the previous investigations, no additional environmental investigation or response actions appear to be warranted. No field screening indications of contamination were observed and all concentrations in the soil samples were below applicable action criteria. Only one groundwater sample from one sampling event reported elevated concentration of TCE in groundwater. The TCE was detected at a location outside the proposed infiltration basin areas. As a result, no additional investigation or response actions are recommended.

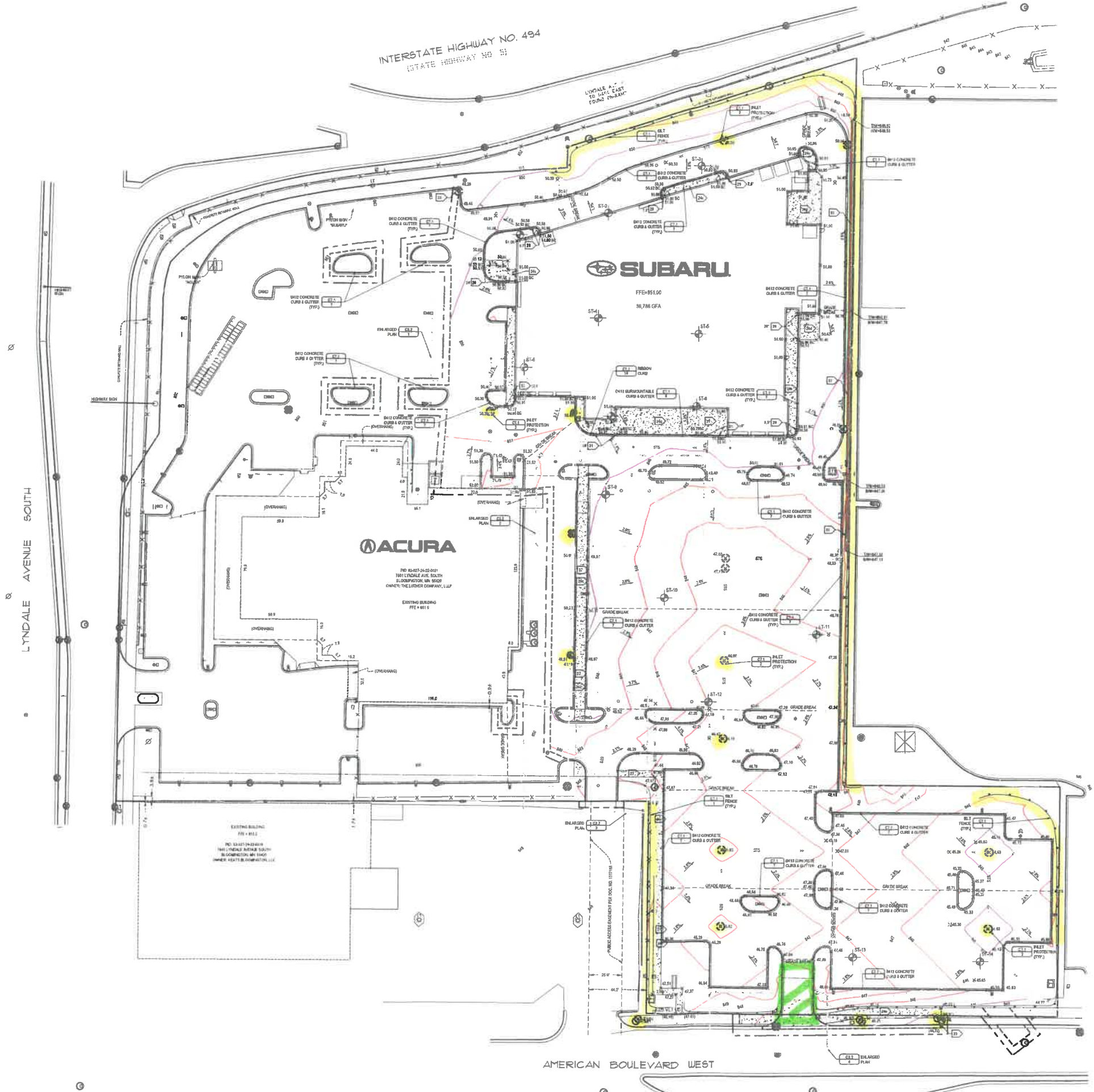
If you have any questions regarding this letter, please contact me at khaberman@landmarkenv.com or at (952) 666-2424.

Sincerely,



Ken Haberman

CC: Mr. Steven Sabraski, PE, Landform



GENERAL NOTES

- FOR CONSTRUCTION STAGING AND SURVEYING SERVICES CONTACT LANDFORM PROFESSIONAL SERVICES AT 612-252-9070.
- INSTALL PERMANENT EROSION CONTROL MEASURES PRIOR TO BEGINNING WORK AND MAINTAIN FOR DURATION OF CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NECESSARY TO PREVENT EROSION OF OFF SITE.
- LIMIT SOIL EXPOSURE TO THE GRADING LIMITS BY SCHEDULE OPERATIONS TO MINIMIZE LENGTH OF EXPOSURE OF DISTURBED AREAS.
- MANAGEMENT PRACTICES SHALL MEET THE MINIMUM REQUIREMENTS. INSTALL AND MAINTAIN ADDITIONAL CONTROL MEASURES TO PREVENT EROSION AND CONTROL SEDIMENT CARRIED BY WIND OR WATER.
- REFER TO SHEET NOTES ON SHEET C-3 FOR ADDITIONAL REQUIREMENTS.
- CONTRACTOR SHALL PREVENT SEDIMENT LOADS FROM ENTERING THE ILLUMINATION SYSTEM UNTIL THE SITE IS COMPLETELY STABILIZED.
- ALL EXPOSED SOIL AREAS MUST BE STABILIZED WITHIN 14 DAYS OF COMPLETION OF WORK BY EACH AREA.
- SEED, MULCH AND FERTILIZER SHALL MEET THE FOLLOWING SPECIFICATIONS, AS ADOPTED:

ITEM	DESCRIPTION	AMOUNT PER 1000 SQ FT
SEED	50% TYPE 1-11 @ 25 LBS./AC. - TEMPORARY EROSION CONTROL	AMOUNT 200
SEED	50% TYPE 1-11 @ 25 LBS./AC. - PERMANENT TURF	AMOUNT 200
MULCH	50% TYPE 1-11 @ 2 TONS/AC. (50% WOODCHIPS)	AMOUNT 300
FERTILIZER	GENERAL PLACEMENT	AMOUNT 200
- SEE LANDSCAPE SHEETS FOR PERMANENT TURF AND LANDSCAPE ESTABLISHMENT.
- SCAPE ADVANCED STREETS CLEAN DAILY AND BEEPERS CLEAN WEEKLY.

GRADING NOTES

- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF REMAINS 72 HOURS PRIOR TO BEGINNING STAGING.
- REFER TO THE GEOTECHNICAL REPORT PREPARED BY GEOTECHNICAL CORPORATION, DATED 08/20/19, FOR ADDITIONAL INFORMATION ON SOILS, LIMITS AND UNDERMINED CONDITIONS.
- REMOVE TOPSOIL FROM GRADING AREAS AND RELOCATE TO SUFFICIENT QUANTITY FOR REUSE. EXCESS TOPSOIL SHALL BE MOVED FROM GRADING AREAS FOR USE ON SITE AND REPLACED WITH EXISTING TOPSOIL MATERIAL WITHIN 60 DAYS OF APPROVAL.
- REMOVE SURFACE AND GROUND WATER FROM EXCAVATIONS. PROVIDE FINAL LIFT OF STABLE FOUNDATION MATERIAL BY EXPOSURE TO SOIL AND UNDEGRADED.
- REFER TO STRUCTURAL SPECIFICATIONS FOR EARTHWORK REQUIREMENTS FOR BUILDING PILES.
- INDEPENDENT TESTING FIRM SHALL VERIFY THE NATURE OF ORGANIC AND INORGANIC SOILS. SOIL CORRECTION AND COMPACTION AND PROVIDE PERIODIC REPORTS TO THE OWNER.
- PLACE AND COMPACT ALL LIFT THICKNESSES MATCHED TO SOIL TYPE AND COMPACTION EQUIPMENT TO OBTAIN SPECIFIED COMPACTION THROUGHOUT THE LIFT.
- CONTRACTOR SHALL MAINTAIN A MINIMUM OF 10% OF ORIGINAL CITY DENSITY. DENSIFIED PROTECTION MATERIALS EXCEPT THE TOP 2 FEET SHALL BE COMPACTED TO 90% COMPACTED TO 100% DENSITY WHERE FULL DENSITY EXCEEDS 10 FEET. THE SOIL SHALL BE WITHIN 15% OF OPTIMUM MOISTURE CONTENT. IN SIMILAR CASES ALL PORTIONS OF THE UNDERMINED SHALL BE COMPACTED TO AT LEAST THREE TIMES OF ACCRUED PROCTOR DENSITY (WITH DENSITY).
- COORDINATE WITH ARCHITECTURAL FOR BUILDING EDGE LOCATIONS. SLOPES OF 3:1 OR SHALLower ON ADJACENT BUILDS AND FOUNDATIONS SHOULD CONSIDER OVER EXPOSURE.
- MAINTAIN COMPACTION OF OVER EXPOSURE. ALL EQUIPMENT USED IN EXPOSURE AREAS SHOULD BE SMALL SIZED AND TRACKED.

PAVING NOTES

- SPOT ELEVATIONS AT CURBS INDICATE FLOWLINE UNLESS NOTED OTHERWISE. SEE SHEET C-1 FOR THE ELEVATIONS OF CURBS AND GRADING.
- GRIDS BETWEEN PROPOSED SPOT ELEVATIONS SHALL BE CONTINUOUS AND HORIZONTAL. SPOT ELEVATIONS SHALL COVER OTHER CONTIGUOUS LINES.
- EXIST AND MATCH EXISTING CURBS. PROVIDE IF TRANSLATION.
- PAVING SECTIONS (REFER TO GEOTECHNICAL REPORT BY BRAL/INTEC CORPORATION DATED 08/20/19)
 - 1. BITUMINOUS PAVING (SPOT DUTY)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 2. BITUMINOUS PAVING (SPOT DUTY)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 1.5" MINIMUM BITUMINOUS WEAR (AMDOT 258, SPREADER)
 - 3. CONCRETE WALKWAYS
 - 1.5" MINIMUM CONCRETE WALKWAY (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE WALKWAY (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE WALKWAY (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE WALKWAY (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE WALKWAY (AMDOT 318, CLASS 1)
 - 4. CONCRETE DRIVEWAYS, APPROACH AND EXTERIOR SLABS
 - 1.5" MINIMUM CONCRETE DRIVEWAY, APPROACH AND EXTERIOR SLAB (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE DRIVEWAY, APPROACH AND EXTERIOR SLAB (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE DRIVEWAY, APPROACH AND EXTERIOR SLAB (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE DRIVEWAY, APPROACH AND EXTERIOR SLAB (AMDOT 318, CLASS 1)
 - 1.5" MINIMUM CONCRETE DRIVEWAY, APPROACH AND EXTERIOR SLAB (AMDOT 318, CLASS 1)
- CONCRETE JOINTS
 - INSTALL JOINTS AS SHOWN AND ADOPT ARCHITECTURAL CURBS AND PARALLEL PAVING ATTENTION TO SPACING OF JOINTS. JOINT SPACING SHALL BE AS FOLLOWS:
 - 1. EXTERIOR JOINTS: 8-12 FEET MAX. CURBS - 10 FEET MAX. PAVEMENT - 10 FEET MAX. ADJACENT TO BUILDING FOUNDATIONS AND STAIRS.
 - 2. INTERIOR JOINTS: 8-12 FEET MAX. CURBS AND APPROACH - 12 TO 15 FEET.
- ACCESSIBLE PAVING DETAILS AND ADJACENT AREAS SHALL NOT EXCEED A 1:48 SLOPE IN ANY DIRECTION.
- ACCESSIBLE ROUTES SHALL HAVE A MINIMUM CROSS SLOPE OF 1:48 AND A MAXIMUM RUNNING SLOPE OF 1:48.
- ADJUST ALL ELEVATIONS TO MATCH PAVEMENT ELEVATIONS.
- TRANSITION FROM 6"12 CONCRETE CURBS AND GUTTER TO CONCRETE REBORN CURBS. REFER TO DETAIL C-1.11.
- TRANSITION FROM 6"12 CONCRETE CURBS AND GUTTER TO 6"12 SUBSTANTIAL CURB AND GUTTER. REFER TO DETAIL C-1.11.
- TRANSITION FROM 6"12 SUBSTANTIAL CURB AND GUTTER TO CONCRETE REBORN CURB. REFER TO DETAIL C-1.11.

REINFORCED CONCRETE RETAINING WALL NOTES

- CONCRETE RETAINING WALLS SHALL BE CONSTRUCTED BY OWNER OR ARCHITECT.
- PROVIDE STRUCTURAL DESIGN OF RETAINING WALLS. FULL DESIGN. EMPLOY FULL TYPING WALL SPECIFICATIONS FOR MINIMUM DESIGN AND PERFORMANCE. PROVIDE CONSTRUCTION OF WALL BY ACCORDANCE WITH APPROVED DESIGN.
- CONFORM ARCHITECTURAL REQUIREMENTS FOR WALL FINISH WITH OWNER.
- SUBMIT DESIGN TO CITY FOR APPROVAL PRIOR TO BUILDING PERMIT SUBMITTAL.
- PROVIDE COORDINATION AND ASSURANCE THAT RELATED WORK CONSTRUCTED WITHIN THE REINFORCED EARTH ZONE SHALL BE PROTECTED AND MAINTAINED THROUGHOUT CONSTRUCTION. ETC. SHALL BE ACCORDANCE WITH APPROVED DESIGN AND DOES NOT DAMAGE TO REINFORCED EARTH ZONE OF THE RETAINING WALL.

LEGEND

SYMBOL	DESCRIPTION	ESTIMATED QUANTITY
(Symbol)	6"12 PROTECTION	19 BACH
(Symbol)	6"12 FENCE	151 FEET
(Symbol)	VEHICLE TRADING PAD	1 EACH
(Symbol)	TIP OUT CURB	
(Symbol)	PAVEMENT BARST	
(Symbol)	CONSTRUCTION LIMITS	

DESIGNER
MOTORS MANAGEMENT CORPORATION
 3701 ALABAMA AVENUE SOUTH
 ST. LOUIS PARK, MN 55416
 TEL: 612-252-9070

MUNICIPALITY

BLOOMINGTON

PROJECT
LUTHER BLOOMINGTON
ACURA SUBARU
BLOOMINGTON, MN

SHEET INDEX

SHEET	DESCRIPTION
C-1	EXISTING CURBS
C-2	PROPOSED CURBS
C-3	PROPOSED CURBS AND GUTTERS
C-4	PROPOSED CURBS AND GUTTERS
C-5	PROPOSED CURBS AND GUTTERS
C-6	PROPOSED CURBS AND GUTTERS
C-7	PROPOSED CURBS AND GUTTERS
C-8	PROPOSED CURBS AND GUTTERS
C-9	PROPOSED CURBS AND GUTTERS
C-10	PROPOSED CURBS AND GUTTERS
C-11	PROPOSED CURBS AND GUTTERS
C-12	PROPOSED CURBS AND GUTTERS
C-13	PROPOSED CURBS AND GUTTERS
C-14	PROPOSED CURBS AND GUTTERS
C-15	PROPOSED CURBS AND GUTTERS
C-16	PROPOSED CURBS AND GUTTERS
C-17	PROPOSED CURBS AND GUTTERS
C-18	PROPOSED CURBS AND GUTTERS
C-19	PROPOSED CURBS AND GUTTERS
C-20	PROPOSED CURBS AND GUTTERS
C-21	PROPOSED CURBS AND GUTTERS
C-22	PROPOSED CURBS AND GUTTERS
C-23	PROPOSED CURBS AND GUTTERS
C-24	PROPOSED CURBS AND GUTTERS
C-25	PROPOSED CURBS AND GUTTERS
C-26	PROPOSED CURBS AND GUTTERS
C-27	PROPOSED CURBS AND GUTTERS
C-28	PROPOSED CURBS AND GUTTERS
C-29	PROPOSED CURBS AND GUTTERS
C-30	PROPOSED CURBS AND GUTTERS

REVISIONS

NO.	DATE	DESCRIPTION
1	08/20/19	ISSUED FOR PERMIT
2	08/20/19	ISSUED FOR PERMIT
3	08/20/19	ISSUED FOR PERMIT
4	08/20/19	ISSUED FOR PERMIT
5	08/20/19	ISSUED FOR PERMIT
6	08/20/19	ISSUED FOR PERMIT
7	08/20/19	ISSUED FOR PERMIT
8	08/20/19	ISSUED FOR PERMIT
9	08/20/19	ISSUED FOR PERMIT
10	08/20/19	ISSUED FOR PERMIT
11	08/20/19	ISSUED FOR PERMIT
12	08/20/19	ISSUED FOR PERMIT
13	08/20/19	ISSUED FOR PERMIT
14	08/20/19	ISSUED FOR PERMIT
15	08/20/19	ISSUED FOR PERMIT
16	08/20/19	ISSUED FOR PERMIT
17	08/20/19	ISSUED FOR PERMIT
18	08/20/19	ISSUED FOR PERMIT
19	08/20/19	ISSUED FOR PERMIT
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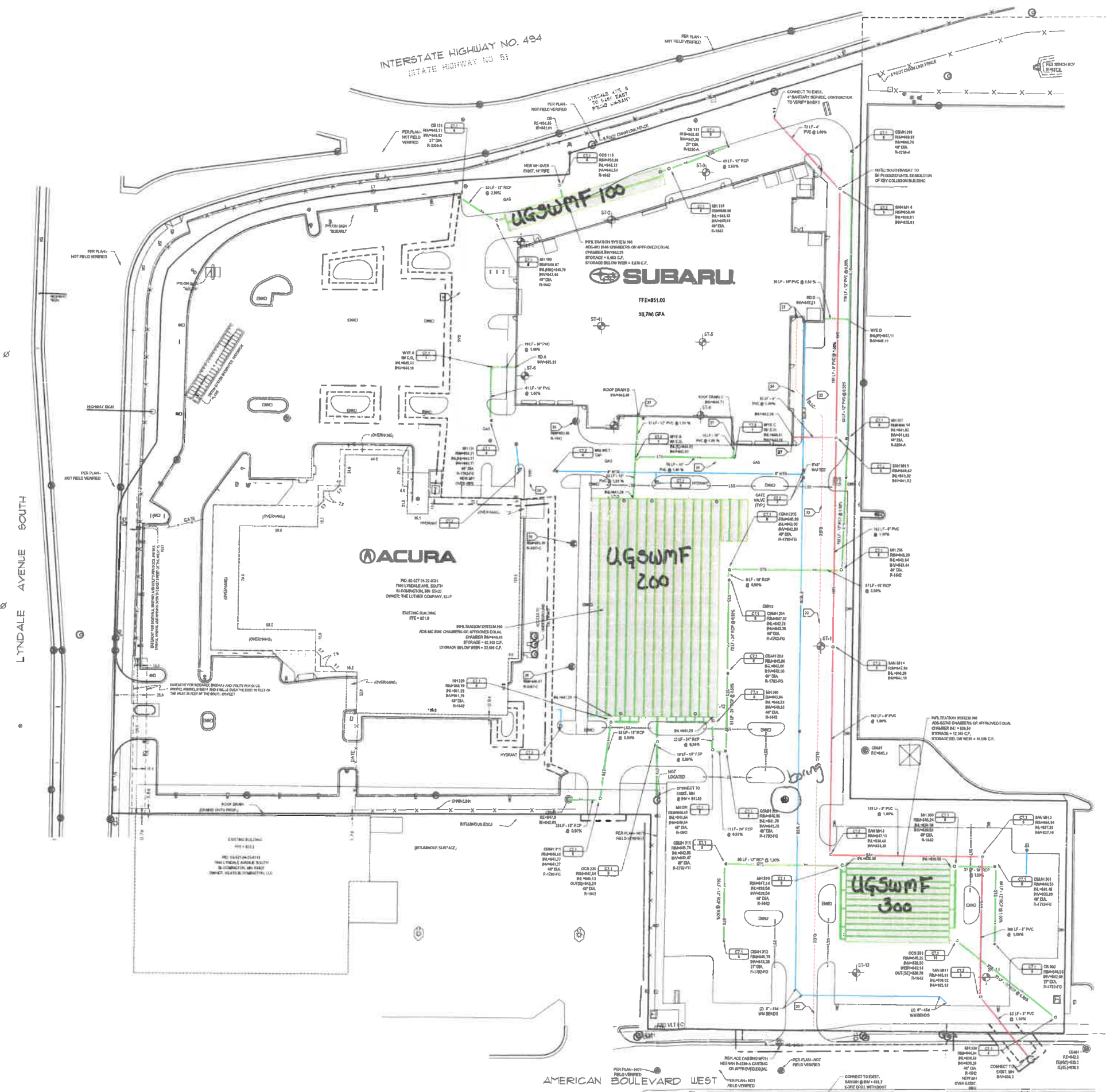
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- GENERAL NOTES**
- FOR CONSTRUCTION STAFF AND SUBMITTALS CONTACT LANDFORM PROFESSIONAL SERVICES AT THE RESERVE.
 - PIPE MATERIALS:
 - STORM SEWER: 12" CLASS 4 (SPP) 15' MIN. COVER
 - SEWER: 12" CLASS 4 (SPP) 15' MIN. COVER
 - WATER: 12" CLASS 4 (SPP) 15' MIN. COVER
 - STORM SEWER: 12" CLASS 4 (SPP) 15' MIN. COVER
 - SEWER: 12" CLASS 4 (SPP) 15' MIN. COVER
 - WATER: 12" CLASS 4 (SPP) 15' MIN. COVER
 - CONTACT UTILITY SERVICE PROVIDERS FOR PRELIMINARY LOCATIONS OF SERVICES 24 HOURS PRIOR TO BEGINNING.
 - CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION OF ANY PROPOSED UTILITIES. CONTRACTOR TO NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCY.
 - CONTRACTOR TO PROTECT ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION OF NEW UTILITIES TO VERIFY DEPTH OF EXISTING UTILITIES. CONTRACTOR TO PROTECT ALL UTILITIES TO REMAIN FROM DAMAGE DURING UTILITY INSTALLATION.
 - PERFORM MEASUREMENTS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF END SECTION.
 - INSTALL TRENCH WITH ALL NON-CONCRETE UTILITIES.
 - CONNECT TO CITY UTILITIES IN ACCORDANCE WITH CITY OF BLOOMINGTON STANDARDS.
 - CONTACT CITY OF BLOOMINGTON UTILITIES DEPARTMENT AT 654-4477 FOR WATER TAP INSPECTION.
 - MANTAIN MINIMUM 4 FEET OF COVER AND MINIMUM OF 18 FEET OF COVER ON WATER.
 - DETECT WATER TO IDENTIFY HAZARDOUS CROSSING SEPARATION AT TRENCH CROSSINGS. CENTER PIPE LOCATOR TO PROVIDE GREATEST SEPARATION BETWEEN UTILITIES.
 - CONTACT CITY OF BLOOMINGTON UTILITIES DEPARTMENT AT 654-4477 FOR FIELDING AND INSPECTION TEST PROTECTION.
 - THE WATER DISTRIBUTION SYSTEM SHALL BE CONSTRUCTED PER MINNESOTA RULES, PART 874.
 - PROVIDE 4" MIN. COVER OVER ALL WATER MAINS AND WATER SERVICE LINES.
 - ALL PORTIONS OF THE STORM SEWER SYSTEM LOCATED WITHIN 5 FEET OF THE BUILDING OR WATER SERVICE LINE SHALL BE TESTED IN ACCORDANCE WITH MINNESOTA RULES, PART 874.
 - ALL JOISTS AND CONNECTIONS TO THE STORM SEWER SYSTEM SHALL BE CASHTIGHT OR WATER TIGHT. APPROVED REPAIRS FOR JOIST JOINTS MUST BE USED TO MAKE TIGHTENING CONNECTIONS TO EXISTING JOISTS AND OTHER STRUCTURES.
 - CATCH BASINS CURBS AND OUTER VESSEL SLOPED 2% BELOW THE OUTER GRADE. REFER TO DETAIL 10 ON SHEET C11.
 - ROCK MEDIA FILTER TRAP SYSTEMS SHALL BE ANGULAR NON-CALCAREOUS ROCK.
 - PROTECT EXISTING UTILITIES TO REMAIN FROM DAMAGE DURING CONSTRUCTION. EXISTING UTILITIES TO BE PROTECTED SHALL BE IDENTIFIED BY THE GEOTECHNICAL CONTRACTOR.
 - COORDINATE WITH UTILITY UTILITIES TO PROVIDE ELECTRICAL, NATURAL GAS AND COMMUNICATIONS SERVICES TO BUILDING.
 - THE PRIMARY ELECTRICAL FEED, TRANSFORMER, AND METER ARE PROVIDED AND INSTALLED BY ABBE ENERGY. THE TRANSFORMER AND METER ARE PROVIDED BY THE UTILITY AND CONSTRUCTION BY THE CONTRACTOR. CONTACT UTILITY FOR PWD DETAIL. THE SECONDARY ELECTRICAL AND CONDUITS SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR.
 - SEE ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
 - 200A ENERGY WELL PUMP AND METERS SHALL BE PROVIDED FROM THE MAINLINE TO THE METER AND THE METER GAS SERVICE FROM THE MAINLINE SHALL BE PROVIDED BY THE GEOTECHNICAL CONTRACTOR.
 - PROVIDE PVC CONDUIT WITH PULL STRIPS FROM EXISTING TELEPHONE SERVICE TO BUILDING AS DIRECTED BY OWNER.
 - PROVIDE CONDUITS FOR CABLE TELEVISION AND OTHER ELECTRONIC COMMUNICATIONS.
 - COORDINATE WITH MECHANICAL, PLUMBING AND ELECTRICAL DESIGNER FOR LOCATIONS OF SERVICES CONNECTIONS AND CONNECTIONS OF SERVICES BETWEEN BUILDINGS.
 - CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF BLOOMINGTON. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF BLOOMINGTON. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF BLOOMINGTON. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF BLOOMINGTON.
 - ADJUST STRUCTURES TO FINAL GRADE WHERE DISTURBED. COMPLY WITH REQUIREMENTS OF UTILITY. MEET REQUIREMENTS FOR TRUCK LOADING AND UNLOADING.

- CITY OF BLOOMINGTON NOTES**
- UTILITY AND MECHANICAL CONTRACTORS MUST COORDINATE THE INSTALLATION OF ALL WATER AND SEWER SERVICES INTO THE BUILDING TO ACCOMMODATE CITY INSPECTION AND TESTING.
 - CONSTRUCTION FEE AND DRAINAGE SERVICES MUST BE PAID TO THE CITY OF BLOOMINGTON PRIOR TO THE START OF CONSTRUCTION.
 - ANY UTILITY WORK THAT AFFECTS AMERICAN BULEVARD WEST MUST BE PAID FOR BY THE CONTRACTOR WHO WORKS UNDER A BIDDING LINE CONTRACT AND NOT FULL BIDDING CONTRACT.
 - WORK TO BE DONE WITHIN RIGHTS OF WAY MUST BE DONE BY CITY FORCE AND PAID FOR AND COORDINATED WITH THE CONTRACTOR.
 - ALL CONSTRUCTION OF THE WATER SYSTEMS UP TO THE WATER MAINS OF THE UTILITY EQUIPMENT MUST BE DONE WITH PROTECTIVE COATING BEING APPLIED TO ALL EXPOSED SURFACES FOR CORROSION PROTECTION AND SPECIAL COATINGS. THE USE OF UNPAVED OR UNPAVED PAVEMENT IS NOT ALLOWED.

DEVELOPER
MOTORS MANAGEMENT CORPORATION
 3791 ALABAMA AVENUE SOUTH
 ST. LOUIS PARK, MN 55416
 TEL: 612-252-4400 FAX: 612-252-4400

MUNICIPALITY

BLOOMINGTON

PROJECT
LUTHER BLOOMINGTON
ACURA SUBARU
BLOOMINGTON, MN

SHEET INDEX

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201	6/10/36	REVISED TO ADD UTILITY NOTES
202	7/10/36	REVISED TO ADD UTILITY NOTES
203	8/10/36	REVISED TO ADD UTILITY NOTES
204	9/10/36	REVISED TO ADD UTILITY NOTES
205	10/10/36	REVISED TO ADD UTILITY NOTES
206	11/10/36	REVISED TO ADD UTILITY NOTES
207	12/10/36	REVISED TO ADD UTILITY NOTES
208	1/10/37	REVISED TO ADD UTILITY NOTES
209	2/10/37	REVISED TO ADD UTILITY NOTES
210	3/10/37	REVISED TO ADD UTILITY NOTES
211	4/10/37	REVISED TO ADD UTILITY NOTES
212	5/10/37	REVISED TO ADD UTILITY NOTES
213	6/10/37	REVISED TO ADD UTILITY NOTES
214	7/10/37	REVISED TO ADD UTILITY NOTES
215	8/10/37	REVISED TO ADD UTILITY NOTES
216	9/10/37	REVISED TO ADD UTILITY NOTES
217	10/10/37	REVISED TO ADD UTILITY NOTES
218	11/10/37	REVISED TO ADD UTILITY NOTES
219	12/10/37	REVISED TO ADD UTILITY NOTES
220	1/10/38	REVISED TO ADD UTILITY NOTES
221	2/10/38	REVISED TO ADD UTILITY NOTES
222	3/10/38	REVISED TO ADD UTILITY NOTES
223	4/10/38	REVISED TO ADD UTILITY NOTES
224	5/10/38	REVISED TO ADD UTILITY NOTES
225	6/10/38	REVISED TO ADD UTILITY NOTES
226	7/10/38	REVISED TO ADD UTILITY NOTES
227	8/10/38	REVISED TO ADD UTILITY NOTES
228	9/10/38	REVISED TO ADD UTILITY NOTES
229	10/10/38	REVISED TO ADD UTILITY NOTES
230	11/10/38	REVISED TO ADD UTILITY NOTES
231	12/10/38	REVISED TO ADD UTILITY NOTES
232	1/10/39	REVISED TO ADD UTILITY NOTES
233	2/10/39	REVISED TO ADD UTILITY NOTES
234	3/10/39	REVISED TO ADD UTILITY NOTES
235	4/10/39	REVISED TO ADD UTILITY NOTES
236	5/10/39	REVISED TO ADD UTILITY NOTES
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238	7/10/39	REVISED TO ADD UTILITY NOTES
239	8/10/39	REVISED TO ADD UTILITY NOTES
240	9/10/39	REVISED TO ADD UTILITY NOTES
241	10/10/39	REVISED TO ADD UTILITY NOTES
242	11/10/39	REVISED TO ADD UTILITY NOTES
243	12/10/39	REVISED TO ADD UTILITY NOTES
244	1/10/40	REVISED TO ADD UTILITY NOTES
245	2/10/40	REVISED TO ADD UTILITY NOTES
246	3/10/40	REVISED TO ADD UTILITY NOTES
247	4/10/40	REVISED TO ADD UTILITY NOTES
248	5/10/40	REVISED TO ADD UTILITY NOTES
249	6/10/40	REVISED TO ADD UTILITY NOTES
250	7/10/40	REVISED TO ADD UTILITY NOTES
251	8/10/40	REVISED TO ADD UTILITY NOTES
252	9/10/40	REVISED TO ADD UTILITY NOTES
253	10/10/40	REVISED TO ADD UTILITY NOTES
254	11/10/40	REVISED TO ADD UTILITY NOTES
255	12/10/40	REVISED TO ADD UTILITY NOTES
256	1/10/41	REVISED TO ADD UTILITY NOTES
257	2/10/41	REVISED TO ADD UTILITY NOTES
258	3/10/41	REVISED TO ADD UTILITY NOTES
259	4/10/41	REVISED TO ADD UTILITY NOTES
260	5/10/41	REVISED TO ADD UTILITY NOTES
261	6/10/41	REVISED TO ADD UTILITY NOTES
262	7/10/41	REVISED TO ADD UTILITY NOTES
263	8/10/41	REVISED TO ADD UTILITY NOTES
264	9/10/41	REVISED TO ADD UTILITY NOTES
265	10/10/41	REVISED TO ADD UTILITY NOTES
266	11/10/41	REVISED TO ADD UTILITY NOTES
267	12/10/41	REVISED TO ADD UTILITY NOTES
268	1/10/42	REVISED TO ADD UTILITY NOTES
269	2/10/42	REVISED TO ADD UTILITY NOTES
270	3/10/42	REVISED TO ADD UTILITY NOTES
271	4/10/42	REVISED TO ADD UTILITY NOTES
272	5/10/42	REVISED TO ADD UTILITY NOTES
273	6/10/42	REVISED TO ADD UTILITY NOTES
274	7/10/42	REVISED TO ADD UTILITY NOTES
275	8/10/42	REVISED TO ADD UTILITY NOTES
276	9/10/42	REVISED TO ADD UTILITY NOTES
277	10/10/42	REVISED TO ADD UTILITY NOTES
278	11/10/42	REVISED TO ADD UTILITY NOTES
279	12/10/42	REVISED TO ADD UTILITY NOTES
280		