TD 195 .R63 F66 1990

# Improvement of U.S. 18 and U.S. 218 Floyd County

Project Number F-18-6

# **ENVIRONMENTAL ASSESSMENT**

Submitted Pursuant to 42 USC 4332(2)(c)

By The
U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
and
IOWA DEPARTMENT OF TRANSPORTATION
Planning and Research Division
Office of Project Planning

Date of Approval
For Public Availability

For the Division Administrator
Federal Highway Administration

The following persons may be contacted for additional information concerning this document:

H. A. Willard, Division Administrator Federal Highway Administration U.S. Department of Transportation P.O. Box 627 Ames, IA 50010 Telephone: 515/233-1664

Harry S. Budd, Director
Office of Project Planning
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010
Telephone: 515/239-1391

STATE LIBRARY OF IOWA

Gra. 438 2410 9/14/90

DES MOINES, IOWA 50319

# TABLE OF CONTENTS

<u>Pag</u>	e
I. DESCRIPTION OF THE PROPOSED ACTION	
II. NEED FOR THE PROJECT	
A. Present Facility	
B. Sufficiency Ratings	
C. Traffic Estimate	
D. Accident Study	
III. PROPOSED ALTERNATIVES	
A. Division I - Rudd to Floyd	9
B. Division II - Floyd to South of Charles City	1
Alternate 1 Charles City Bypass	
Alternate 2 Charles City Bypass	3
C. Summary of Construction Alternatives	4
D. Do-Nothing Alternative 10	5
E. Other Alternatives Considered	5
IV. PROJECT IMPACTS	5
A. Socio-Economic Impacts	5
1. Right-of-Way Impacts	9
2. Farmland Protection Policy Act	9
B. Secondary Impacts - Economic Impacts of Highway Bypasses 1	9
1. Economic Impacts of Highway Bypasses	0
C. Environmental Impacts	
1. Air and Noise Impacts 2	0
Air Quality Analysis 2	
Noise Analysis 2	
2. Wetlands, Natural Areas, and Locally Unique Habitat 2	
3. Parks and Recreational Facilities 2	
4. Cultural Resources/Historic Properties	
5. Hazardous Waste 2	
V. SUMMARY	
VI. COMMENTS AND COORDINATION	4
Appendix A - Topographic Plates 4	7
Appendix B - Traffic Noise Analysis Form for Low Impact	
Highway Projects	3

# LIST OF FIGURES

				Page
Figure	1	-	Project Location Map	2
Figure	2	-	1990 Project Area Sufficiency Ratings	.5
Figure	3	-	1988 Traffic Volumes	6
Figure	4	-	2015 Predicted Traffic Volumes (with interchange north of Charles City)	7
Figure	5	-	2015 Predicted Traffic Volumes (without interchange north of Charles City)	8
Figure	6	-	Typical Cross Section	10
Figure	7	-	Charles City Bypass Alignments	12
			LICT OF TABLEC	

#### LIST OF TABLES

				Page
Table	1	-	1984-1988 Project Area Accident Analysis	4
Table	2	-	Summary of Construction Costs and Anticipated Impacts	15
Table	3	-	Right-of-Way Impacts	19
Table	4	-	Prime Farmland Impacts	19

#### I. DESCRIPTION OF THE PROPOSED ACTION

The proposed U.S. 18/218 improvement in Floyd County begins just east of Rudd, at the beginning of the 22-foot pavement section, and extends easterly and southerly to a point approximately 1.5 miles south of Charles City. While an improvement along or paralleling the present highway alignment is planned for the rural portions of the corridor, a bypass, on new location around Charles City, is also proposed. The project length is approximately 15.1 miles. See Figure 1.

The proposed action would provide for a four-lane divided section, possibly with some initial two-lane construction on four-lane right-of-way. Two alternative bypass alignments of Charles City are being studied, on relocation near the west and south corporate limits of that community. While quarter-mile access control spacing is proposed for the areas of the corridor paralleling present Highway 218, either of the Charles City bypass alternatives would be constructed as full access-controlled facilities, with access via interchange only.

#### II. NEED FOR THE PROJECT

The primary need for the project is to provide an improved level of service within this high traffic volume corridor. By constructing a bypass of Charles City and providing a four-lane highway to replace the existing two-lane facility in the rural portions of the corridor, reduced traffic congestion would result, with a corresponding decrease in accidents and travel times.

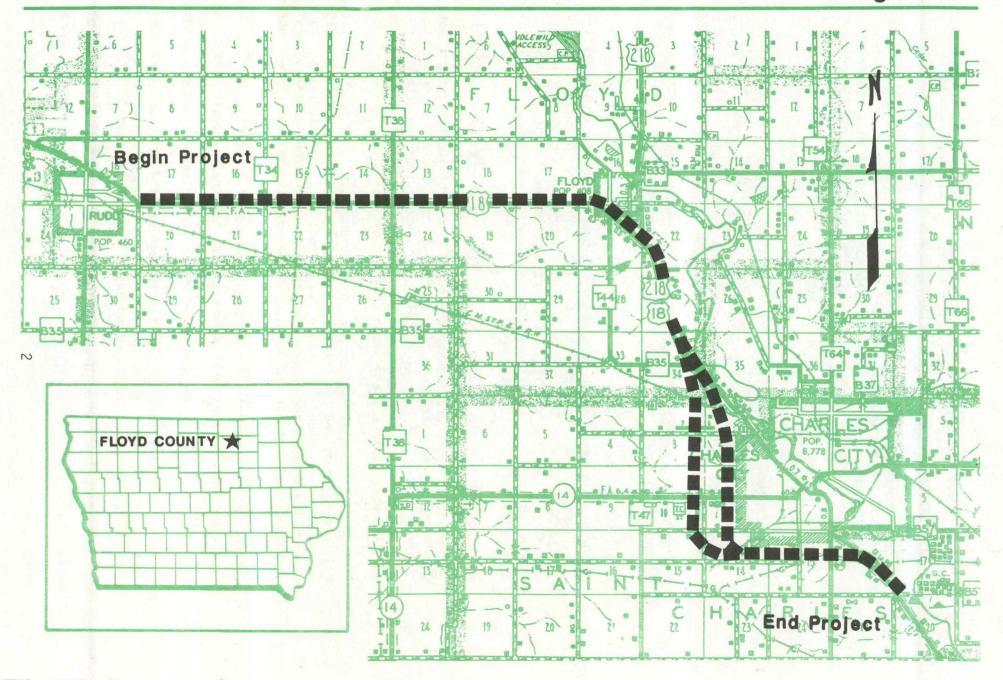
The entire 68-mile corridor between Waterloo and Mason City, of which this segment is a part, is being studied for improvements which, when completed, would provide a route capable of facilitating a fast, safe, efficient, and continuous flow of traffic between Interstate 380 in Waterloo and I-35 near Clear Lake. This would increase economic development opportunities, not only along the immediate corridor, but throughout northeast and north central Iowa.

This route segment is also part of an overall corridor selected by the steering committee for the St. Louis to St. Paul Corridor Feasibility and Necessity Study for future development of a major four-lane highway facility between those two metropolitan areas (Avenue of the Saints). Final route location and funding of the facility is now before Congress.

# A. Present Facility

U.S. 18, between Rudd and Floyd, was originally constructed to an 18-foot width in 1920. It was widened to 22 feet and resurfaced in 1967 and again resurfaced in 1979. The primary deficiency within this section of the route is the low highway grade line. With the lack of adequate ditches for storage of blowing snow, the route can become occasionally impassible during winter storms. Vertical alignment deficiencies also exist within this segment of the corridor as there are 11 crest vertical curves and seven sag vertical curves with design speeds of less than 55 mph. However,

U.S. 18-218 Corridor -- Floyd County



only 13 percent of the route has passing site restrictions (less than 1,500-foot passing sight distance).

The north junction of U.S. Highways 18 and 218, near Floyd, was reconstructed in 1979 to 24 feet, with 10-foot granular shoulders. This reconstruction replaced the existing Y-connection with a T-connection and provided a right-turn lane for northbound U.S. 218 traffic.

The remainder of the route, from Floyd to near the west corporate limits of Charles City, was originally constructed to an 18-foot width in 1920. The route was widened and resurfaced in 1949, and in 1967 this route segment was reconstructed to provide 24-foot pavement with 10-foot shoulders. The present pavement is in fairly good condition, and the vertical and horizontal alignments are good. Only one crest vertical curve and two sag vertical curves have design speeds of less than 55 mph. Approximately one-third of the route segment has passing site restrictions.

# B. Sufficiency Ratings

Sufficiency ratings in Iowa are composed of three major categories which measure the roadway's structural adequacy, motorist safety, and capability to accommodate specific traffic volumes with a minimum of conflict.

Sufficiency ratings for the project corridor are shown in Figure 2. A rating of 90-100 is classified as excellent; 80-89 is good; 65-79 is fair; 50-64 is tolerable and 0-49 is poor.

As can be seen, rural sufficiency ratings in the corridor all fall within the poor range (14-33). Municipal ratings, for the most part, fall within the tolerable to fair ranges.

## C. <u>Traffic Estimate</u>

Traffic volumes for 1988 are shown in Figure 3. Year 2015 average daily traffic volumes in the corridor, with a bypass of Charles City, are shown in Figures 4 and 5. Figure 4 shows bypass volumes with an interchange located north of the community, where the alignment rejoins present U.S. 18/218, while Figure 5 shows volumes with that interchange eliminated. Leg volumes in Charles City, on 218 to the north, Iowa 14, and County Road T64 are also shown. Truck percentages in the corridor range from 13-16 percent.

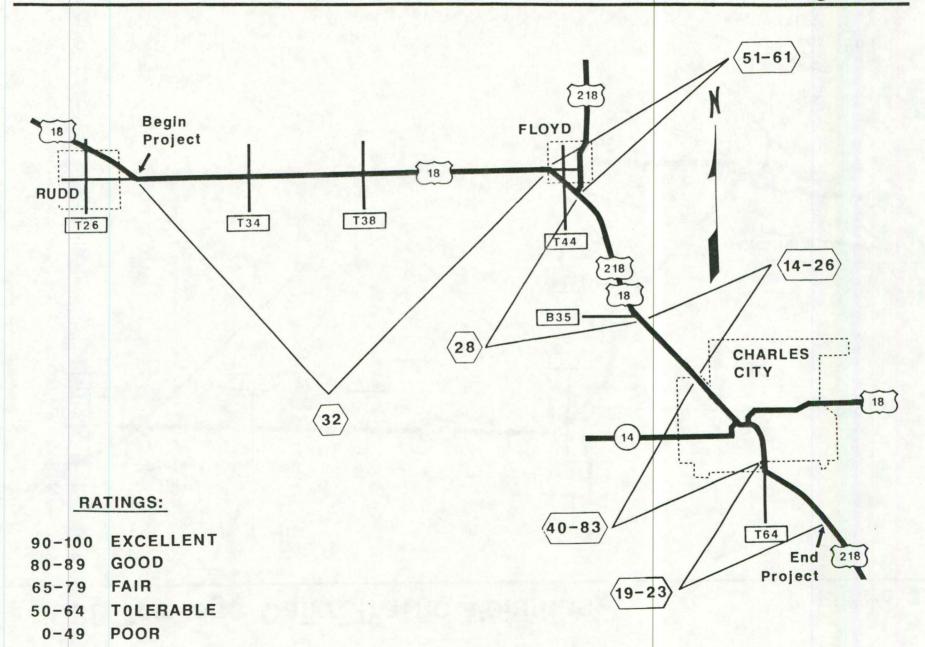
# D. Accident Study

Accident history for the years 1984-1988 are shown in the following table.

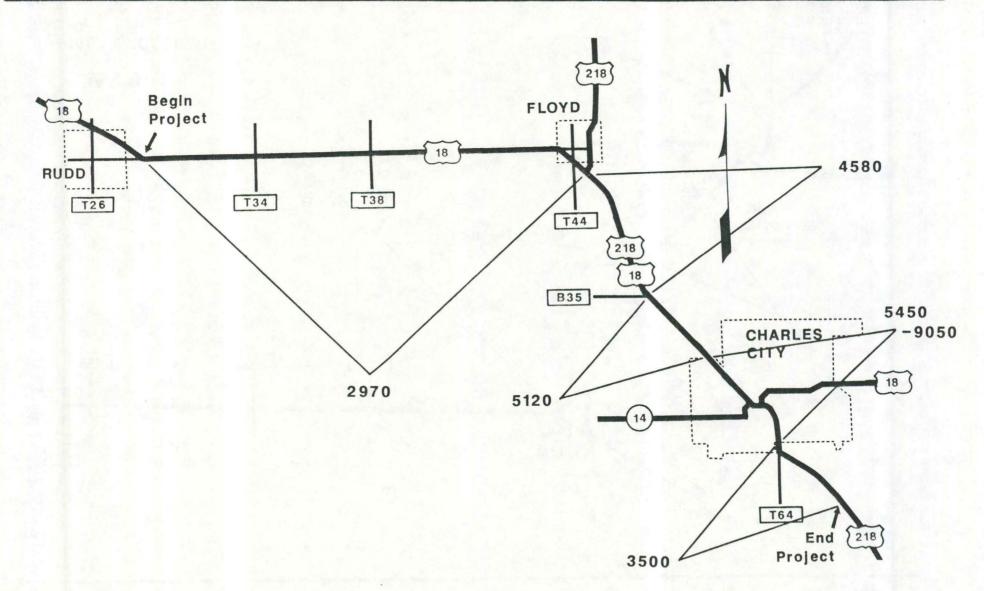
TABLE 1
1984-1988 PROJECT AREA ACCIDENT ANALYSIS

Section	Total Accidents	Personal Injuries	<u>Fatalities</u>	Accident Rate*	Total Value Loss
Rudd to Floyd (R)	38	16	3	97	\$1,762,100
Floyd to Charles City (R)	53	27	0	169	\$ 644,650
NCL Charles City to S Jct. U.S. 18/218 (M)	76	25	0	385	\$ 405,450
S Jct. U.S. 18/218 to SCL Charles City (M)	49	17	1	589	\$ 645,820
SCL Charles City to End of Project (R)	10		0	107	\$ 458,800
Totals	226	92	3		\$3,916,810

<sup>\*</sup> Per Hundred Million Vehicle Miles (HMVM)



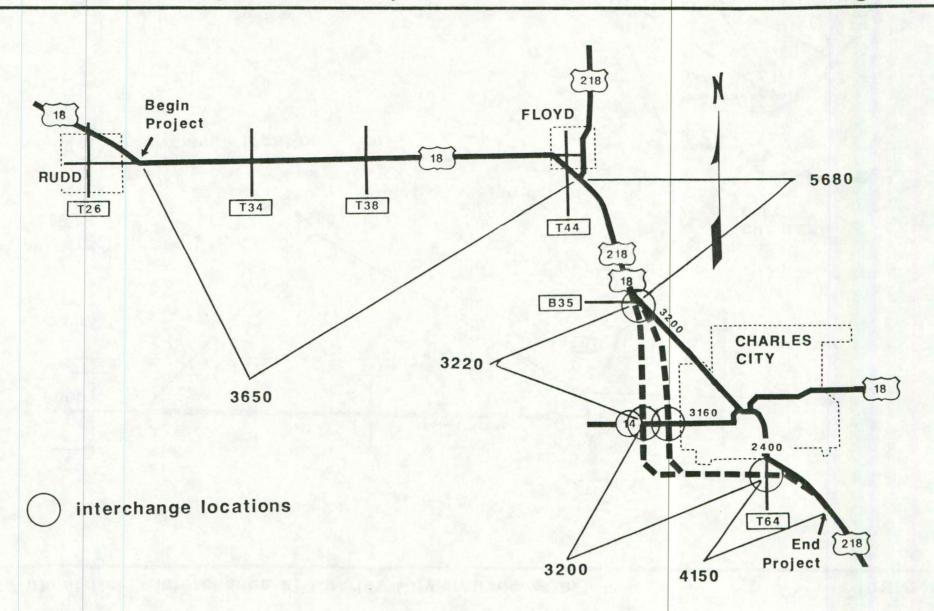
G

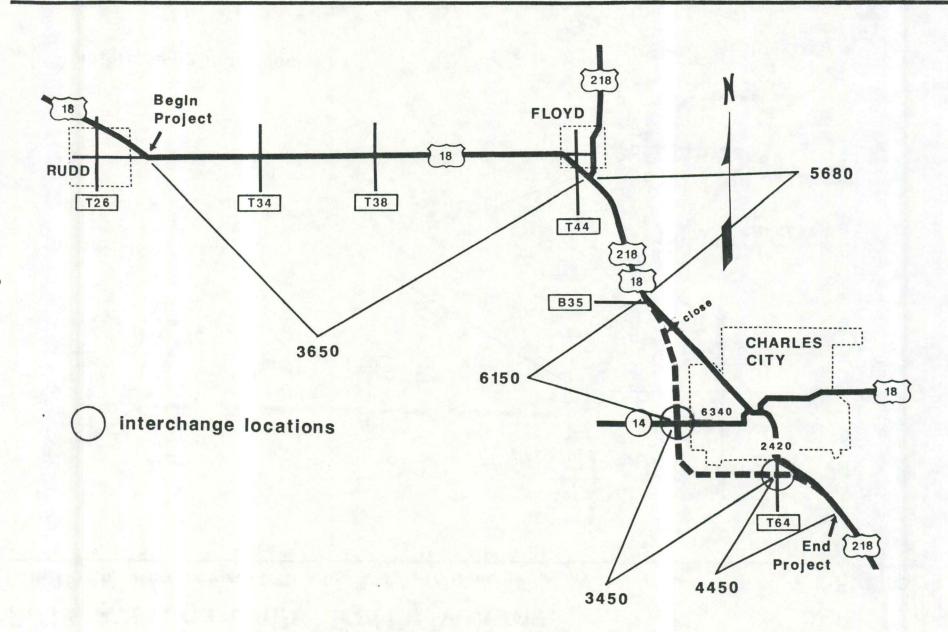


6

# 2015 Average Daily Traffic Volumes

With North Interchange at Charles City (Alternates 1A & 2)





0

As can be seen in Table 1, the statewide rural primary accident rate of 127 accidents/HMVM was exceeded only in the segment from Floyd to the NCL of Charles City, where the calculated rate for the five-year period was 169 accidents/HMVM. The statewide municipal rate average of 560 accidents/HMVM was exceeded slightly in Charles City, between the south junction of U.S. 18/218 and the south corporate limits (589 accidents/HMVM).

#### III. PROPOSED ALTERNATIVES

Two construction alternatives and a "do-nothing" option are being evaluated for this improvement. The construction alternatives are identical from the beginning of the project, just east of Rudd, to a point approximately two miles south of Floyd, where two alignments for bypassing Charles City are being studied. Both alternatives propose four-lane divided sections for the entire length of the project, although the possibility exists for some initial two-lane construction on four-lane right-of-way. Quarter-mile access control spacing is proposed between Rudd and the beginning of the bypass, while full-access control, with access via interchange only, is proposed along the bypass of Charles City. The alternatives are described as follows, with a typical roadway cross-section shown in Figure 6.

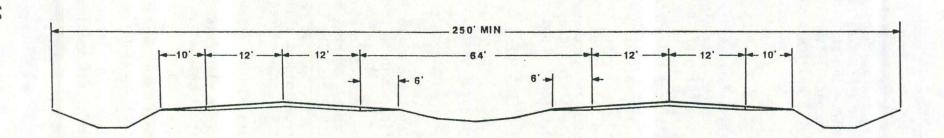
# A. Division I - Rudd to Floyd

Beginning just east of Rudd, at the start of the 22-foot pavement section, the proposed construction provides for a four-lane divided rural-type facility, with a 64-foot depressed median. Total reconstruction is proposed with both lanes constructed to the north side of the existing pavement. Between County Road T34 and the curve just west of Floyd, the centerline of the new near lanes (for eastbound traffic) would be shifted northerly approximately 20 feet to allow for the utilization of the existing south right-of-way line. This would result in minimal impacts to farmsteads along this section of the corridor, most of which are located on the south side of the present highway. The centerline of the new westbound lanes would be constructed 88 feet north of the eastbound pavement slab. The existing grade through this area would be raised two to three feet to correct the snow storage problems which exist.

One stream crossing, over Stewart Creek, located approximately three miles west of Floyd, would require the replacement of the existing 30x48-foot concrete slab bridge with dual 44x80-foot concrete slab bridges. Two short channel changes are also proposed for that stream.

An alignment shift is proposed just west of Floyd with both lanes crossing over to the south side in the vicinity of an existing curve.

One-quarter mile access spacing is proposed throughout this segment of the project corridor, which would require the construction of frontage roads and/or relocated drives to serve adjacent farmsteads.



A total of five homes and one business establishment would be displaced between Rudd and Floyd, with approximately 120 acres of new right-of-way required. Estimated construction costs are \$10.1 million along this 7.4-mile segment of the corridor.

#### SUMMARY

Length	Displacements	Right-of-Way	Cost
7.4 mi.	5 homes 1 business	120 acres	\$10.1 million

# B. Division II - Floyd to South of Charles City

From Floyd, at the point where the traffic lanes cross over from the north to the south side, southerly to the beginning of the Charles City bypass, the existing pavement would be patched and resurfaced to serve north/westbound traffic. The existing foreslopes, backslopes, and shoulders would be reshaped, with granular material added to the existing 10-foot earth shoulders. An asphalt overlay would be added to extend the design life of the existing pavement. The new south/eastbound traffic lanes would be constructed to the west side of the present pavement, separated by a 64-foot depressed median. The present access points would be relocated to provide for one-quarter mile spacing.

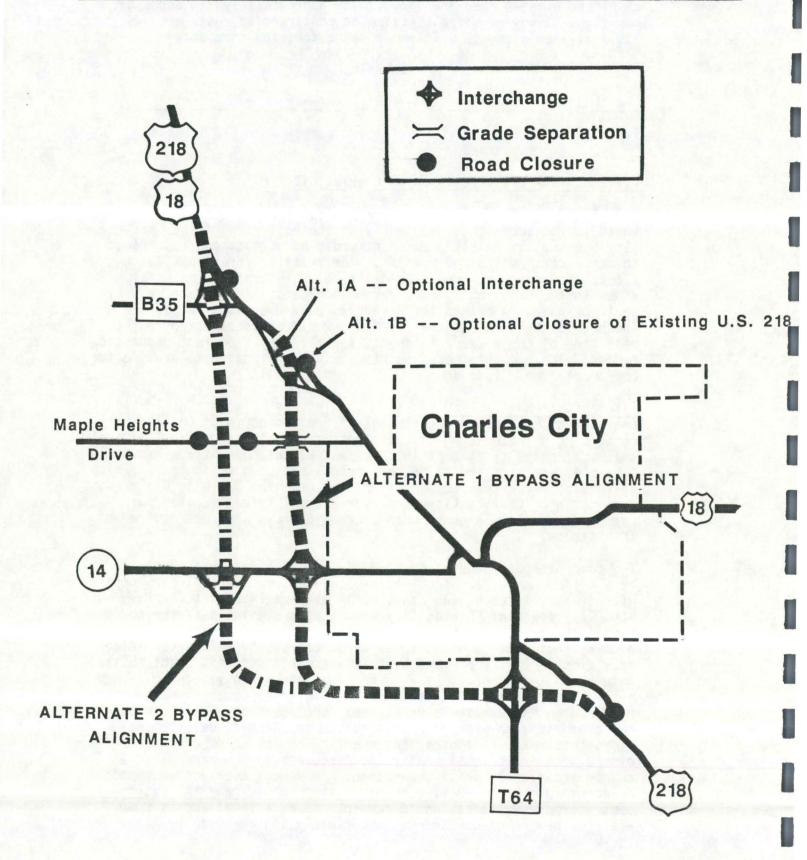
Alternate 1 Charles City Bypass - This bypass alignment would begin near County Road B35, approximately 1.2 miles north of Charles City, continuing on relocation near the west and south corporate limits of that community, tying back into present 218 at a point approximately 1.5 miles south of the south corporate limits. See Figure 7. This relocation would require new structures over the Soo Line Railroad, just north of Charles City, and over a small stream located just north of Iowa 14. A short channel change would also be required of this stream.

The concept would provide for two 24-foot traffic lanes, separated by a 64-foot wide depressed median. Full access control is proposed with diamond interchanges constructed at Iowa 14 and at County Road T64, south of Charles City. Two options exist near the north end of the bypass, where the new alignment ties into the present highway facility: a directional type interchange (Alternate 1A); and, closure of the present highway, requiring traffic to circulate into and out of Charles City to and from the north via the interchange at Iowa 14 (Alternate 1B). A grade separation is proposed on Maple Heights Drive, near the north corporate limits of the community, to provide access to the residential developments along this road. All other intersecting county roads would be closed, requiring local traffic to circulate to the nearest interchange location or grade separation. The local county road running adjacent to the east-west segment of the bypass, near the city's south corporate limits, would remain open as a local access road, with the new lanes constructed immediately to the north.

# Charles City Bypass Alignments Full Access Control

U.S. 18-218 Corridor

Figure 7



The length of the Division II improvement, with the Alternative 1 bypass of Charles City, is approximately 8.25 miles. The estimated cost of Alternate 1A (with a north interchange) is \$16.7 million. Seven occupied homes, one mobile home, one vacant house, and two business establishments would be displaced, and approximately 307 acres of new right-of-way would be required. The estimated cost of Alternate 1B (no interchange at the north tie-in) is \$15.3 million. Eight homes, one vacant house, and one business establishment would be displaced, and approximately 292 acres of new right-of-way would be required.

#### SUMMARY

Bypass Alternate	Length	Displacements	Right-of-Way	Cost	
1A	8.25 mi.	7 homes 1 mobile home 1 vacant house 2 businesses	307 acres	\$16.7 million	
1B	8.25 mi.	8 homes 1 vacant house 1 business	292 acres	\$15.3 million	

Alternative 2 Charles City Bypass - This bypass alignment would begin at a point approximately 1.9 miles north of Charles City (approximately 0.5 mile north of County Road B35) and continue southerly and easterly on relocation, the north-south segment located approximately 3,100 feet (0.58 mile) west of the Alternative 1 bypass alignment. The east-west segment would be on an alignment identical to Alternate 1, located just north of a local county road. It would, again, tie back into present 218 at a point approximately 1.5 miles south of Charles City. See Figure 7. This relocation would also require new structures over the Soo Line Railroad and the small stream located just north of Iowa 14.

The concept is the same as for the Alternate 1 bypass alignment, with diamond interchanges proposed on County Roads B35 and T64 and a two quadrant interchange at Iowa 14. All other intersecting county roads, including Maple Heights Drive, would be closed.

The length of this Division II improvement, with the Alternative 2 bypass of Charles City, is approximately 8.8 miles. The estimated cost is \$16.8 million. Eight homes and one vacant house would be displaced. Additionally, the Star Mobile Home Park, with approximately 10 occupied units and located just south of Iowa 14, might be displaced by an interchange proposed at that location. Approximately 350 acres of new right-of-way would be required.

#### SUMMARY

Bypass Alternate	Length	Displacements	Right-of-Way	Cost
2	8.8 mi.	8 homes 1 vacant house 10 mobile homes	350 acres	\$16.8 million

# C. Summary of Construction Alternatives

Project construction costs and anticipated impacts for each of the alternatives studied, from Rudd to just south of Charles City, are summarized in Table 2.

TABLE 2
SUMMARY OF CONSTRUCTION COSTS AND ANTICIPATED IMPACTS

		Right-of-Way	D				
Alternate	Length		Requirements	Occupied Homes	Vacant Homes	Businesses	Estimated Costs
1A	15.67 mi.	427 acres	12 houses 1 mobile home	1	3	\$26.8 million	
1B	15.67 mi.	412 acres	13 houses	1	2	\$26.4 million	
2	16.24 mi.	470 acres	13 houses 10 mobile homes	1	1	\$26.9 million	

# D. Do-Nothing Alternative

The "do-nothing" option would not accomplish the primary objectives of improving the level of service in the project area and creating a safer traveling environment within the project corridor.

U.S. 18/218 is the principal arterial serving the study corridor, connecting outlying population centers with Mason City (I-35) and the Waterloo metropolitan area. Any improvement to the existing transportation system would be both beneficial and necessary toward maintaining this relationship as traffic demands increase in the future. Because the "do-nothing" alternative does not provide a safe and efficient transportation facility to meet future traffic demands, it has been eliminated as a viable option for this project.

# E. Other Alternatives Considered

An east bypass of Charles City was examined in 1988 during the Pre-Location Study of the U.S. 18/U.S. 218 corridors from Waverly to I-35 near Clear Lake. The advantage of such a routing is that it would have served as both a 218 and an 18 bypass. While traffic studies showed that it would have attracted approximately 500-600 more vehicles per day than would the west bypass alignment, several significant disadvantages were also identified: it would have required five major structures -- two Cedar River crossings, two Cedar Valley Railroad crossings, and one crossing of the Soo Line Railroad; it would have created significant wetlands involvement in the vicinity of the Cedar River crossing, north of Charles City; and, it would have cost approximately \$5 million more to construct. For these reasons, an east bypass alignment was not further considered.

#### IV. PROJECT IMPACTS

# A. Socio-Economic Impacts

The proposed action is not expected to present significant adverse impacts to the social or economic character of the project corridor. There are no unique social or economic conditions in the area, except for the distinction that U.S. 18/218 serves as the principal connector route between Mason City and the Waterloo metropolitan area, as well as a link between Interstates 35 and 380.

Within the study corridor, land use is almost entirely rural in character, with the majority devoted to row crops and pastureland. The community of Floyd is located north of the highway, with a service station/convenience store the only commercial-type business abutting the highway.

The most adverse impact of the proposed improvement will be the displacement of approximately 13 homes, up to three businesses, and possibly 10 mobile home units (Alternate 2, Charles City bypass). Additionally, the project will require the acquisition of between 412 and 470 acres of land for right-of-way purposes. The exact numbers will depend upon the alternative selected and final survey and design.

Analyzing the preliminary information available on possible relocations, all of the houses to be displaced within this highway corridor are either rural farmsteads dwellings (four between Rudd and Floyd and two south of Charles City) or are homes located in a rural-type setting (within rural housing developments or on small acreages). While acknowledging that providing replacement housing for rural relocatees can be difficult, they can and are being minimized by the incorporation of additional lead time into the project planning process. Additionally, complicated relocation problems are being further addressed by the state's commitment to provisions of 49 CFR 24.404 (Replacement Housing of Last Resort).

It is the policy of the state of Iowa that displaced individuals receive fair and equitable treatment, and do not suffer disproportionately from highway programs destined for the public as a whole. Those individuals required to move as a result of a highway construction project, whether an owner or tenant, will be eligible for relocation assistance advisory services, and may be eligible for moving assistance, supplemental replacement housing payments, and reimbursement for certain expenses incurred in purchasing replacement housing (such as the difference in increased mortgage interest costs). Every attempt is made to provide equal or better housing for all relocatees. Relocation assistance agents are employed by the state to explain all available options.

Approximately six of the homes to be displaced by this project are on small acreages or are within rural housing developments close to Charles City. Local contacts were made to ascertain the availability of current replacement housing in the area. Approximately 20 homes in Charles City and seven rural homes south and west of the community are within the estimated price range of the homes to be displaced and are presently available.

As regards the possible displacement of the Star Mobile Home Park (10 occupied units) by the Alternate 2 bypass alignment at Charles City, several options exist. If county zoning regulations permit, the park could be relocated. If zoning does not permit this, the possibility exists for moving these structures or relocating these individuals to the Greenfield Park Mobile Home Court, located on Highway 18 East in Charles City. Currently that 34-unit facility has a 50 percent vacancy rate. The final option is to possibly move the mainline alignment easterly a short distance and to relocate the interchange loop and ramp out of the southeast quadrant and into the northeast quadrant of that interchange. This would require the construction of additional bridges to span the drainageway running parallel to and just north of Iowa 14, increasing project costs by approximately \$75,000.

The businesses to be displaced by the proposed improvement include the Floyd Country Mart (service station/convenience store), located just south of the city of Floyd (all three alternatives), a repair shop service (Alternate 1A), and an egg incubation facility managed by Solvey Animal Health, Inc. (Alternates 1A and 1B). The Floyd Country Mart is the sole provider of gasoline and convenience type

groceries in the community of Floyd and, as such, it's displacement may create an inconvenience for local residents. The state would work with local interests to see if a similar replacement-type business could be built in that same general area to insure uninterrupted service to the community. The metal buildings housing the other businesses could easily be relocated to another location on their respective properties.

Access control will be purchased along the alignment of the Charles City bypass. With the only access to the community provided at interchange and grade separation locations, some out-of-distance travel will be required for area residents, agricultural producers, and emergency equipment in accessing and serving the area. Access along the remaining rural portions of the project corridor will be provided at-grade, at minimum quarter-mile locations. This will eliminate direct access for many of the farmsteads along the route, requiring the use of frontage roads to the nearest county road or predetermined access point. Public frontage roads, which serve more than one property owner, will be maintained by the county, while private roads, serving only one property owner, will be maintained by them.

The construction of a new four-lane highway along the U.S. 18/218 corridor is expected to help create jobs and stimulate the economy of northeast and north central Iowa by attracting new industry and businesses. Because of the deterioration of rail service, industry must depend more on the highway system to carry their commodities to market.

The primary beneficial impact of the proposed improvement will be the increase in operating safety and an improved level of service. Additionally, construction of a new four-lane facility will provide continuity, along with improvements eventually planned to the west and south of the corridor, on Highways 18 and 218, resulting in a four-lane or, at a minimum, a high-level two-lane facility, from I-35, west of Mason City, to the Waterloo metropolitan area. The construction of a higher volume highway facility may enhance not only the area's attraction for new business and industry, but also reduce travel time for commuters to area employment centers, shopping areas, and area colleges and universities. The improved access will make communities along the project corridor more attractive places in which to reside or from which to commute, and will provide an overall net positive impact within the project corridor.

Public service facilities will not be adversely impacted by the planned improvement. Any adjustments will be coordinated with local utilities in order to maintain essential services during the construction period. Temporary inconveniences could occur during construction; however, access through the area will be provided for local traffic and emergency vehicles.

# 1. Right-of-Way Impacts

Preliminary right-of-way estimates and relocations for all alternatives are shown below. These estimates are based on preliminary design and are subject to modification pending additional review.

TABLE 3
RIGHT-OF-WAY IMPACTS

Alternative	Right-of-Way Conversion in Acres	Occupied Homes	Vacant Homes/ Farmsteads	Businesses	
1A	427	12	1	3	
		+ 1 mobile home		e luis de la company	
1B	412		1	2	
		13			
2	470		1	1	
		13			
		+10 mobile homes	S		

# 2. Farmland Protection Policy Act

A Farmland Conversion Impact Rating form was used to determine farmland impacts and project impacts to prime and unique farmland within the project limits. The results of this review are as follows:

TABLE 4
PRIME FARMLAND IMPACTS

Alternative	Total ROW Acres	Acres of Prime Farmland	
1A	427	231	
1B	412	229	
2	470	257	

The completed Form AD-1006 is included in the Comments and Coordination Section.

# B. Secondary Impacts

The upgrading and modernization of U.S. 218 is not expected to precipitate major changes in land use within the study corridor.

Access control will be acquired at selected sites within the corridor to provide a measure of control over potential developments adjacent to the new highway.

# 1. Economic Impacts of Highway Bypasses

As previously stated, an important consideration to businesses and industries which rely on highways for produce movement is to be located in communities with access to free flowing highway corridors. In Iowa, this factor continues to grow in importance as the state's rail network is reduced through abandonments. This factor has placed added emphasis on the state's highways as the principal mode of surface transportation to move bulk commodities, raw materials, and finished products with speed and economy.

Highway bypasses are an integral part of the comprehensive highway planning process when fast, safe, and efficient transportation facilities are to be provided. Although highly desired by highway users because they provide motorists with the option of avoiding congested areas, bypasses are not generally welcomed by local businesses because of the potential for lost commerce represented by diverted traffic.

Recent studies conducted in Iowa, together with interviews of business and community leaders suggest such expectations may not be warranted, however. Over 85 bypassed communities were included in the various evaluations associated with these studies, which indicated that while actual beneficial and adverse consequences of a highway bypass will be unique to each community, the general experience has been that bypasses are economically and socially desirable, and represent a stimulus for regional economic development.

In predicting secondary impacts from the proposed bypass of Charles City these studies cited above and past experience with bypassed communities in Iowa indicates that potential adverse impacts would be minimal and limited to the short term. The enhanced climate for regional economic growth provided by improved traffic flow and greater community access will result in offsetting economic gains that will, over the long term represent a positive economic influence on area commerce.

# C. Environmental Impacts

# 1. Air and Noise Impacts

# Air Quality Analysis

Because of the rural nature of the project corridor, effects of the project on local air quality, both during construction and upon completion, are not of special concern. Brief periods of particulate (dust) dispersion would be expected during construction, which the contractor would be required to monitor. Upon

completion of the project, mobile source emissions of carbon monoxide and ozone precursers would be expected to have negligible effects because of the relatively low traffic volumes on U.S. 18 and 218.

Regarding transportation-related pollutants, the U.S. Environmental Protection Agency has recently reported that all areas of Iowa are now in attainment for carbon monoxide and, generally, Iowa has had no ozone problems (Iowa Air Quality Progress Report, U.S. Environmental Protection Agency - Region 7, April 1990).

The U.S. 18/218 project is in an area where the state implementation plan for attaining and maintaining the national ambient air quality standards does not contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project.

#### Noise Analysis

A noise impact analysis was completed for this proposed highway improvement and the results are summarized in Appendix B. The noise analysis indicates that there will be a slight increase in noise levels within the study corridor whether or not U.S. 18/218 is improved as proposed. This is due to predicted traffic volume increases. Because of the isolated nature of the homes along the project corridor and the relatively small degree of impact, noise mitigation measures (such as berms, walls, etc.) are not considered practical. Accordingly, no specific noise abatement features are proposed in association with this highway improvement project.

Contractors will be required by standard construction specifications to comply with requirements for minimizing short-term noise impacts during construction.

# 2. Wetlands, Natural Areas and Locally Unique Habitat

Most of the U.S. 18/218 study corridor traverses cultivated farmland and an occasional minor drainageway with limited cover. Generally, cultivation occurs to the edge of the drainageways and directly adjacent to the existing highway right-of-way. As such, few areas with natural wetland character or natural vegetation elements remain within the study corridor.

In Section 13, approximately 4.5 miles east of the west project terminus, Stewart Creek, 8-10 feet in width, runs parallel to U.S. 18, on the north side. The highway improvement, as proposed, would require a channel change where the creek runs closest to U.S. 18, and further east, the two new lanes would require filling in the sedge meadow-type uncultivated area lying between Stewart Creek and U.S. 18. Although limited in diversity of vegetation, this latter area meets the wetland definition criteria and has been noted as such during

coordination with the U.S. Department of Agriculture - Soil Conservation Service. This wetland type is not of critical importance to waterfowl reproduction or unique species habitat. Its primary functions would appear to be flood storage during spring rainy periods and runoff retardation, in addition to its habitat value for upland game species such as the cottontail rabbit and ring necked pheasant. The need for avoidance, minimization, and mitigation at this site will largely be guided by the comments and suggestions from the Floyd County Conservation Board and the Iowa Department of Natural Resources (DNR).

Further east, towards Charles City, only small drainageways are encountered, with limited cover adjacent to existing U.S. 18/218. At the northwest portion of the Charles City Bypass the proposed main line and possible interchange ramps for the Alternate 1 bypass alignment would traverse an old field-type area that coincides with a drainageway to the Cedar River that was interrupted by original highway construction. The area is characterized by sedges, wild rose, scattered hawthorne trees, and also mature cottonwood trees toward the east, where the Soo Line railroad crosses under the existing highway. Several wet prairie species, some of which are protected in Iowa because of their limited occurrence, have been identified in this natural area. Again, the need to avoid, minimize and mitigate at this site will be determined after coordination with the Floyd County Conservation Board and Iowa DNR. The preliminary location of the possible interchange minimizes intrusion into this uncultivated area, and there might be an opportunity to acquire the remainder of this parcel (approximately 10 acres) to be placed in public ownership as a wildlife area. This acquisition could be considered for mitigating the natural area impacts required by the project. The Alternate 2 bypass alignment, located further to the west, avoids encroachment into this natural area.

In the southwest portion of the bypass study corridor the proposed alignment would cross an intermittent stream identified as Drainage Ditch 3, running parallel to and just north of Iowa 14. This drainageway is bordered by a narrow band of riparian vegetation which includes cottonwoods, boxelders and willows. The Alternate 1 bypass alignment would require rechannelizing approximately 1,000 feet of the drainage ditch and the vegetation associated with the existing drainageway would be cleared to accommodate the interchange with Iowa 14.

No federally listed plant or animal species are known to exist in the project corridor; however, as referenced above, the Alternate 1 bypass alignment at Charles City impacts upon a wetland-type area where potentially unique and protected plant and/or animal species may occur.

The contractor would be required by standard construction specifications to assure against erosion and sedimentation of

drainageways. In this manner, effects upon the water quality of these drainageways and the Cedar River would be minimized.

#### 3. Parks and Recreational Facilities

No parks or recreational facilities are located adjacent to or near the project corridor; therefore, the proposed improvement would have no adverse impact on area recreational resources.

# 4. Cultural Resources/Historic Properties

Because this project involves the acquisition of new right-of-way, a Phase I Cultural Survey will be completed to determine project impacts within the study corridor. This study will be completed prior to making a final assessment of impacts and will be coordinated with the Iowa S ate Historic Preservation Officer. The results will be included in the final environmental document for this project.

#### 5. Hazardous Waste

The U.S. Environmental Protection Agency (EPA) was contacted regarding Superfund Hazardous Waste Site locations in the Charles City area. The Alternative 1 bypass of Charles City crosses land owned by Solvay Animal Health, Inc. (formerly Salsbury Labs), which is on the Superfund list. Correspondence received from EPA, however, indicates that the bypass will not impac the hazardous waste sites since the site locations are at some distance from the proposed alignment. A further program being administered by EPA in the area, Resource Conservation and Recovery Act (RCRA) activities, relating to groundwater contamination, should, additionally, not be impacted by the proposed bypass. Information indicates that the proposed route is, again, some distance from any RCRA regulated units at the former Salsbury Lab site. Correspondence received from EPA is contained in the COMMENTS AND COORDINATION SECTION of this document.

Local governmental agencies were also contacted with regard to identification of existing or potential hazardous waste sites within the study corridor. No sites were identified. Therefore, no service stations, agricultural chemical storage facilities, or other groundwater contamination sources are expected to be affected by the highway project.

#### V. SUMMARY

This environmental assessment concludes that the proposed improvement is necessary for safe and efficient travel within the project corridor and that the improvement will have no significant adverse social, economic, or environmental impacts of a level that would warrant preparation of an environmental impact statement. Selection of a cons ruction alternative will be made following completion of the public review period and corridor public hearing.

Unless significant impacts are identified as a result of the public availability of this document or as a result of the corridor public hearing, a Finding Of No Significant Impact (FONSI) will be prepared for this proposed action as a basis for federal-aid corridor location approval.

#### VI. COMMENTS AND COORDINATION

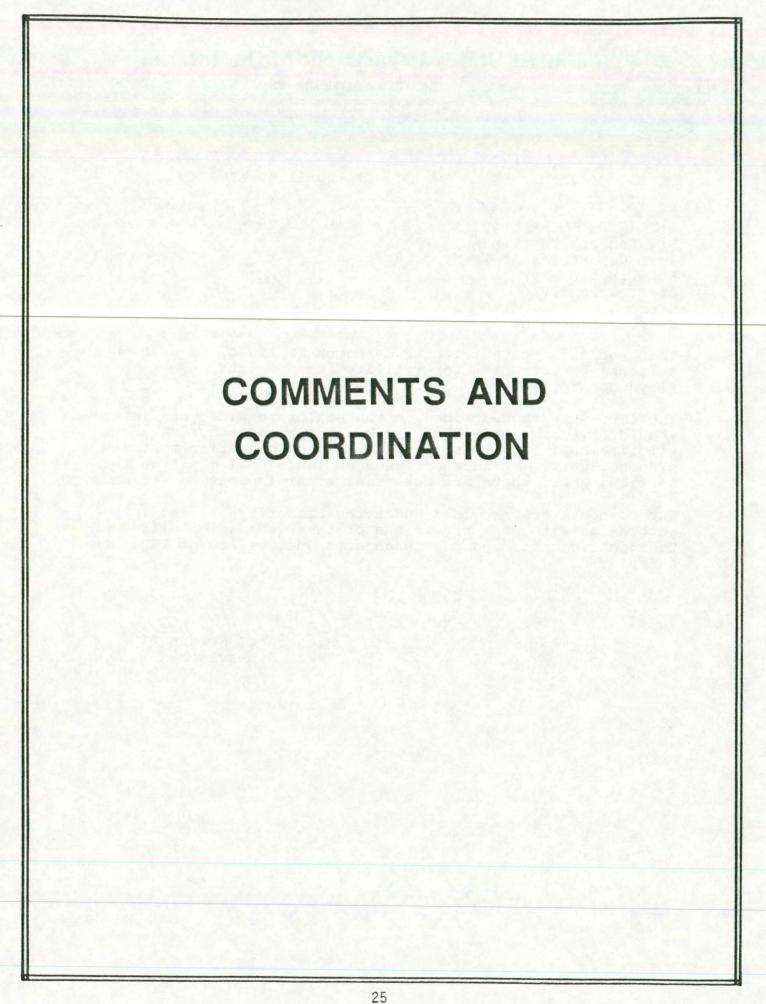
This document will be circulated to appropriate federal, state and local agencies for review and comment. Responses from reviewing agencies will be considered during further development of the project.

Notification of the date and place of the public hearing for this proposed improvement will be published at the time the Environmental Assessment is made available for public review.

The following agencies were notified for early coordination of this project:

U.S. Fish and Wildlife Service
U.S. Department of Interior
National Park Service
Federal Emergency Management Agency
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Department of Housing and Urban Development
U.S. Department of Agriculture - Soil Conservation Service
Iowa Department of Natural Resources
Iowa Department of Economic Development
Iowa State Historic Preservation Officer
North Iowa Area Council of Governments
City of Charles City
City of Floyd
Floyd County Engineer

Comments from reviewing agencies are attached.





# United States Department of the Interior

FISH AND WILDLIFE SERVICE

ROCK ISLAND FIELD OFFICE (ES) 1830 Second Avenue, Second Floor Rock Island, Illinois 61201 IN REPLY REFER TO:

Com: 309-793-5800

FTS: 782-5800

April 5, 1990

Mr. Kenneth Toomsen Iowa Department of Transportation 800 Lincoln Way Ames, Iowa 50010

Dear Mr. Toomsen:

This responds to your letter of March 22, 1990, requesting our comments on your plan for facility improvements in Floyd County, Iowa.

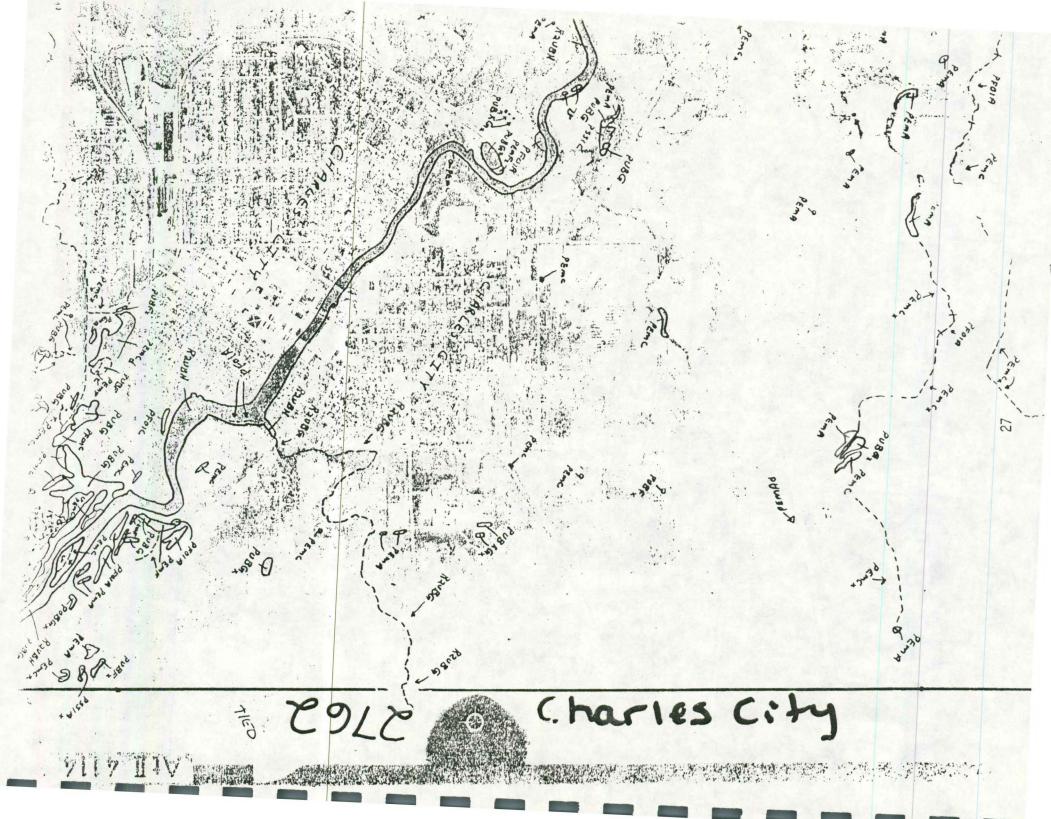
The improvements described in the enclosure with your letter should have no significant, long-term impacts on fish and wildlife habitat. Therefore, we have no objection to the proposed work. We have enclosed copies of NWI maps for those sections where there are potential minor impacts on wetlands.

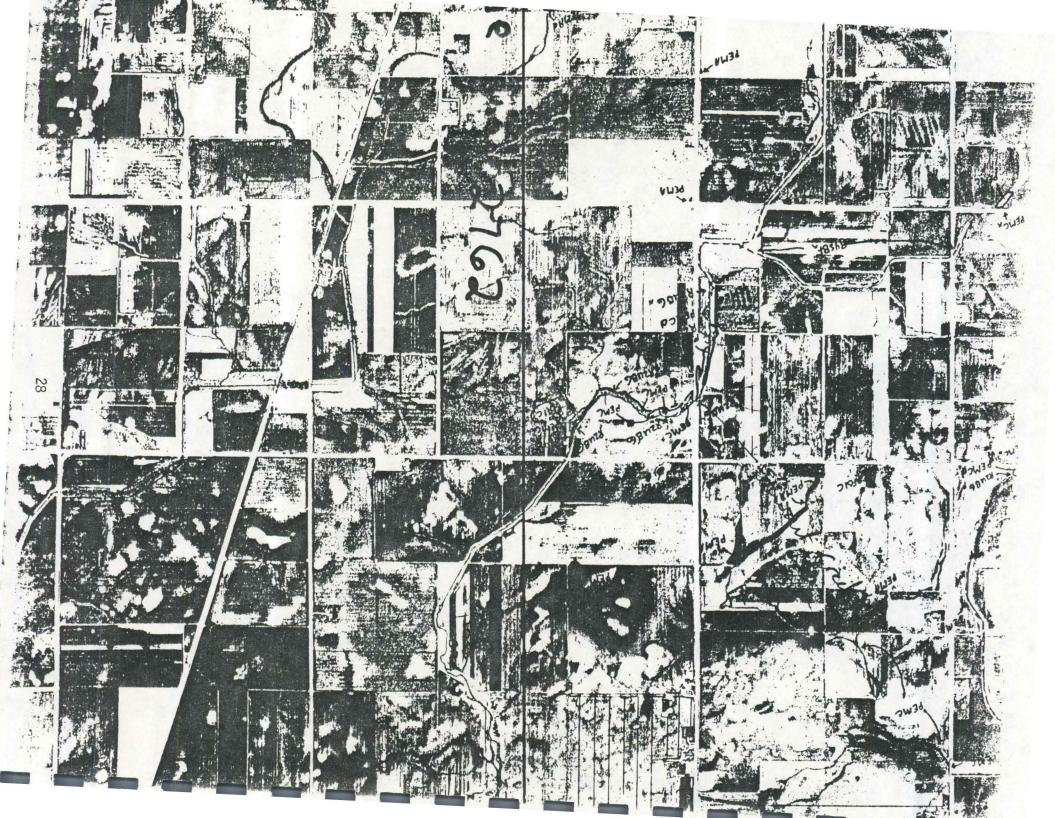
Our comments are provided under the authority of, and in accordance with, the provisions of the Fish and Wildlife Coordination Act; and the Endangered Species Act of 1973, as amended.

Sincerely,

Richard C. Welsor Field Supervisor

CD:sjg







# United States Department of the Interior



# OFFICE OF THE SECRETARY OFFICE OF ENVIRONMENTAL AFFAIRS 230 S. DEARBORN, SUITE 3422 CHICAGO, ILLINOIS 60604

April 6, 1990

Mr. Kenneth J. Toomsen Office of Project Planning Planning and Research Division Iowa Department of Transportation 800 Lincoln Way Ames, IA 50010

Dear Mr. Toomsen:

This is in response to your March 22, 1990 request for preliminary comments on the proposed improvement of U.S. 18 and U.S. 218 in Floyd County, Iowa.

This office has/will have no comment during your scoping process and related meetings with Federal agencies. However, you should continue coordination with other Interior bureaus, as cited in your letter. These bureaus will respond directly concerning any impacts to resources under our jurisdiction and expertise, and provide technical assistance as needed.

If I can be of further assistance, please contact me (312/353-6612).

Sincerely,

Sheila Minor Huff
Regional Environmental Officer



Iowa Department of Transportation

800 Lincoln Way, Ames, IA 50010 515/239-1321

APR 2 5 1990

\* Received

Office of

March 22, 1990

Ref. No.: U.S. 18/218

Floyd County

F-18-6(32)--20-34

Dr. David Given Environmental Coordinator National Park Service 1709 Jackson Street Omaha, NE 68102-2571

Dear Dr. Given:

The Iowa Department of Transportation has initiated planning and preliminary design studies and is currently preparing an environmental assessment for the proposed improvement of U.S. 18 and U.S. 218 in Floyd County, from just east of Rudd to a point approximately 1.5 miles south of Charles City. The project length is approximately 15.1 miles. Enclosed is a map showing the project location as well as a short summary description of the alternatives being examined in the study corridor.

As part of its early coordination process, the Iowa DOT is soliciting preliminary comments from your agency in regard to the project as it relates to your areas of expertise and jurisdiction by law. If you have any questions or need additional information, please contact me at the above address or phone number.

Sincerely.

Fenneth J. Toomsen Kenneth J. Toomsen

Office of Project Planning Planning & Research Division

4/23/NO COMMENT. Ferry K. Cederstron

KJT: lah Enclosures



# Federal Emergency Management Agency

MAR 2 9 1990
Office of
Project Planning

Region VII 911 Walnut Street, Room 200 Kansas City, MO 64106

MAR 27 1990

Mr. Kenneth J. Toomsen Office of Project Planning Iowa Department of Transportation 800 Lincoln Way Ames, IA 50010

Dear Mr. Toomsen:

This letter is in response to your correspondence dated March 22, 1990 concerning the environmental assessment of a proposed improvement of U.S. 18 and 218 in Floyd County. Our comments are as follows:

- 1. Floyd County does not participate in the National Flood Insurance Program (NFIP), however, its special flood hazard areas were identified back on June 3, 1977.
- 2. The specific project is located on Floyd County's Flood Hazard Boundary Map panel numbers 8, 9, 14 and 19 (see the designated flood plain areas on the enclosed map panels).
- 3. Even though a local flood plain development permit is not required, a permit from the Iowa Department of Natural Resources is needed.

We appreciate this opportunity to comment. If there are further questions regarding the NFIP, please contact me at (816) 283-7005.

Sincerery,

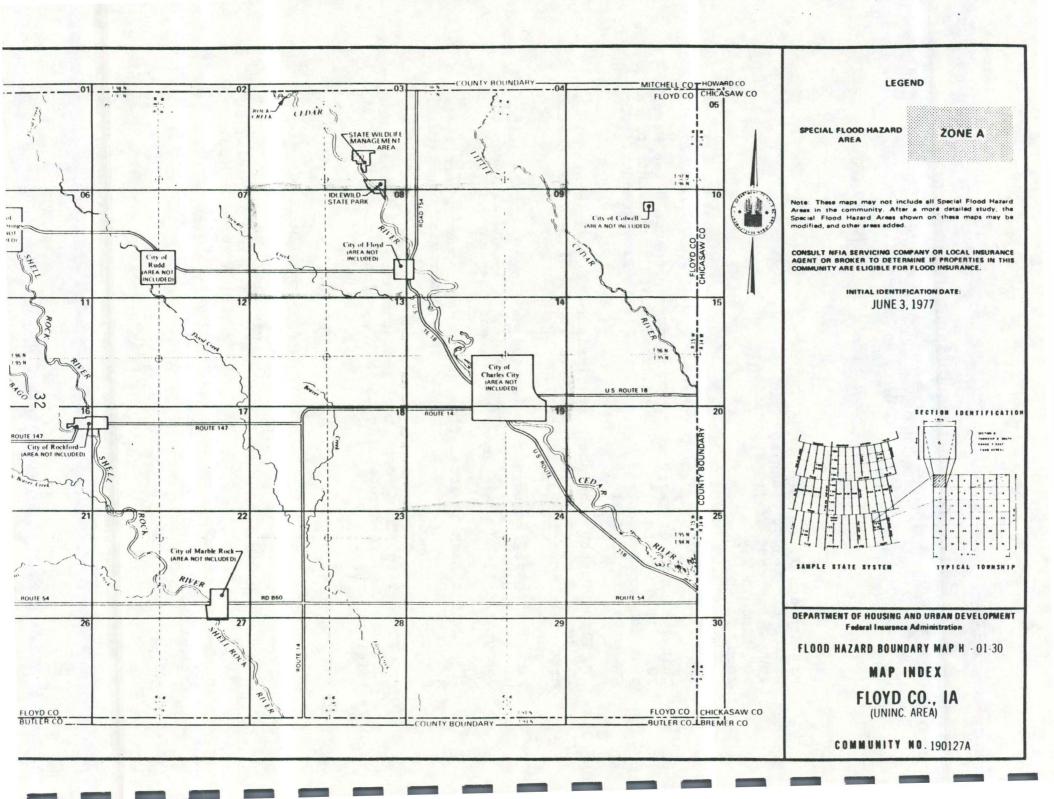
Ross Richardson

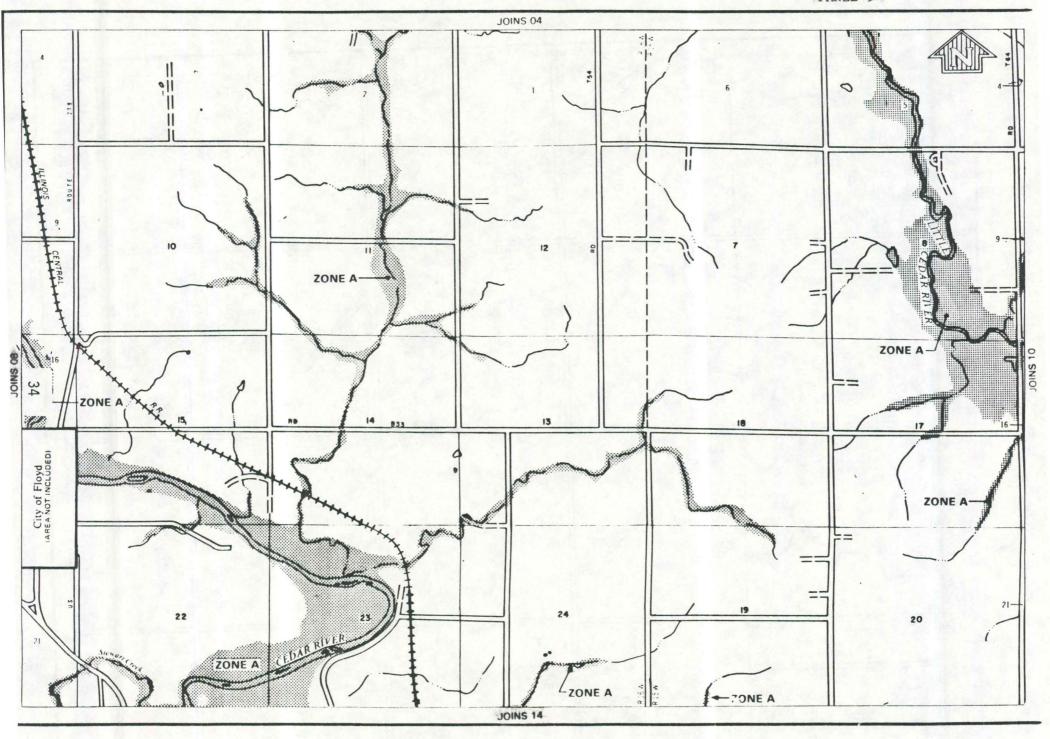
Natural Hazards Specialist Natural & Technological

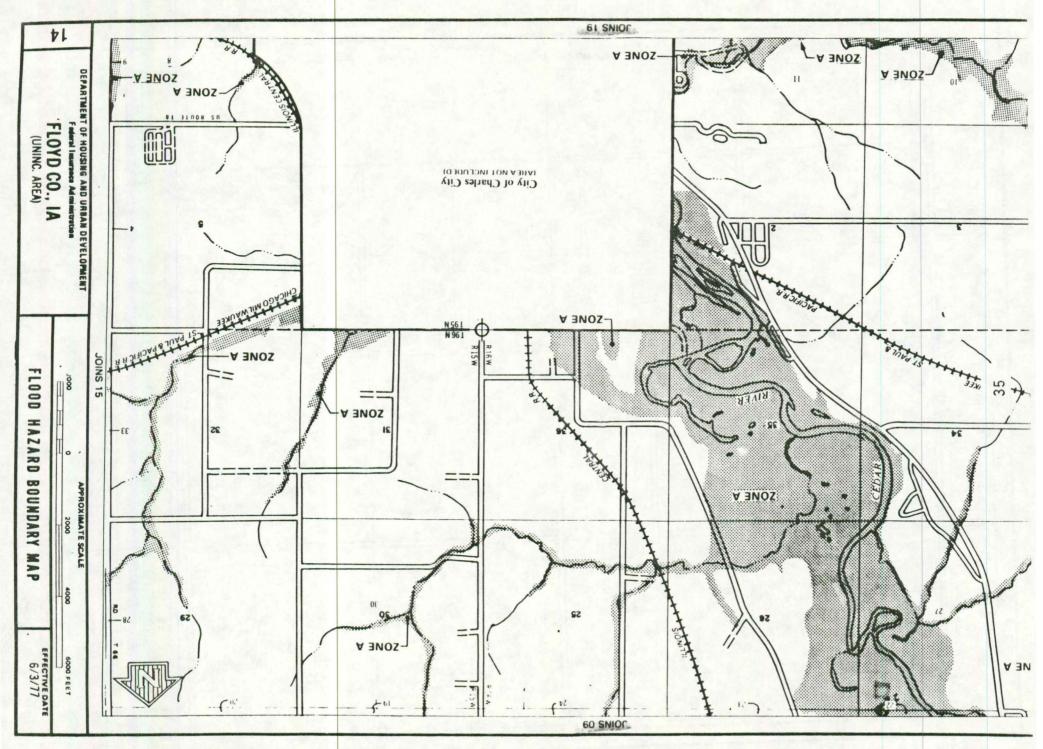
Hazards Division

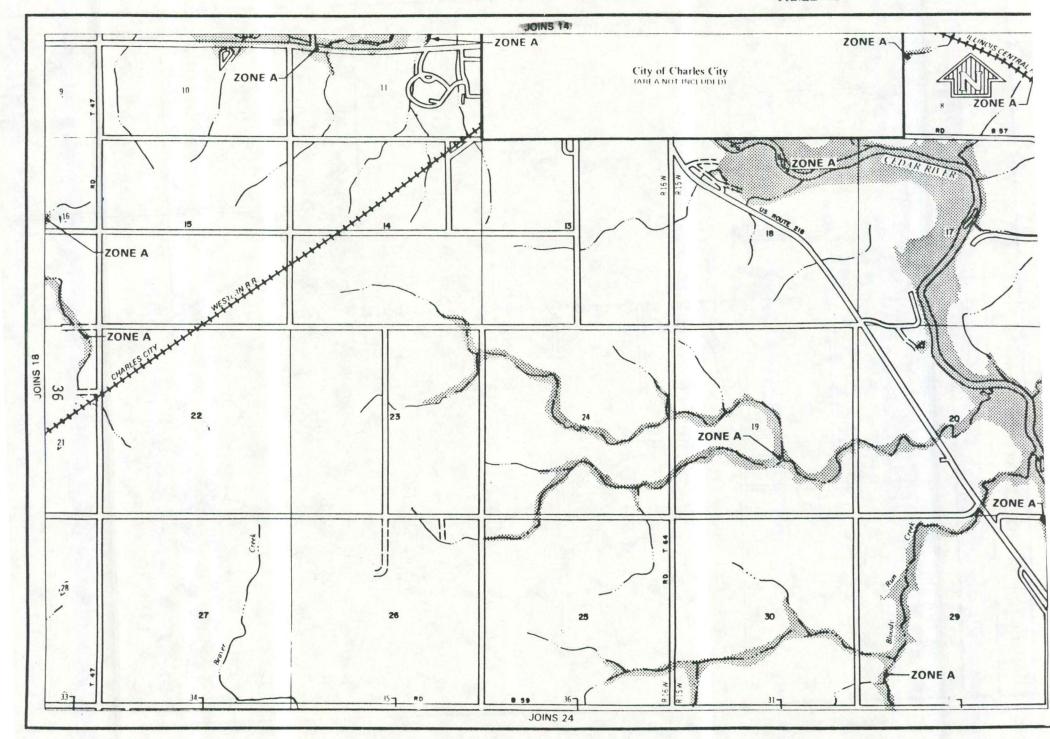
Enclosures

cc: Bill Cappuccio, State Coordinator











### DEPARTMENT OF THE ARMY

ROCK ISLAND DISTRICT, CORPS OF ENGINEERS CLOCK TOWER BUILDING—P.O. BOX 2004 ROCK ISLAND, ILLINOIS 61204-2004

April 17, 1990

Planning Division

APR 25 1990

Mr. Kenneth J. Toomsen
Office of Project Planning
Planning & Research Division
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Toomsen:

We are writing in response to your letter dated March 22, 1990, concerning proposed improvements of U.S. 18 and 218 in Floyd County.

Rock Island District staff members have reviewed your proposal and we have the following comments:

- a. No Corps of Engineers (Corps) administered land is involved. Therefore, no further Corps real estate coordination is necessary.
- b. Department of the Army (DA) authorization will be required for any proposed placement of fill or dredged material into waters of the United States (including wetlands). When detailed plans are available, please complete and submit the enclosed application to the Rock Island District for processing.
- c. The Rock Island Field Office of the U.S. Fish and Wildlife Service should be contacted to determine if any Federal endangered species are being impacted and, if so, how to avoid or minimize impacts. The Rock Island Field Office address is: 1830 Second Avenue, Rock Island, Illinois 61201. Mr. Rick Nelson is the Field Supervisor. He can be reached by calling 309/793-5800.

No other concerns surfaced during our review. Thank you for the opportunity to comment on your proposal.

Sincerely,

Dudley M. Hanson, P.E. Chief, Planning Division



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

### REGION VII 726 MINNESOTA AVENUE KANSAS CITY, KANSAS 66101

FEB 0 8 1990

Mr. Kenneth J. Toomsen
Project Supervisor
Office of Project Planning
Planning & Research Division
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Toomsen;

RE: Your letter of February 1, 1990 to Paul W. Roemerman Concerning U.S. Highway 218 Bypass of Charles City, Iowa.

In response to your letter I have indicated the location of Superfund hazardous waste sites in the Charles City area on the enclosed map which you provided. These locations are at a distance from the proposed route indicated on the map and should have no impact on the bypass.

If you have any questions or need further assistance, please contact Paul W. Roemerman of my staff at (913) 236-2856. Effective on February 19, 1990, the telephone number will be changed to (913) 551-7694.

Sincerely yours,

David Dale

David Doyle

Chief, Remedial Enforcement

Section

Superfund Branch

Waste Management Division

Enclosure



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

### REGION VII 726 MINNESOTA AVENUE KANSAS CITY, KANSAS 66101

FEB 2 7 i990

Received

Received

CERTIFIED MAIL

Return Receipt Requested
Article Number: P 716 387 462

MAR - - 1990

Office of

Office of

Mr. Kenneth J. Toomsen
Project Supervisor
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Re: Salsbury Laboratories, Inc.

Charles City, Iowa 50616 EPA ID No. IAD005275540

Dear Mr. Toomsen:

Receipt is acknowledged of your February 1, 1990 request for information regarding Resource Conservation and Recovery Act (RCRA) activities at the Salsbury facility in Charles City. We have been informed that on December 31, 1989, Salsbury Laboratories, Inc. merged with Solvay Veterinary, Inc. to form Solvay Animal Health, Inc.

Based upon information that has been provided by Salsbury, there are no RCRA regulated units on the west portion of the facility. It does not appear that IDOT's proposed road construction would be affected by the ongoing RCRA activities at Salsbury. The enclosed figure B-8 identifies the locations of the RCRA regulated units at the site. As shown on the map, the regulated units (container storage area, waste methanol storage tank and surface impoundment) are located quite some distance from your proposed road alignment.

On December 29, 1989, an Initial Administrative Order (Order) was issued to Salsbury. A copy is enclosed for your information. The Order requires Salsbury to conduct a RCRA Facility Investigation (RFI) and possibly a Corrective Measures Study, if warranted. Salsbury has requested a hearing on this matter. Therefore, the Order remains pending, and thus will not

become final until either the Presiding Officer or the Regional Administrator issues a decision. The Administrative Record supporting the Order is located at the Charles City Public Library.

Enclosed, in the Order, are maps that identify the location of existing groundwater monitoring wells and plumes of groundwater contamination that have been identified to date. Page 19 of the Order identifies the hazardous constituents that have been detected in the groundwater.

Once the Order becomes final, Salsbury will install additional groundwater monitoring wells and obtain soil samples to determine the rate and extent of contamination. Your proposed alignment could be affected if soil and/or groundwater contamination is discovered in the western portion of the existing facility.

Any questions you have concerning this letter may be directed to Don Lininger of my staff at 913-551-7058.

Sincerely,

Craig W. Smith, P.E. Chief, lowa Section

RCRA Branch

Waste Management Division

Enclosures

cc: Pete Hamlin, IDNR

Neil Leipzig, Solvay Animal Health, Inc.

# FARMLAND CONVERSION IMPACT RATING

			Of Land Evaluation Request			
Name Of Project U. C. 10 / 030 Temporary		Federa	eral Agency Involved			
Proposed Land Lies			deral Highway Administration			
Highway F1			vd. Iowa			
PART II (To be completed by SCS)			il 30. 199			
Does the site contain prime, unique, statewid		t farmland?	Yes N	lo Acres Irriga	the first of the world of the first of the f	n Size
. (If no, the FPPA does not apply - do not complete additional parts of the						
Major Crop(s) Farmable Land In Govt. Jurisdic				Amount O	Farmland As Defi	ned in FPP
Corn	Acres: 287			Acres:	175,420	<sup>%</sup> 55
Name Of Land Evaluation System Used	Name Of Local		System	4 1/8 Control of 100 Control	Evaluation Returns	ed By SCS
Floyd County	None - I	PPA			, 1990	
PART III (To be completed by Federal Agency)			Site A	Site B	e Site Rating Site C	Site D
A. Total Acres To Be Converted Directly		427	412	470		
B. Total Acres To Be Converted Indirectly	4-196		0	0	0	
C. Total Acres In Site		427	412	470		
PART IV (To be completed by SCS) Land Eval	uation Information					
			231	229	257	
A. Total Acres Prime And Unique Farmland			0	0	0	
B. Total Acres Statewide And Local Important Farmland			0.0015	0.0014	0.0016	
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted  D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value			63%	63%	59%	
		riciative value	03/0	03%	33/0	
PART V (To be completed by SCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points			62	62	67	
				02		
PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CER 658 5(b)		Maximum Points				
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)			10		1.4	
1. Area In Nonurban Use		15	13	13	14	
2. Perimeter In Nonurban Use		10	9	9	10	
3. Percent Of Site Being Farmed		20	17	17	18	
4. Protection Provided By State And Local Government			20	20	20	
5. Distance From Urban Builtup Area		NA NA				
6. Distance To Urban Support Services		10	7		7	
7. Size Of Present Farm Unit Compared To Average		25	7	/	1	
8. Creation Of Nonfarmable Farmland		5	5	1	5	
9. Availability Of Farm Support Services		20	16	5	16	
10. On-Farm Investments		25		16	0	
11. Effects Of Conversion On Farm Support Services		10	3	3	3	
12. Compatibility With Existing Agricultural Use						
TOTAL SITE ASSESSMENT POINTS		160	91	91	94	
PART VII (To be completed by Federal Agency	/)					
Relative Value Of Farmland (From Part V)		100	62	62	67	
Total Site Assessment (From Part VI above or a local site assessment)		160	91	91	94	
TOTAL POINTS (Total of above 2 lines)		260	153	153	161	
TOTAL POINTS (Total of above 2 lines)						
TOTAL POINTS (Total of above 2 lines)  Site Selected: None	Date Of Selection		133	Was A Local S	Site Assessment Use	d?

Site A - Alternate 1A Site B - Alternate 1B

Site C - Alternate 2

May 15, 1990

Mr. Kenneth J. Toomsen Office of Project Planning Planning and Research Division Iowa Department of Transportation 800 Lincoln Way Ames, IA 50010

Dear Mr. Toomsen:

Attached is the information you requested in your letter of March 22, 1990, concerning locations of possible wetlands along the proposed improvement of U.S. 18 and U.S. 218 in Floyd County, Iowa.

Sincerely,

J. Michael Nethery State Conservationist

Attachment



TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

LARRY J. WILSON, DIRECTOR

April 11, 1990

Kenneth J. Toomsen
Office of Project Planning
Planning & Research Division
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

RE: U. S. 18/218 Floyd County F-18-6 (32) --20-34

Dear Mr. Toomsen:

The Iowa Department of Natural Resources has reviewed the proposed improvement of U.S. 18 and U.S. 218 in Floyd county, from just east of Rudd to a point approximately 1.5 miles south of Charles City, total project length approximately 15.1 miles.

No on-site field review was completed during this preliminary review; however, comments were received from our wildlife bureau with regard to keeping the alignment on existing primary or secondary right-of-ways where possible. No other comments were received.

Thank you for the opportunity to review this project in the preliminary review process.

Sincerely,

LARRY J. WILSON

DIRECTOR

DH/kh(100L02.dh)



TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF ECONOMIC DEVELOPMENT
RICHARD L. TIMMERMAN, DIRECTOR

April 18, 1990

APR 2 0 1990

Harry S. Budd, Director Office of Project Planning Planning & Research Division IDOT 800 Lincoln Way Ames, IA 50010

RE: IA900402-139

Dear Mr. Budd:

The Iowa State Clearinghouse has performed the required review of the grant application for grant application for the funds for improvements to U.S. Highway 18 and U.S. Highway 218 in Floyd County in accordance with the Iowa Intergovernmental Review System.

### The review:

- -- did not generate any comment from those who examined the file.
- -- found no serious environmental problems which may result from the project or program.
- -- indicated that the proposal conforms to pertinent planning to this area.
- -- did not show that the proposal would result in duplicating any existing activity or project.

The Clearinghouse is please to recommend that the application be approved for funding. A copy of this letter must be sent to the federal agency as evidence that the review has been performed.

Sincerely.

Steven R. McCann

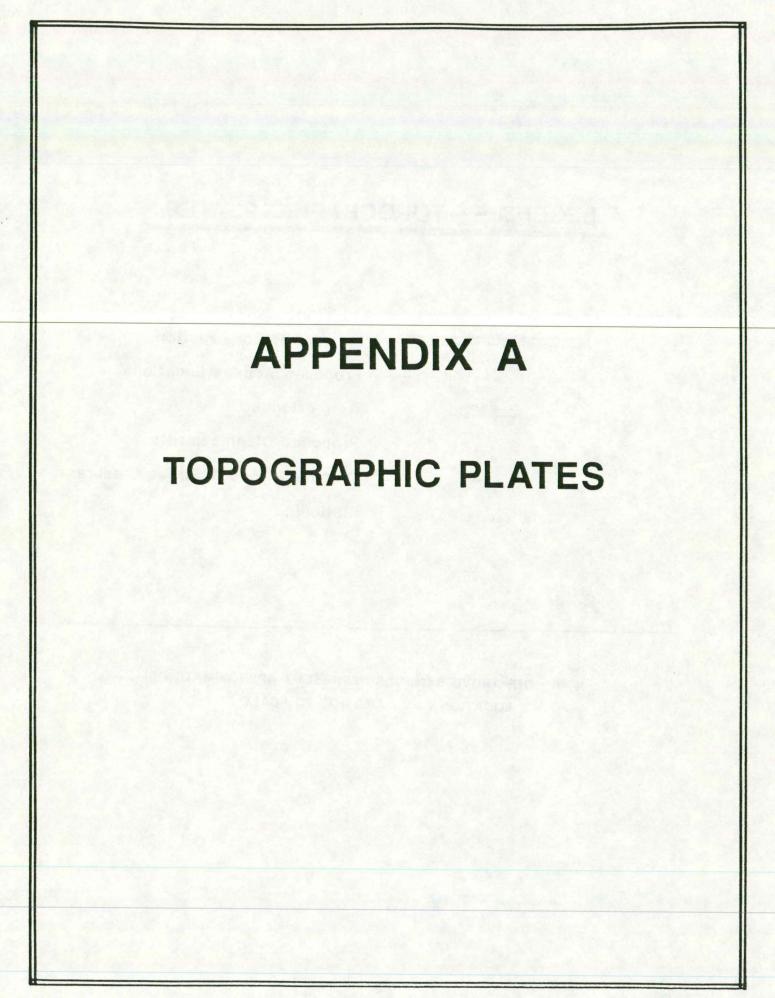
Federal Funds Coordinator

SRM/dt

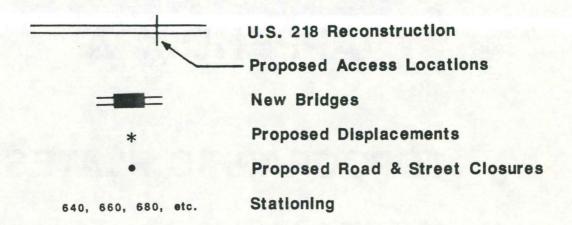


# North Iowa Area Council of Governments 121 Third Street N.W. Mason City, Iowa 50401 515-423-0491

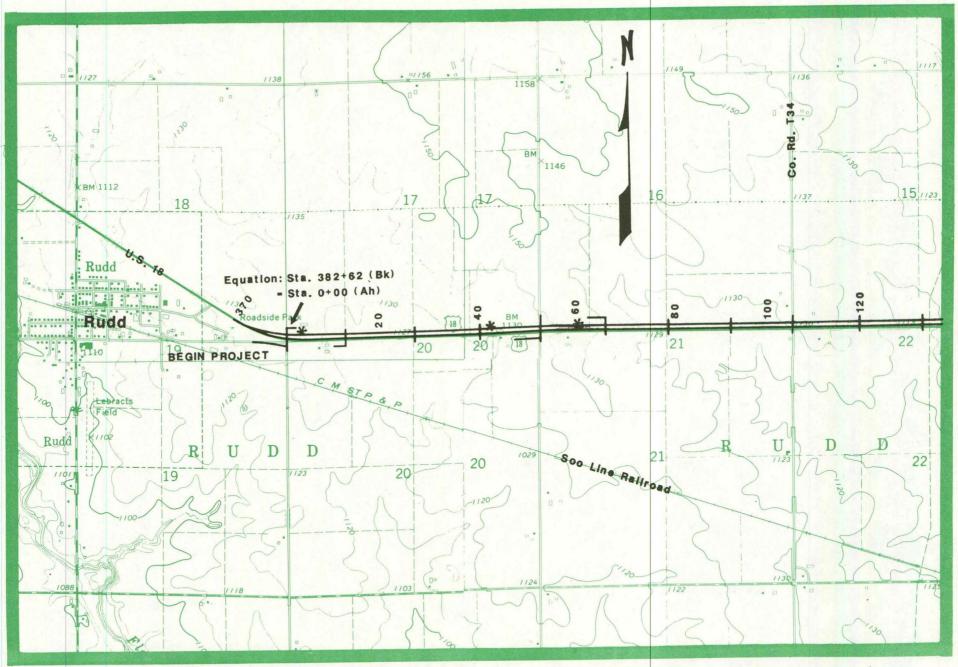
Date Received April 9, 1990 PNRS# IA900205-03	Review Completed May 14, 1990
APPLICATION AGENCY: APPLICAN	NT PROJECT:
Box 741 applying Mason City, Iowa 50401 highway	a Department of Transportation is g for funding for two-lane/four-land improvements to reduce traffic ion through Charles City.
FEDERAL PROGRAM TITLE, AGENCY AND CATALOG NUMBER:	
Federal Highway Administration/Iowa Department of	Transportation/F-18-6(32)20-34
AMOUNT OF FUNDS REQUESTED:	
\$16,050,000	
PROJECT DESCRIPTION: Current regulations coveri funded highway projects require early coordinatio may have interests in the project. This Letter o early notification in order to advise clearinghou solicit public comment. Estimated application da	f Intent is intended to provide ses of the proposed project and to
AREA CLEARINGHOUSE COMMI	ENTS
No Comments Necessary X	_ Comments are as indicated below:
Other, See Attachment	
The areawide review revealed that the proposals in way duplicate or conflict with any plans, programs subdivisions within Region II or with any regional underway. The review also found no negative or as Clearinghouse recommends the approval of the projection.	o, or projects of other political planning program completed or liverse comments. The Areawide
The application must be submitted with this form p	
evidence that the required review has been perform also been forwarded directly to the funding agency	
	ouglas D. Elliott xecutive Director



## LEGEND -- TOPOGRAPHIC PLATES

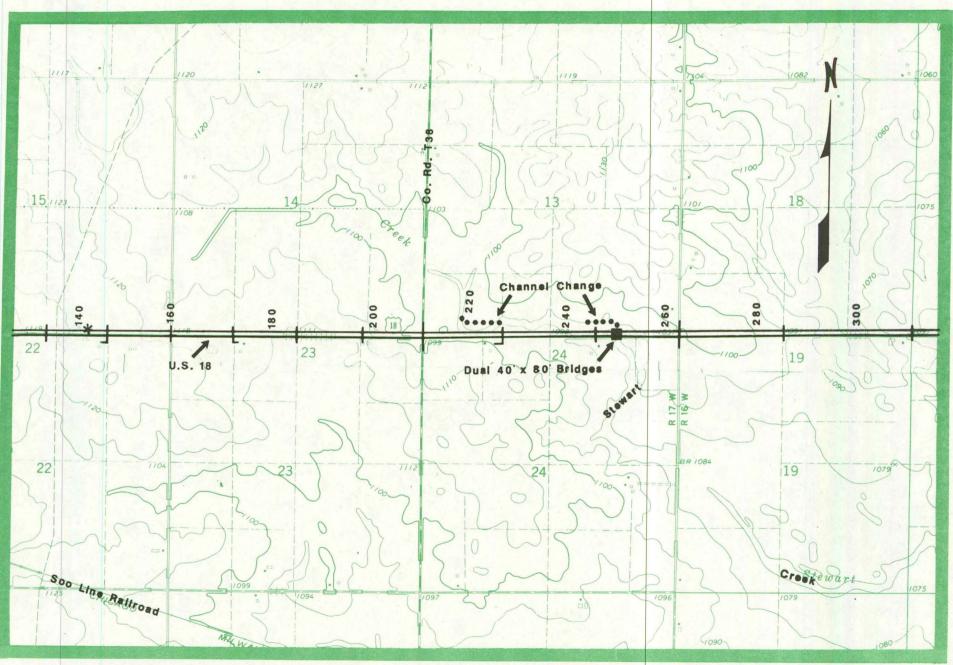


NOTE: THE ABOVE SYMBOLS REPRESENT APPROXIMATE LOCATIONS AND ARE NOT TO SCALE



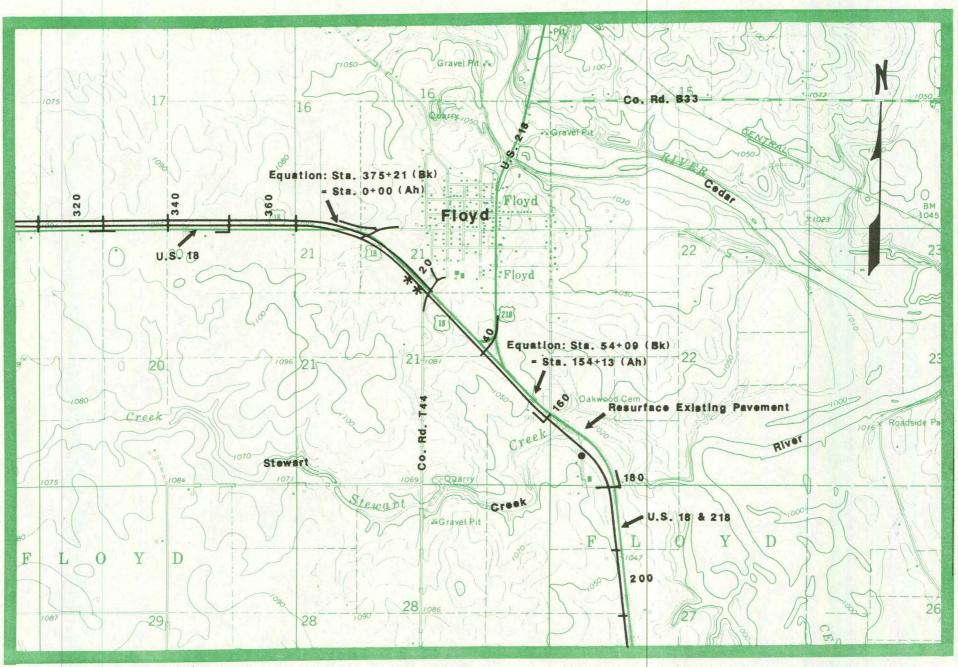
Scale: 1" = 2000'

TOPOGRAPHIC PLATE 1



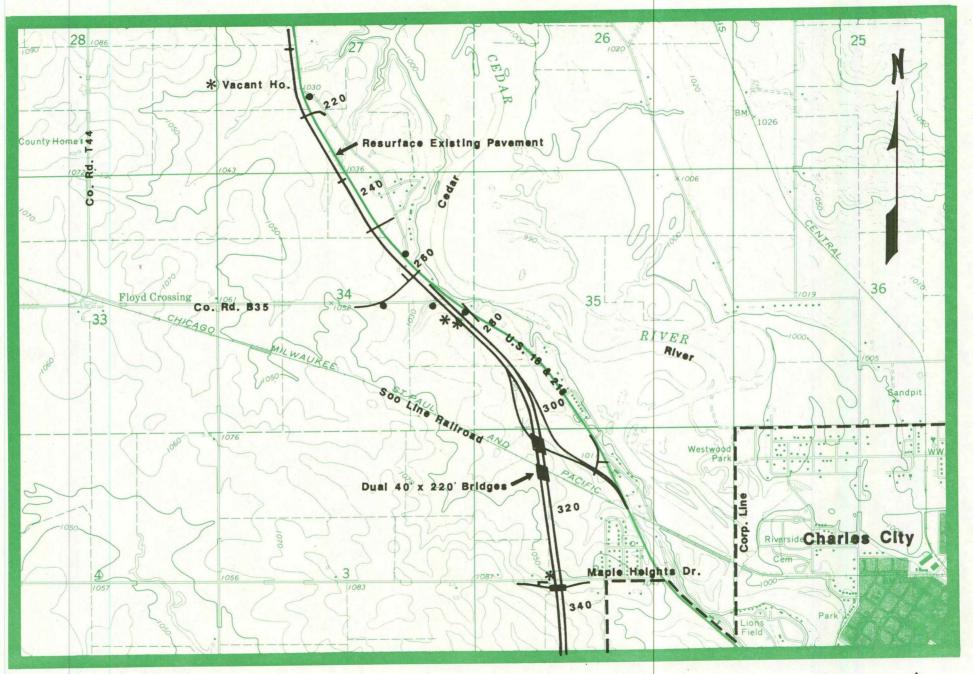
Scale: 1" = 2000'

**TOPOGRAPHIC PLATE 2** 



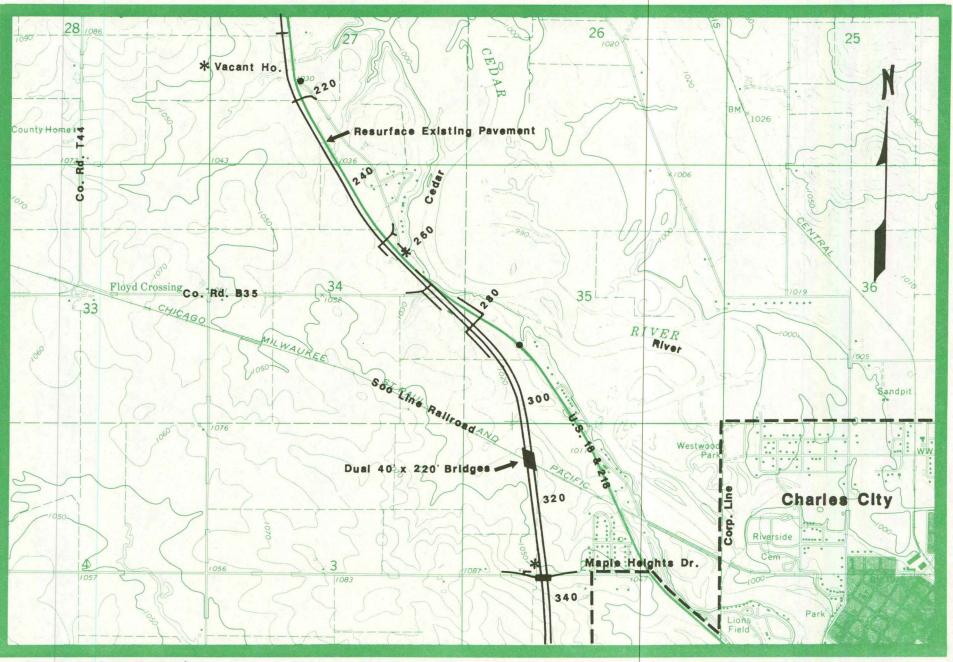
Scale: 1" = 2000'

**TOPOGRAPHIC PLATE 3** 



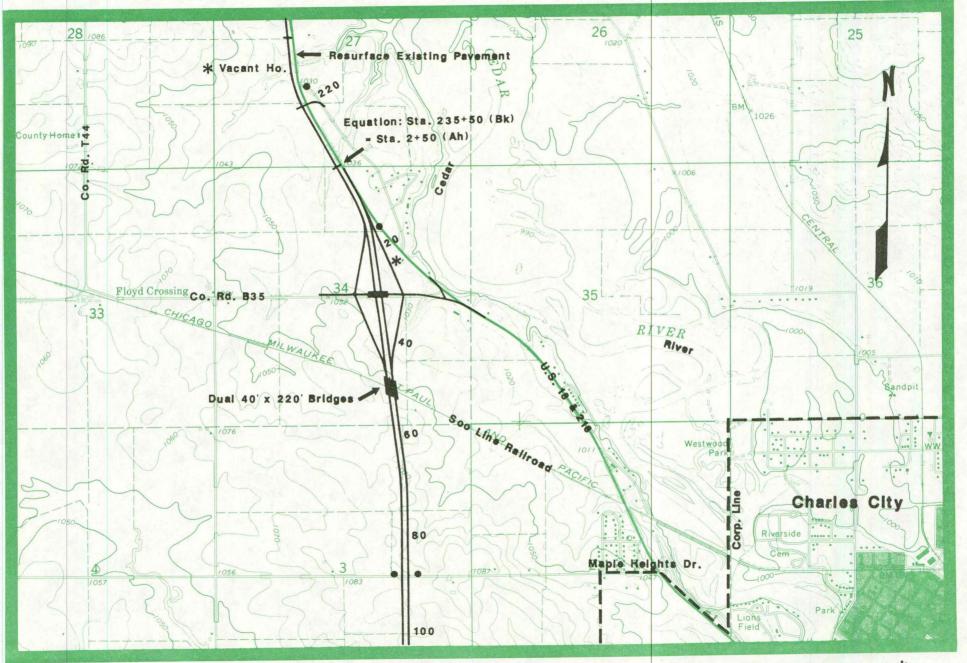
Scale: 1" = 2000'

\* Alternate 1A Bypass Alignment/Option



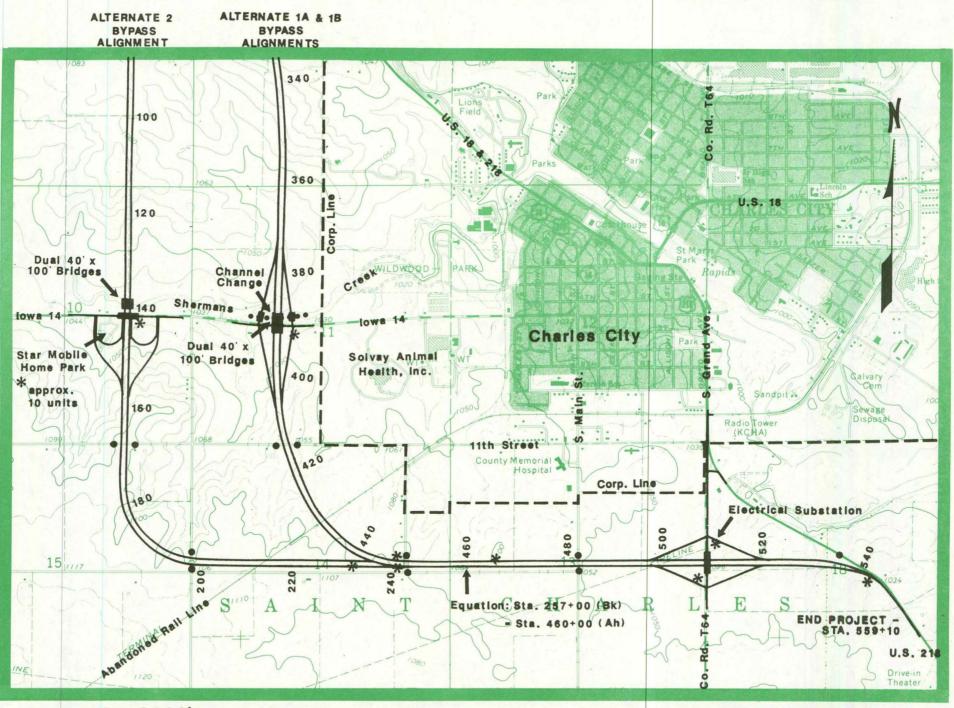
Scale: 1" = 2000'

\* Alternate 1B Bypass Alignment/Option



Scale: 1" = 2000'

\* Alternate 2 Bypass Alignment



Scale: 1" = 2000'

**TOPOGRAPHIC PLATE 5** 

# TRAFFIC NOISE ANALYSIS APPENDIX B

# Iowa Department of Transportation Office of Project Planning Traffic Noise Analysis Form for Low Impact Highway Projects

This form has been prepared to provide summary noise data for highway projects processed with Environmental Assessment (EA) procedures and where traffic noise effects are not extensive nor are special noise abatement strategies normally recommended. The following data were developed in accordance with the procedures set out in Federal Aid Highway Program Manual 7-7-3 using the Federal Highway Administration traffic noise prediction model.

Project Description: _	U.S. 18/218 Rudd to Charles City with bypass
Adjacent Noise Sensitiv	ve Land Use: Scattered Farms
Number and Type of Sens	sitive Receiver Sites: Approx. 45 isolated homes
For Worst Case Receiver	
distance from exist	ring near lane centerline:1,900 ft.
existing noise leve	el (estimated/measured): 45-55 dBA (rural)
distance from propo	osed near lane centerline: 200 ft.
predicted design ye	ear (2015) hourly Leq noise level: 59-60 dBA
predicted peak desi	gn year hourly Leq, no build: 45-55 dBA
calculated maximum	distance from project main line near lane
centerline to de	esign year 67dBA Leq contour: 70ft. It is
recommended that	future noise sensitive development occur beyond
this distance fr	om the highway.

### Discussion and Recommendation

See discussion of noise impacts on page 21.