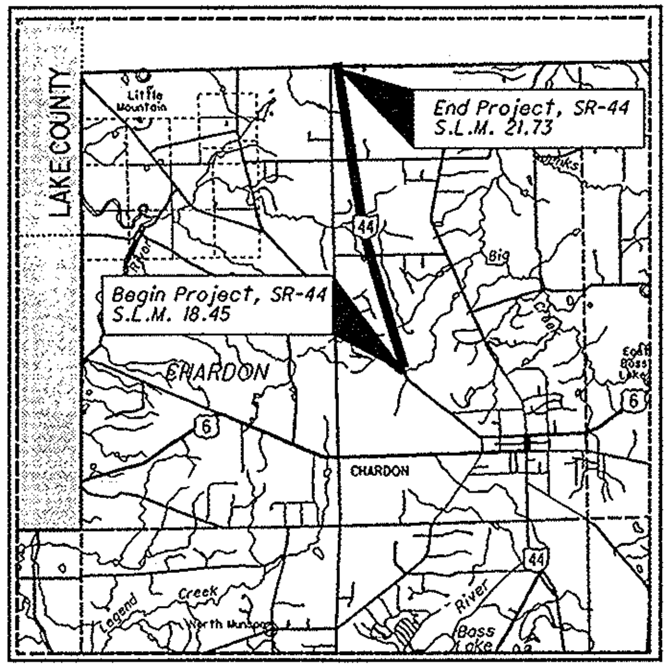
GEA - SR 44-18.45
160015 PID - 84298
Dist 12 1/14/2016
Contract Proposal Available @ www.contracts.dot.state.oh.us/home



LOCATION MAP

LATITUDE: 41°35'41" N LONGITUDE: 81°13'44" W

SCALE IN MILES 0 1 2 3 4

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

	S.L.M. 18.45-21.73
CURRENT ADT (2015)	13,000
DESIGN YEAR ADT (2035)	17,000
DESIGN HOURLY VOLUME (2035)	1,500
DIRECTIONAL DISTRIBUTION	0.53
TRUCKS (24 HOUR B&C)	0.06
DESIGN SPEED	60 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION: Urban Arterial	
NHS PROJECT	Yes

DESIGN EXCEPTIONS:
NONE REQUIRED

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
ODOT DISTRICT 12
PLANNING & ENGINEERING
DEPARTMENT

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

GEA-44-18.45

CHARDON TOWNSHIP
GEAUGA COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

This project consists of the resurfacing of 3.28 miles of SR-44 from SLM 18.45 (Mentor Rd.) in Chester Township in Geauga County to SLM 21.73 (Geauga County Line).

PROJECT EARTH DISTURBED AREA: N/A MAINTENANCE PROJECT
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A MAINTENANCE PROJECT
NOTICE OF INTENT EARTH DISTURBED AREA: N/A MAINTENANCE PROJECT

2013 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

ENGINEERS SEAL:

STATE OF OHIO
ERIC M. KALLIO
E-59990
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Eric M. Kallio
Eric M. Kallio
DATE: 2-27-15

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS
BP-3.1	7/18/14	RM-1.1	7/18/14	MT-95.50	7/19/13	TC-61.10	1/17/14			800	10/16/15	
				MT-97.12	7/18/14	TC-65.10	1/17/14			821	4/20/12	
DM-1.1	1/18/13	MGS-1.1	7/19/13	MT-99.20	7/19/13	TC-65.11	7/18/14			832	1/7/14	
DM-2.1	1/18/13	MGS-2.1	7/19/13	MT-101.90	7/18/14					921	4/20/12	
		MGS-4.2	7/19/13	MT-105.10	7/19/13							
		MGS-4.3	1/18/13							875	1/17/14	
		MGS-5.2	7/19/13									
		MGS-5.3	7/19/13									

APPROVED [signature]
DATE 02-17-15 DISTRICT DEPUTY DIRECTOR

APPROVED [signature]
DATE 9-25-15 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E130(447)
PID NO. 84298
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT None

GEA-44-18.45

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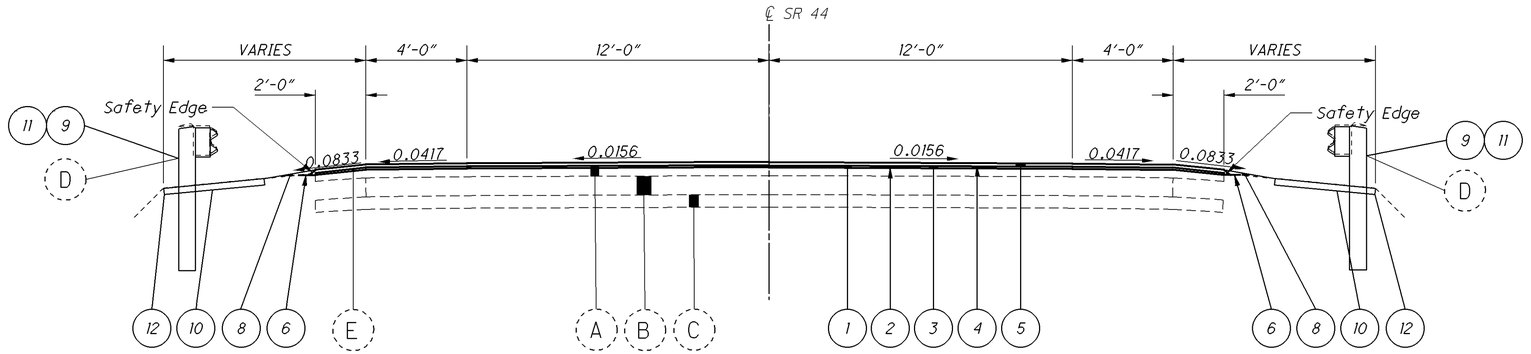
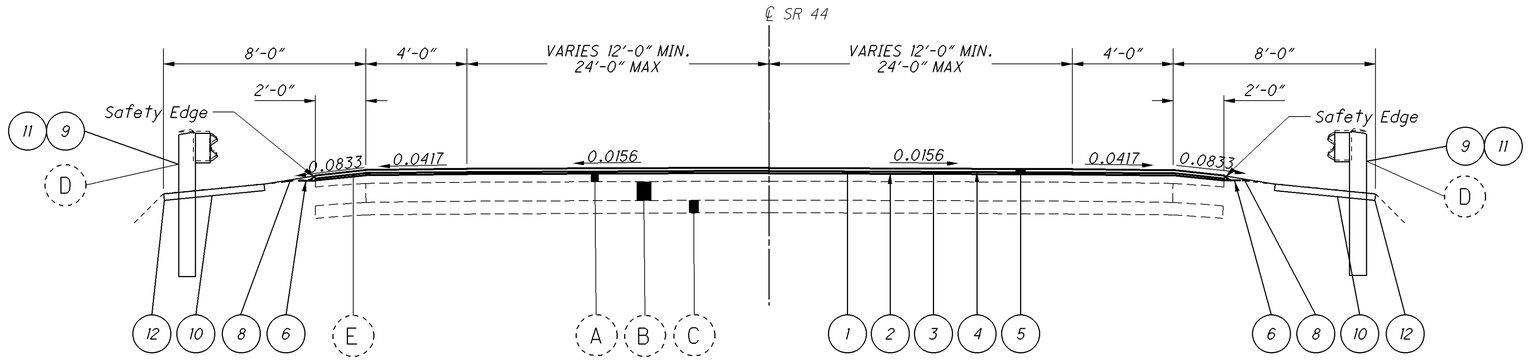


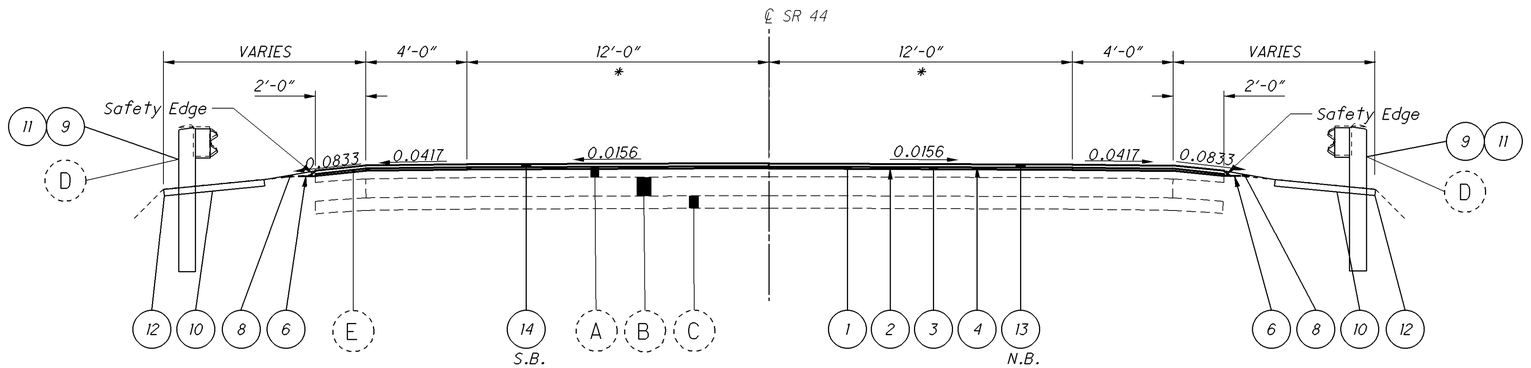
Typical 1 - SR-44

Sta. 2+10 to Sta. 65+49
Sta. 71+68 to Sta. 120+63



Typical 2 - SR-44

Sta. 0+00 to Sta. 2+10
Sta. 65+49 to Sta. 71+68
Sta. 120+63 to Sta. 126+26



Typical 3 - SR-44

Sta. 126+26 to Sta. 174+48
Sta. 174+48 to Sta. 177+59

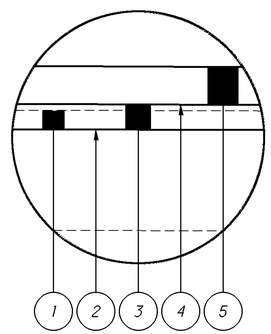
* - Varies 12'-0" Min. to 24'-0"

PROPOSED LEGEND

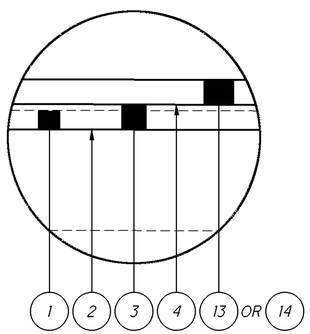
1. Item 254 - Pavement Planing, Asphalt Concrete, As Per Plan, ¾"
2. Item 407 - Tack Coat, Trackless Tack
3. Item 441 - Asphalt Concrete Intermediate Course, Type 1, (448), 1"
4. Item 407 - Tack Coat, Trackless Tack for Intermediate Course
5. Item 441 - Asphalt Concrete Surface Course, Type 1, (446), As Per Plan, 1 ½"
6. Item 209 - Preparing Subgrade for Shoulder Paving, As Per Plan
8. Item 617 - Compacted Aggregate, As Per Plan, 2" Avg.
9. ITEM 202 - Guardrail Removed
10. Item 209 - Reshaping Under Guardrail, As Per Plan
11. Item 606 - Guardrail, Type MGS
12. Item 441- Asphalt Concrete Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan, 3"
13. Item 424 - Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan "A", 1"
14. Item 424 - Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan "B", 1"

EXISTING LEGEND

- A - Asphalt Concrete (4¾")
- B - Reinforced Portland Cement Concrete Base (9")
- C - Subbase (6")
- D - Guardrail, Type 5
- E - Compacted Aggregate



Proposed Pavement Build Up



Proposed Pavement Build Up

CALCULATED JGM CHECKED

Typical Sections, SR-44

GEA-44-18.45

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General

Project Description

This project consists of the resurfacing and rehabilitation of SR-44 from SLM 18.45 (Chardon NCL) to SLM 21.73 (Lake County Line) in Geauga County.

Existing Typical Sections

Existing typical sections have been taken from the records and are believed to represent the existing pavement, but the State of Ohio does not guarantee the accuracy of the same.

For further information in regard to the existing typical sections, the Contractor shall refer to the previous construction plans.

These plans may be reviewed at the following location:

Ohio Department of Transportation
District 12 Office
5500 Transportation Boulevard
Garfield Heights, Ohio 44125

Plan Sheet Stationing

The roadway was not surveyed prior to the preparation of these plans. Record drawings were used to prepare plan sheets and calculate estimated pavement area quantities and pavement marking quantities.

Contingency Quantities

The Contractor shall not order materials or perform work for items designated by plan note to be used "as directed by the Engineer" unless authorized by the Engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

Equipment and Material Storage

In order to provide for the safety of the traveling public the Contractor's attention is directed to 614.03. In addition the following provisions shall apply:

1. Any removed items shall not be stored on the right of way for more than thirty (30) days.
2. The storage of equipment, materials, and vehicles within the highway right of way will be permitted. The number of areas and exact locations shall be approved by the Engineer.
3. All disturbed areas shall be returned to their original condition at no expense to the state.

Construction Noise

Activities and land use adjacent to this project may be affected by construction noise. In order to minimize any adverse construction noise impacts, do not operate power-operated construction-type devices between the hours of 9:00pm and 7:00am. In addition, do not operate at any time any device in such a manner that the noise created substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such equipment.

Cooperation between Contractors

The Contractor shall cooperate and coordinate his/her operations with the contractors on other projects that may be in force during the life of the contract. No waiver of any provisions of 105.07 of the Construction and Material Specifications is intended.

Right of Way

All work shall be performed within the existing right of way or easements.

Work Limits

The work limits shown on these plans are for physical construction only. Provide the installation and operation of all work zone traffic control and work zone traffic control devices required by these plans whether inside or outside these work limits.

Staging Areas

There are no specific areas given in the plans for the Contractor to use as a staging area(s). If the Contractor wants to use an area(s) for staging, regardless if it falls within the project limits or not, the Contractor is to contact Jill Powers at 216-584-2195 at District 12 in order to apply for a permit per Section 107.02 of the CMS.

If a permit is granted, all conditions of the permit shall be met in addition to the requirements of 104.04 of the CMS, at no additional cost to the State. If the Project Engineer deems that all the conditions of the permit were not met, then 10% of the Contract bid amount for mobilization shall be withheld until all the conditions of the permit are satisfied.

Item 619 – Field Office, Type B, As Per Plan

A Type B Field Office is required for this project.

The following revisions to equipment supplied with the Type B Field Office, as specified in Table 619.02-1, Field Office, shall apply:

- The copier supplied must meet the requirements of the copier supplied with the Type C Field Office.
- The broadband internet connection must meet the requirements of the minimum download speeds supplied with the Type-C Field Office.

All other field office items supplied shall meet the requirements of a Type B Field Office.

Item 619 – Field Office, Type B, As Per Plan..... **6 Months**

Connection Between Existing and Proposed Guardrail

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled, or punched. The connection shall be made using a "W-beam rail splice" as shown in AASHTO M 180. Payment shall be included in the contract price for the respective guardrail items.

Location of Guardrail

The locations of guardrail runs, as described in these plans, are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

CALCULATED JGM CHECKED ---

General Notes - 1 of 5

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Utilities

Listed below are all known utilities located within the project construction limits together with their respective owners. The Ohio Department of Transportation has used the best available information to determine the utility companies serving this area but cannot guarantee that this utility company list is complete.

Dominion East Ohio Gas Co.
Transmission, Storage,
& Gathering Facilities
320 Springside Dr. – Suite 320
Akron, OH 44333
Attn: Mike Antonius
Project Manager – Gas Design
Phone: (330) 664-2488
Fax: (330) 664-2686

Time Warner Cable
7820 Division Drive
Mentor, Ohio 44060
Supervisor: Charles Sulivan
Phone: (440) 974-3401 Ext. 125
Field Engineer: Larry Bock
Phone: (440) 974-3401 Ext. 123
Fax: (440) 974-3201

Illuminating Company
6896 Miller Rd.
Brecksville, OH 44141
Attn: Mark Robinson,
Contract Specialist
Public Works Coordinator
Phone: (440) 717-6845
Cell: (440) 550-9001
Fax: (440) 546-8780
E-mail: robinsonme@firstenergycorp.com

AT&T
13630 Lorain Ave. – 2nd Floor
Cleveland, OH 44111
Attn: James Janis
Design Manager
Phone: (216) 476-6142
Fax: (440) 260-0113

Windstream
100 Owen Brown St.
Hudson, OH 44236
Attn: Jeff Gulyas
Phone: (330) 650-8404
Email: jeff.gulyas@windstream.com

Cobra Pipeline Company, LTD.
3511 Lost Nation Road, Suite 213
Willoughby, Ohio 44094
Attn: Amy Caunter or
Dennis Everhart
Phone: (440) 255-1945
Fax: (440) 255-1985
acaunter@cobrapipeline.com
deverhart@cobrapipeline.com

Orwell Natural Gas Company
8470 Station St.
Mentor, Ohio 44060
Attn: Chris Domonkos
Phone: (440) 205-4600
Fax: (440) 205-0991
Cell: (440) 669-1602
cdomonkos@orwellgas.com

City of Chardon
111 Water Street
Chardon, OH 44024
Phone: (440) 286-2655
Fax: (440) 286-5541

Ohio Department of Transportation
District 12 – Roadway Services
5500 Transportation Boulevard
Garfield Heights, Ohio 44125
Attn: Tony Toth
Phone: (216) 584-2220
Anthony.Toth@dot.state.oh.us

There are no underground utilities shown on this plan. The nature of the work required by this project will not affect any known underground utilities that exist under or adjacent to the work area.

Item 202 – Guardrail Removed, As Per Plan

This item of work shall be used to carefully dismantle and remove all guardrail, terminal assemblies, posts and miscellaneous hardware as per CMS 202.09 at the locations specified in the plans.

All guardrail, terminal assemblies, posts and miscellaneous items listed below in good condition shall remain the property of the State and shall be salvaged for reuse. The following materials shall be salvaged, as directed by the Engineer:

- Type 5 guardrail panels
- Plastic guardrail blockouts
- Steel posts
- Type E Anchor Assemblies – all parts except hardware
- Flared and/or Rounded end sections

All other materials not specifically listed above (including damaged guardrail components and misc. hardware) shall be disposed of by the Contractor.

All items designated for salvage shall be delivered by the Contractor to:

ODOT – Painesville Yard
10 Blackbrook Rd
Painesville Ohio 44077
Attn: Tom Henderson
Office: (216) 584-2050

Provide a minimum of one week notice to the designated ODOT Maintenance contact to coordinate and schedule delivery.

Payment for the above work shall be included in the Unit Bid Price for Item 202 – Guardrail Removed, As Per Plan.

Item 209 – Preparing Subgrade for Shoulder Paving, As Per Plan

Prepare the shoulder for paving a consistent safety edge in both thickness and width.

Prior to paving the safety edge, grade an area 10" wide, beginning at the edge of the paved roadway, to provide a level surface free of vegetation for construction of the safety edge. If necessary, excavate the graded area to the depth necessary to construct the safety edge. Compact the graded shoulder according to 617.05, or as directed by the engineer.

This item of work shall also consist of grading "beyond the limits of the safety edge" along the outside edge of the paved shoulder to eliminate high spots and provide positive sheet flow off the pavement and shoulder into roadside ditches or drainage structures. This item is also intended to be used to prepare shoulder to place Item 617 – Compacted Aggregate, As Per Plan.

Any debris collected shall be removed and disposed of as specified in section 105.16 & 105.17 of the construction and material specifications.

Payment for the above work shall be made at the unit bid price for Item 209 – Preparing Subgrade for Shoulder Paving, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform this item of work.

The estimated quantity in the general summary shall be for use as directed by the Engineer.

Item 209 – Reshaping Under Guardrail, As Per Plan

This item of work shall be used to prepare proposed and existing guardrail runs for paving under guardrail, including the removal and disposal of existing asphalt under guardrail.

Fill all holes remaining after removal of guardrail posts and anchor assemblies with granular material. Do not use fill material containing sod. All fill material shall be approved by the Engineer and shall be compacted as directed by the Engineer. Payment for the above is included in the applicable guardrail item.

Reshape and compact subgrade to ensure positive drainage. Establish a cross-slope of 0.042 (half inch per foot). Grade to a maximum width of 6' to provide positive drainage away from the travel lanes.

All collected debris and topsoil shall be removed and disposed of as specified in section 105.17 of the CMS.

In areas where asphalt under guardrail will not be replaced, the removed material shall be replaced with compactable granular material conforming to 703.16 and placed to grade as approved by the Engineer. Seed and mulch these areas according to section 659.

In areas where existing pavement will not be planed, after the existing asphalt under guardrail is removed, compacted granular material shall be placed within 3" of final pavement elevation in preparation of the asphalt under guardrail.

Payment for the above work shall be made at the unit bid price for Item 209 – Reshaping Under Guardrail, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform the work.

Paving Under Guardrail
Item 441 – Asphalt Concrete Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan

This operation shall include preparation of the graded shoulder using Item 209, Reshaping Under Guardrail, As Per Plan and paving under the guardrail using Item 441 Asphalt Concrete Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan.

Paving under guardrail shall consist of placing Item 441 to the depth specified (3") using one of the following methods:

Method A:
1. Set guardrail posts
2. Place Item 441

Method B:
1. Place Item 441
2. Bore asphalt at post locations (may be omitted if steel posts are used)
3. Set guardrail posts
4. Patch around posts. The materials used for patching shall be an asphalt concrete approved by the Engineer. Patched areas shall be compacted using either hand or mechanical methods. Finished surfaces shall be smooth and sloped to drain away from the posts.

All equipment, materials and labor required to perform the work outlined above, with the exception of setting guardrail posts, shall be included for payment under Item 441 Asphalt Concrete Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan.

CALCULATED JGM CHECKED ---

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Roadway and Erosion Control (cont'd)

Item 606 –Anchor Assembly, MGS Type E

This item shall consist of furnishing and installing any of the guardrail end terminals listed on Roadway Engineering's web page under Roadside Safety Devices for Approved Guardrail End Treatments. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications.

The face of the Type E impact head shall be covered with a sheet of Type G reflective sheeting per CMS 730.19.

Refer to the manufacturer's instructions regarding the installation of and the grading around the foundation tubes and ground strut. The top of any foundation tube should be less than 4" above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 31" from the edge of the shoulder.

On-site grading is required if the foundation tubes or top of the ground strut does project more than 4" above the ground line.

Payment for the above work shall be made at the unit bid price for Item 606 – Anchor Assembly, MGS Type E, Each, and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including all related transitions, reflective sheeting, hardware, grading, embankment and excavation not separately specified, as required by the manufacturer.

Item 209 – Borrow

The contractor shall be responsible for the placement of borrow material (topsoil, clay or ODOT items 304, 411 or 617 granular material) to correct the guardrail height or low shoulder condition, "as directed by the Engineer". The material shall be placed and compacted to correct the shoulder to the satisfaction of the engineer. The embankment material shall extend to the back of the guardrail posts at a slope of one (1) inch per foot and then make a smooth transition into the existing embankment slopes.

Embankment placed immediately in front of a residence shall be graded and finished as set forth under item 659.10. The contractor shall remove from the limits of the project all visible stone, brick, and other garbage or debris in accordance with item 659.10. The cost of removal and disposal shall be included in the unit cost of Item 209 – Borrow.

Item 201 - Clearing and Grubbing, As Per Plan

This item is specifically intended to provide for the removal of brush, cattails and other vegetation in and around existing and proposed ditchlines.
All equipment, materials, and labor required to perform the work above shall be paid for under:

Item 201 - Clearing and Grubbing, As Per Plan . . . . . Lump Sum

Drainage

Review of Drainage Facilities

Before any work is started on the project and again before final acceptance by the State, representatives of the State and the Contractor, along with local representatives, shall make an inspection of all existing sewers which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenances shall be determined from field observations. Records of the inspection shall be kept in writing by the State.

All new conduits, inlets, catch basins and manholes constructed as part of the project shall be free of all foreign matter and in a clean condition before the project will be accepted by the State.

All existing sewers inspected initially by the above mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the condition resulting from the Contractor's operations shall be corrected by the Contractor to the satisfaction of the Engineer.

Payment for all operations described above shall be included in the contract price for the pertinent 611 drainage items.

Castings Adjusted to Grade, As Per Plan

All castings shall be adjusted to the finished roadway elevation by the Contractor. The time between adjusting the castings and resurfacing shall be kept to an absolute minimum. No adjusting rings shall be permitted. When performing this work, the pavement shall be sawcut prior to removal and hook bolts shall be used where practical to connect existing pavement to new concrete.

The following estimated quantities have been carried to the General Summary:

Item 623 – Monument Box Adjusted to Grade,
As Per Plan..... **3 Each**

Castings Reconstructed to Grade

The Contractor and Field Engineer shall field check all existing catch basins, manholes, or monument boxes located within the limits of the project. Any casting found that exhibits substantial deterioration and requires more work than is specified under "Castings Adjusted to Grade" shall be "Reconstructed to Grade", as directed by the Engineer. If none are needed, these items are to be non-performed.

The following estimated quantities have been carried to the General Summary for use as directed by the Engineer:

Item 623 – Monument Box Reconstructed to Grade..... 1 **Each**

Item 204 – Embankment, As Per Plan

This item of work shall be used as Directed by the Engineer for soil washout repairs at drainage repair locations.

Embankment placement locations shall be seeded and mulched as per item 659, Seeding and Mulching and shall include fertilizer. Straw mulch shall not be used in the seeding and mulching operations. Wood fiber or hydro seeding shall be used. The locations for this work shall be directed by the Engineer.

The unit bid price for this item shall include all of the equipment, materials, and labor necessary for placement, grading, and seeding and mulching.

Item Special – Pipe Cleanout, 27" To 48"

This work shall consist of removing sediment, debris, tufa and thick mineral deposits from the existing drainage conduits specified in the plans. All material removed shall be disposed of as per 105.16 and 105.17. All sewers shall be cleaned out to the satisfaction of the Engineer.

The cleaning of these sewers shall not cause blockages in the existing pipe downstream of the cleaning area. Any blockages caused by the contractor, downstream of the work area, shall be cleaned and inspected by the contractor at no additional cost to The State of Ohio.

Cleanout of the pipe shall be paid for at the unit bid price for
Item Special – Pipe Cleanout, 27" To 48"
This price shall include the cost for all material, equipment, labor and all incidentals required to complete the cleanout. The estimated quantities have been included in the general summary for the above mentioned work.

Payment for Item Special – Pipe Cleanout, 27" To 48" shall be per foot and based on final inspection

Item 209 - Ditch Cleanout, As Per Plan

This work shall consist of re-establishing the flow line of an existing ditch. Surplus or unsuitable material, as determined by the engineer, shall be disposed of as per 105.16 and 105.17. Embankment required for eroded conditions shall meet the requirements of 203.05 and 203.06 except that the compaction requirements are waived.

The ditches shall be seeded and mulched as per item 659, including fertilizer. Straw mulch shall not be used in the seeding and mulching operations. Wood fiber or hydro seeding shall be used

Payment for this work shall be included in the cost of the Ditch Cleanout, As Per Plan.

Measurement of the ditch cleanout shall be the actual feet measured along the centerline of the ditch.

All materials removed from ditches must be immediately removed to an upland site and stabilized (i.e. seeded) to prevent redistribution into any waters of the United States. (Immediate removal is defined by the Corps as depositing the removed materials directly into a truck and removing the material from the site). Placement of removed materials into a wetland or on the banks of a stream even temporarily is considered a fill and requires a permit action.

Any area disturbed by equipment activities must be seeded and mulched to prevent erosion of sediments into the waters of the United States.

Payment for the above work, including earthwork, seeding, mulching, fertilizer, and all labor, equipment and incidentals shall be made at the unit bid for
Item 209 - Ditch Cleanout, As Per Plan.

CALCULATED JGM CHECKED ---

General Notes - 3 of 5

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Pavement

Profile and Alignment

Place the proposed pavement to follow the alignment of the existing pavement. Place the proposed asphalt concrete with a uniform thickness as shown on the typical sections.

Planed Surfaces

The duration of time between milling and placement of the intermediate course shall be no longer than fourteen (14) days. The time limit shall begin on the first day of planing, and shall continue based on calendar days, minus any bad weather days, until completion of the asphalt concrete intermediate course.

Item 251 – Partial Depth Pavement Repair

Use this item to repair unsound, cold-patch, or pop-out areas of longitudinal and transverse joints as directed by the Engineer. Perform repairs after the planing operation and prior to resurfacing. Make standard repairs at a depth of 3" and at a minimum width of 12". Center the repair over the existing joint.

The following estimated quantity has been carried to the General Summary to complete this item of work:

Item 251 – Partial Depth Pavement Repair..... **300 Sq Yd**

Item 253 – Pavement Repair, As Per Plan

This work item is for use as directed by the Engineer for the purpose of shoulder repair. All labor and material necessary to perform this work and Section 250 of the CMS shall be included for payment under Item 253.

Depth of pavement repair removal shall typically be 5", measured after the pavement has been planed. The depth of repair shall be directed by the Engineer if unsound material is encountered after the removal of the 5".

Use replacement materials conforming to the requirements of Item 301.

The following item has been carried to the General Summary for use as directed by the Engineer:

Item 253 – Pavement Repair, As Per Plan..... **1,100 Cu Yd**

Item 254 – Pavement Planing, Asphalt Concrete, As Per Plan

This item shall be used to remove the existing asphalt overlay full width to a depth specified in the plans on SR-44. Areas which have transverse wedges (butt joints) are to be removed in two passes as required for maintaining traffic. No additional payment shall be made for the second pass.

The depth of pavement planing may be variable across the pavement width, however, the depth may be adjusted, by the Engineer, in order to achieve appropriate pavement crown for drainage and/or to minimize removal of material in areas with less than typical or average structural strength. All provisions stated in Item 254 – Pavement Planing shall be followed.

Item 304 – Aggregate Base

This item shall be used as directed by the Engineer in areas of pavement repairs where the Engineer deems the subgrade material unsuitable.
Place 6" of material conforming to the requirements of Item 304.
The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 304 – Aggregate Base..... **50 Cu Yd**

Item 441 – Asphalt Concrete Surface Course, Type 1, (446), As Per Plan

The coarse virgin aggregate for this item shall consist of a blend of 60% min. air cooled blast furnace slag (ACBFS) or Trap Rock from Ontario with limestone comprising the remaining percentage.
This item shall use a GTR modified PG 70-22M binder that complies with the requirements of 702.01 and SS 887.

Item 424 – Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan A

The course virgin aggregate shall be limited to (100%) Air Cooled Blast Furnace Slag (ACBFS).
Section 424.08 shall be revised to read "For Type B mixes comply with all requirements of 446."

Item 424 – Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan B

The course virgin aggregate shall be limited to (100%) Trap Rock from Ontario.
Section 424.08 shall be revised to read "For Type B mixes comply with all requirements of 446."

Item 441 – Asphalt Concrete Surface Course, Type 1, (448), As Per Plan

The use of gravel for coarse virgin aggregate is prohibited. Use a PG64-22 binder.

Item 441 – Asphalt Concrete Intermediate Course, Type 1, (448), Variable, As Per Plan

For this item, a third roller is required for mainline paving operations. The roller shall conform to the requirements of 401.13.

Item 617 – Compacted Aggregate, As Per Plan

This item shall be used along the shoulders. Material shall be limited to reclaimed asphalt concrete pavement.

The actual depth used will vary depending upon existing conditions. For estimating purposes, an average depth of 2" will be used. Water, if needed, shall be applied as per 617.05 and included under Item 617 – Compacted Aggregate, As Per Plan.

The following estimated quantity has been carried to the General Summary as a contingency when low areas are encountered during safety edge operations for use as directed by the Engineer:

Item 617 – Compacted Aggregate, As Per Plan..... **20 Cu Yd**

Asphalt Concrete Surface Course Sealing Requirements

In addition to the gutter sealing requirements specified in SCD BP-3.1 and C&MS 401.15, after completion of the surface course, the contractor shall use a certified 702.01 PG binder to seal the following locations:

- All castings including but not limited to monuments, manholes, water valves, catch basins, curb inlets.
- Butt joints and feather joints including bridge approaches.
- Forward joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
- Perimeter of all pavement repairs or other asphalt inlays when pavement repairs/inlays are not overlaid with an asphalt concrete surface course.
- All cold longitudinal joints between paved shoulders and guardrail asphalt.

The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Any additional costs associated with the work identified in this note shall be included in the appropriate asphalt concrete surface course item of work.

Safety Edge

In addition to the requirements of 401.12, attach a device to the screed of the paver that confines the material at the end gate and extrudes the asphalt material in such a way that results in a compacted wedge shape pavement edge of approximately 30 degrees (not steeper than 40 degrees). Ensure the device maintains contact with the existing surface, and allow for automatic transition to cross roads, driveways and obstructions. Do not use conventional single plate strike off.

Construction of safety edge can be omitted at locations where existing width of graded shoulder or berm is less than 12". Projects with varying conditions should use safety edge where possible. Plan preparation has made every reasonable attempt to identify possible safety edge locations.

Use the TransTech Shoulder Wedge Maker, the Carlson Safety Edge End Gate, the Advant-Edger, the Troxler SafeTSlope or a similar approved-equal device that produces the same wedge consolidation results. Contact information for these wedge shape compaction devices is the following:

TransTech Systems, Inc
1594 State St.
Schenectady, NY 12304
1-800-724-6306
www.transtechsys.com

Advant-Edge Paving Equipment LLC
P.O. Box 9163
Niskayuna, NY 12309
(518) 280-6090
www.advantedgepaving.com

Carlson Safety Edge End Gate
18425 50th Avenue East
Tacoma, WA 98446
(253) 875-8000

Troxler Electronic Laboratories, Inc.
3008 E. Cornwallis Rd.
Research Triangle Park, NC 22709
1-877-TROXLER
www.troxlerlabs.com

If electing to use a similar device, provide proof that the device has been used on previous projects with acceptable results or construct a test section prior to the beginning of work and demonstrate wedge compaction to the satisfaction of the Engineer. Short sections of handwork will be allowed when necessary for transitions and turnouts or otherwise authorized by the Engineer.

In addition to the requirements of 401.16, make the first roller pass 8 to 12 inches (200 to 300 mm) away from tapered edge. Do not roll the taper.

Pavement (cont'd)

Abandonment of Existing Roadway Pavement Sensor

The Project Engineer shall contact the Roadway Services Engineer (216-584-2190) five (5) working days in advance of any work (planing, pavement repairs or paving) taking place at the location of the existing roadway pavement sensor. This notice will provide the Department sufficient time to disconnect the appropriate cables to de-energize the existing pavement sensor.

The existing pavement sensor can be abandoned in place, removed as part of a pavement repair or removed during planing operations as indicated in the plans or as directed by the Project Engineer.

There are no additional costs related to the abandonment of the existing pavement sensor. Removal effort and cost as part of a pavement repair or planing operations will be incidental to that item of work.

Item Special – Misc.: Roadway Mounted Pavement Sensor, Furnished and Installed

This item shall include the furnishing and installation of one (1) VX21-2 Roadway Mounted Pavement Sensor as well as any adjustments or calibration necessary to insure that the sensor is fully functional, communicates with the RPU and operates according to the manufacturer specifications.

The Project Engineer shall contact the Roadway Services Engineer (216-584-2156) five (5) working days prior to the installation of the new pavement sensor. This notice will provide the Department sufficient time to mark the exact location for the new sensor.

Maintenance of traffic for pavement sensor installation shall be done in accordance with the requirements of this plan, Item 614 – Maintaining Traffic and the OMUTCD.

All materials and installation methods shall conform to the manufacturer specifications. The Distributor for these sensors in Ohio is:

M.H. Corbin Inc.
8355 Rausch Drive
Plain City, OH 43064
(800-380-1718 or 614-873-5216)

Item Special – Misc.: Installation of Roadway Weather Information System Sensor (VX21-2) ..... 1 Each

Longitudinal Joints (Flexible Pavement)

Longitudinal joints between a pavement lane and adjoining berm or speed change lane, and between a speed change lane and the adjoining berm shall be made the same day. All longitudinal joints shall be hot with the exception of one cold joint per roadway. Longitudinal joint locations shall be as approved by the Engineer. Each ramp shall have only one longitudinal cold joint located approximately halfway across the ramp.

The following estimated quantity is carried to the General Summary to be used as outlined above.

Item 875 – Longitudinal Joint Adhesive ..... 4440 Lb

Item - Special Tack Coat, Trackless Tack

Item - Special Tack Coat, Trackless Tack, For Intermediate Course

Description: this work consists of preparing and treating a paved surface with a trackless tack asphalt emulsion.

Furnish materials according to the Department's approved list.

Meet all requirements of Item 407 Tack Coat in the Construction and Materials Specifications required by the contract, except as noted below.

Material: Meet all properties of the approved manufacturer's trackless tack specification requirements on file with the laboratory at time of placement.

Acceptance and sampling of materials: Supply certified test data to the Engineer and to the District laboratory demonstrating the trackless tack supplied was tested for and meets all material properties shown on the Department's approved list.

During construction, ODOT personnel will sample from the distributor and supply to the district test lab a minimum of one quart of trackless tack for every 25,000 gallons used on the project. the contractor is responsible for supplying the proper plastic quart sampling container. Clearly mark on the sample with the manufacturer's name, project number, and the words "trackless tack".

Equipment: Follow manufacturer's recommendations for correct distributor settings. thoroughly clean all equipment if previously used material charge is different than the proposed material.

Application of asphalt material: Uniformly apply the trackless tack with a distributor according to the manufacturer's instructions. If trackless tack is stored for an extended period of time, prior to application, agitate or gently circulate the material.

Ensure all nozzles and spray patterns are identical to one another along the distributor spray bar. place the angle of the nozzle at a 15 to 30 degree angle to the spray bar axis to maximize overlap or as recommended by the nozzle manufacturer. Contact the manufacturer's representative for required spray nozzle size and distributor and nozzle settings.

Apply at a rate of 0.04 to 0.1 gallons per square yard. Do not dilute trackless tack. recommended application temperature is 160 °f to 180 °f. Do not exceed 180 °f. the Engineer will approve the quantity, rate of application, temperature, distributor settings, and areas to be treated before application of the trackless tack coat. The Engineer will determine the actual application in gallons per square yard by a check on the project.

Performance of trackless tack: Determine the time to set for the material to become trackless. The Engineer will report any issues with excessive time to set, or after set issues with stickiness, or pickup of the tack to the District testing Engineer and new product engineer, Brad Young 614-351-2882.

If the certified test data fails to meet the lab testing criteria, or field samples fail to meet the lab test criteria, or the trackless tack fails to perform satisfactorily in the field, as noted above, the contractor will be required to replace and supply another approved trackless tack product for the remainder of the project at no additional cost to the Department.

Any failing trackless tack product will be removed from the Department's approved list.

Traffic Control

Item Special – Misc.: Inventory Existing Pavement Markings

Prior to planing and paving operations, the Contractor is responsible for conducting a field survey of the existing permanent markings excluding center line markings. This inventory shall be used for the placement of temporary markings and proposed final pavement markings. It is the intent of this plan to replace the pavement markings in the same location as the existing pavement markings excluding center line markings. Any staking or marking required to establish control points to ensure that markings are accurately placed is the responsibility of the Contractor.

The field survey shall be provided to the Engineer at least two weeks prior to the disturbance of the existing pavement markings for verification and approval. The Engineer will provide written concurrence once the inventory has been approved. The Engineer will also verify all permanent marking locations prior to the actual installation.

The Contractor must lay out all center lines using the most recent copy of the No Passing Zone log. Copies of the No Passing Zone log can be obtained from the District 12 Roadway Services Department or can be found on the web at: http://www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/NoPassingZones.aspx

Install transverse lines at the spacing indicated on SCD TC-71.10.

The following quantity has been carried to the General Summary to be used as directed by the Engineer:

Item Special – Misc.: Inventory Existing Pavement Markings ..... **Lump Sum**

Item 620 – Removal of Delineator
Item 620 – Delineator, Post Mounted

The following estimated quantities have been carried to the General Summary for use at locations identified by the engineer for the replacement of post mounted delineators.

Install delineators 2'-6" from the edge of pavement at a spacing of 400 feet center to center.

Item 620 – Removal of Delineator ..... **89 Each**
Item 620 – Delineator, Post Mounted ..... **89 Each**

Maintenance of Traffic

Item 614 – Maintaining Traffic

Generally the Contractor shall conduct his operations as to complete the proposed improvement with a minimum of hazard, delay and inconvenience to the motorists using the highway affected by the work done under this contract. In addition to the construction and material specifications, the following specific provisions are mandatory.

I. Notification

Since functional traffic control is a major concern on this project, it is essential that the motoring public be adequately forewarned of future lane closures and traffic constrictions. Therefore, the Contractor shall submit a written schedule to the Engineer, responsible law enforcement agencies, and the ODOT Public Information Office (216-584-2007) indicating the locations and dates of the lane closures at least 3 days prior to the implementation of any such closures.

Use portable changeable message signs to alert motorists 3 days prior to the implementation of any changes such as lane closures or other restrictions.

II. Work Hours

The Contractor is not permitted to work at night. Limit work hours to daylight hours between 7:00 AM and 9:00 PM, Monday through Friday or between 8:30 AM and 7:00 PM on Saturday and Sunday.

III. Lane Closure, Planing and Paving Restrictions

1. All closures shall be in accordance with the applicable Standard Construction Drawing(s).
2. All through traffic lanes shall be kept open at all times except during hours of construction.
3. Pedestrian traffic shall be permitted and accommodated on at least one side at all times.

Notwithstanding the above, no lane closures shall occur during the period beginning at 12:00 noon on the day preceding and continuing until noon on the following legal holidays and holiday weekends such as Memorial Day, Fourth of July and Labor Day. Furthermore, no lane closures shall be implemented or in place during increased traffic volumes caused by special events or when the Engineer deems the climatological conditions too hazardous.

IV. Maintenance of Traffic Systems

A. When Required

Whenever any part of the traveled surface is being worked upon or is otherwise not suitable for safe and convenient use by vehicles, traffic control devices sufficient to protect such areas to assure the safe and convenient passage of vehicular traffic shall be installed and maintained. Such traffic control devices and the manner in which they are used shall be consistent with these plans and the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, hereinafter referred to as the OMUTCD. The traffic control device system shall constitute the minimum provisions for traffic control for each particular situation. Whenever the Engineer deems it necessary especially where a grade, curve, or merge conditions exists, he may direct that additional or alternative devices be used.

B. Conditions

During all parts of this project, flaggers, signing, barricades, flashing arrows, etc. shall be located as indicated in the OMUTCD or as shown in the Standard Construction Drawings. Two-way traffic shall be maintained at all times.

C. Advance Warning Signs

All advance warning signs for any condition which restricts traffic shall be erected before any such restriction is put into effect. All such signs shall be covered or removed from the view of traffic whenever they are not applicable.

D. Flashing Arrow Requirement

Whenever any part of the traveled surface is closed, the motorists shall be warned and directed by the Contractor through the use of one flashing arrow for each lane closed. Additionally, the provisions set forth in the OMUTCD and the applicable Standard Construction Drawings shall be met.

E. Flaggers and Law Enforcement Officers

At least two flaggers are required for each closure. The Contractor shall furnish additional flaggers as directed by the Engineer. Law Enforcement Officers (LEO's) shall be required for traffic direction only under the following circumstances: (1) if signals are non-operational, or (2) if traffic must move against signal phasing.

F. Protection of Public

Personal cars shall not be parked within the R/W.

G. Failure to Comply

If there is any failure to comply with provisions for traffic control set out in these plans and notes, or with the provisions of the OMUTCD, the highway in the vicinity of the work area shall not be considered in a condition for the safe and convenient use by the traveling public. Any failure to keep the highway, in the vicinity of the work area, in a condition for the safe and convenient use by the traveling public shall be considered a breach of this contract. Work shall be suspended until the Contractor complies with the provisions of the aforementioned items.

V. Maintenance of Traffic Materials

A. Signs

Sign dimensions and specifications, including letter sizes, shall be as provided in the OMUTCD or in design drawings provided by the Department of Transportation. The signs shall be subject to approval of the Engineer prior to the start of the project.

B. Sign Supports

Sign supports shall be of sufficient size and mass as to support the signs at the appropriate height. Supports shall be as shown on the Standard Construction Drawings.

C. Flashing Arrows

Whenever any part of the traveled surface is closed, the motorist shall be warned and diverted by the Contractor through the use of one flashing arrow barricade for each lane closed. The Contractor shall refer to Supplemental Specification 821 and 921 and the provisions set forth in the OMUTCD for all information regarding furnishing, maintaining, and use of flashing arrow barricades. Payment for the above shall be included in the lump sum bid for Item 614 – Maintaining Traffic.

D. Drums

Drums shall be in accordance with pertinent sections of the OMUTCD. All costs for installing, maintaining and subsequent removal of said drums shall be included in the lump sum bid price for Item 614 – Maintaining Traffic.

E. Cones

Cones, if utilized, shall be located as shown in the OMUTCD and the Standard Construction Drawings.

F. Flashers

Flashers shall be 12 volt battery-operated models with 7 inch diameter yellow lenses illuminated by rapid intermittent flashers of short duration and shall be placed on all signs at all times as required by the OMUTCD and the Standard Construction Drawings.

VI. Payment

Payment for providing, erecting, maintaining and removing temporary maintenance of traffic control devices shall be made under the lump sum price bid for Item 614 – Maintaining Traffic.

Lanes Open During Holidays or Special Events

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or events:

Christmas	New Years	Mother's Day
Memorial Day	Fourth of July	Easter
Labor Day	Thanksgiving	

The period of time that the lanes are to be open depends on the day of the week on which the holiday or event falls. The following schedule shall be used to determine this period:

Day of the Week	Times All Lanes Must Be Open to Traffic
Sunday	12:00 Noon Friday through 12:00 Noon Monday
Monday	12:00 Noon Friday through 12:00 Noon Tuesday
Tuesday	12:00 Noon Monday through 12:00 Noon Wednesday
Wednesday	12:00 Noon Tuesday through 12:00 Noon Thursday
Thursday	12:00 Noon Wednesday through 12:00 Noon Monday
Friday	12:00 Noon Thursday through 12:00 Noon Monday
Saturday	12:00 Noon Friday through 12:00 Noon Monday

No extensions of time shall be granted for delays in material deliveries, unless such delays are industry-wide, or for labor strikes, unless such strikes are area-wide.

Should the Contractor fail to meet any of these requirements, the Contractor shall be assessed a disincentive in the amount of $50 for each minute the above described lane closure restrictions are violated.

Suspension of Work

If the Contractor fails to comply with the provisions for traffic control as set forth in these plans or with provisions of the OMUTCD, the Engineer shall suspend work until the Contractor complies with the necessary requirements.

Maintenance of Traffic Control Zones

The Contractor shall be responsible to maintain the signs, drums and temporary pavement markings at the locations detailed in the plans or specified in the Standard Drawings. When the Contractor is notified of deficiencies he shall correct the deficiencies as soon as possible, preferably within 12 hours and no later than 24 hours.

Construction Traffic

All construction traffic shall use acceptable truck routes to access the construction area. Use of local residential streets is strictly prohibited unless allowed in writing by the local enforcement authority.

Contractor's Equipment – Operation and Storage

Vehicles and equipment shall always move with, and not across or against the flow of traffic. Vehicles and other equipment shall not park or stop except within designated work areas; and shall not enter and leave work areas in a manner which will be hazardous to, or interfere with the normal traffic flow. Personal vehicles will not be permitted to park within the right-of-way except in specific areas designated by the Engineer.

Equipment, vehicles and materials shall not be stored or parked within 30 feet of the traveled way unless 6 feet behind PCB or guardrail.

All work vehicles and equipment that enters the work zone more than once a day must be equipped with at least one flashing, rotating, or oscillating amber light that is visible in all directions of traffic for at least one quarter of a mile, day or night.

Alternate Methods

If the Contractor so elects, he may submit alternate methods for the maintenance of traffic, provided the intent of the provisions is followed and no additional inconvenience to the traveling public results there from. No alternate plan shall be placed into effect until approval has been granted in writing, by the Director.

All items proposed for use under these provisions must comply with current Department standards for their use when the plan detail, Standard Construction Drawing or other bid document governing their use is not provided as part of the bid package.

Work Zone Markings

The following estimated quantities have been carried to the General Summary for use at locations identified by the Engineer for work zone pavement markings per the requirements of CMS 614.04 and 614.11. Place temporary markings at the same locations as the proposed permanent markings.

After the planing is completed, and again after the intermediate course is completed (2 applications total), use the following temporary markings:

Item 614 – Work Zone Center Line, Class I, 642 Paint..... **6.73 Mile**
Item 614 – Work Zone Edge Line, Class I, 642 Paint..... **13.45 Mile**
Item 614 – Work Zone Stop Line, Class I, 642 Paint..... **224 Ft**

After the surface course is placed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class III, 642 Paint..... **3.36 Mile**
Item 614 – Work Zone Edge Line, Class III, 642 Paint..... **6.73 Mile**
Item 614 – Work Zone Stop Line, Class III, 642 Paint..... **112 Ft**

Permanent Pavement Markings

After placing the surface course, the Contractor may place permanent pavement markings instead of placing work zone pavement markings, which shall be non-performed at these locations.

Major Work Items

The following major work items will require traffic maintenance which shall be incorporated into the Contractor's sequence of operations.

A. Removal of existing RPMs
B. Planing of asphalt concrete
C. Completion of pavement repairs
D. Adjustment/reconstruction of existing castings
E. Placing of asphalt concrete
F. Guardrail Replacement
G. Placing proposed pavement markings and raised pavement markers

Maintaining Traffic and Sequence of Operations

All asphalt concrete operations shall be conducted in a manner that will assure minimum danger and inconvenience to highway users. The procedure for the removal or placement of any existing or proposed asphalt course shall be such that no greater than 1-1/2" discontinuity in the elevation of the travelled surface shall be exposed to traffic.

Traffic shall not be permitted to cross any partial-width removal or resurfacing joint during the actual removal or paving operation except as necessary. Any partial-width longitudinal joints which must be exposed to traffic shall be ramped using Item 614 – Asphalt Concrete for Maintaining Traffic at a rate not steeper than 6:1.

Temporary transverse removal or paving joints which must be exposed to traffic shall be ramped using Item 614 – Asphalt Concrete for Maintaining Traffic as a rate not to exceed 1" in 10'.

For removal of existing overlays, a transition may be planed into the existing overlay and may be substituted for the asphalt ramps previously described, provided the transition is removed in a subsequent operation within 24 hours.

Whenever traffic is subject to partial width removals or overlays prior to full width completion, the Contractor shall provide W8-11-48 "UNEVEN LANES" signs (dual sign installation). Placement shall be as directed by the Engineer and included in the lump sum payment for Item 614 – Maintaining Traffic.

Whenever any part of the traveled surface is closed, the motorists shall be warned and diverted by the Contractor through the use of a flashing arrow, in addition to those provisions set forth in the OMUTCD, the Traffic Engineering Manual and the applicable Standard Construction Drawings.

Continuous Access

The Contractor shall maintain safe and adequate driveways and walkways in order to provide continuous access for pedestrians, passenger vehicles, trucks, and safety equipment to all adjoining properties

The cost for all materials, equipment, and labor necessary to provide continuous access shall be included in the lump sum price for Item 614 – Maintaining Traffic.

Item 614 – Asphalt Concrete for Maintaining Traffic

This item shall be used to install and remove temporary asphalt ramps at butt joints, and drainage/utility castings, where required. Material shall be removed prior to the placement of the next course of asphalt. The following estimated quantity has been carried to the general summary to accomplish this item of work.

Item 614 – Asphalt Concrete for Maintaining Traffic..... **50 Cu Yd**

Covering of Ground-Mounted Signs – General

When required by other items or incidentally to Item 614 – Maintaining Traffic, cover existing ground-mounted signs with plywood or OSB blanks (1/2" minimum thickness) covering 80% of the sign area and all of the sign legend. The use of low quality materials such as duct tape and black plastic is not permitted.

Surface Condition Signs

Erect a GROOVED PAVEMENT sign (W8-H15) 250 feet (75 m) in advance of any section of roadway where traffic must travel on a planed surface. Ensure these signs are in place before opening the roadway to traffic. Erect these signs on each entrance ramp and at intersections of through routes to warn traffic of this surface condition. Payment shall be made under the lump sum bid price for Item 614 – Maintaining Traffic

Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer

When additional signing is needed to maintain traffic, the Contractor shall furnish the sign or signs as directed by the Engineer. These signs shall be ground mounted and meet all the specifications of the plan, proposal and current year CMS.

Payment for this item shall include, but not be limited to, the cost to furnish and erect the sign, including driving posts or other approved methods of sign support, maintaining the sign and removal of the sign. The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer..... **300 Sq Ft**

Item 614 – Law Enforcement Officer (With Patrol Car) For Assistance

Use of law enforcement officers (LEOs) by Contractors other than the uses specified below will not be permitted at project cost. LEOs should not be used where the OMUTCD intends that flaggers be used.

In addition to the requirements of CMS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) shall be provided for the following traffic control tasks:

- During the entire advance preparation and closure sequence where complete blockage of traffic is required.
- During a traffic signal installation when impacting the normal function of the signal or the flow of traffic or when traffic needs to be directed through an energized traffic signal contrary to the signal display (e.g., directing motorists through a red light).

In addition to the requirement of CMS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) may be provided for the following traffic control tasks as determined and pre-approved by the engineer. Any LEO hours which are not pre-approved for the following purposes shall not be compensable:

- For lane closures: during initial set-up periods, tear down periods, substantial shifts of a closure point or when new lane closure arrangements are initiated for long-term lane closures/shifts (for the first and last day of major changes in traffic control setup). In general, LEOs should be positioned at the point of lane restriction or road closure and to manually control traffic movements through intersections in work zones.
- When construction vehicles are entering/exiting the zone directly from/into an open lane of traffic. If a lane has been closed to provide an acceleration/deceleration lane for the vehicle, the LEO will not be required.

LEOs should not forgo their traffic control responsibilities to apprehend motorists for routine traffic violations. However, if a motorist's actions are considered to be reckless, then pursuit of the motorist is appropriate.

The LEOs work at the direction of the Contractor. The Contractor is responsible for securing the services of the LEOs with the appropriate agencies and communicating the intentions of the plans with respect to duties of the LEOs. The Engineer shall have final control over the LEOs' duties and placement, and will resolve any issues that may arise between the two parties.

The LEO should report in to the Contractor prior to the start of the shift, in order to receive instructions regarding specific work assignments during his/her shift. The LEO is expected to stay at the project site for the entire duration of his/her shift. The LEO shall report to the Contractor at the end of his/her shift. Once the LEO has completed the duties described above and still has time remaining on his/her shift, the LEO may be asked to patrol through the work zone (with flashing lights off) or be placed at a location to deter motorists from speeding. Should it be necessary to leave the project site, the LEO shall notify the Engineer. The Contractor shall provide the LEO with a two-way communication device which shall be returned to the Contractor at the end of his/her shift.

LEOs with patrol car required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614, Law Enforcement Officer with Patrol Car for Assistance. The following estimated quantity has been carried to the General Summary.

Item 614 – Law Enforcement Officer
with Patrol Car for Assistance..... **40 Hours**

The hours paid shall include any minimum show-up time required by the law enforcement agency involved.

Any additional costs (administrative or otherwise) incurred by the Contractor to obtain the services of an LEO are included with the bid unit price for Item 614, Law Enforcement Officer with Patrol Car for Assistance.

Item 614 – Portable Changeable Message Signs, As Per Plan

The Contractor shall furnish, install, maintain and remove, when no longer needed, a changeable message sign, on site, for the duration of the project. The sign shall be of a type shown on a list of approved PCMS units maintained by the Director (Office of Materials Management). The Approved List of Portable Changeable Message Signs can be found on the ODOT website by clicking on the SERVICES menu, then clicking on Materials Management. The list contains Class A and B units with minimum legibility distances of 650 ft. and 475 ft., respectively.

Each sign shall be trailer-mounted and equipped with a functional dimming mechanism, to dim the sign during darkness, and a tamper and vandal proof enclosure. Each sign shall be provided with appropriate training and operation instructions to enable on-site personnel to operate and troubleshoot the unit. The sign shall also be capable of being powered by an electrical service drop from a local utility company. PCMS trailers shall be delineated on a permanent basis by affixing conspicuity tape conforming to CMS 614.03, in a continuous line on the face of the trailer as seen by oncoming road users.

Placement, operation, maintenance and all activation of the signs by the Contractor shall be as directed by the Engineer. The PCMS shall be located in a highly visible position yet protected from traffic. The Contractor shall, at the direction of the Engineer, relocate the PCMS to improve visibility or accommodate changed conditions. When not in use, the PCMS shall be turned off. Additionally, when not in use for extended periods of time, the PCMS shall be turned, facing away from all traffic, and shall display one or more Type G yellow retroreflective sheeting surfaces of 9-inch by 15-inch minimum size facing traffic.

The Engineer shall be provided access to each sign unit and shall be provided with appropriate training and operation instructions to enable ODOT personnel to operate and troubleshoot the unit, and to revise sign messages, if necessary.

All messages to be displayed on the sign will be provided by the Engineer. A list of all required pre-programmed messages will be given to the Contractor at the project preconstruction conference. The sign shall have the capability to store up to 99 messages. Message memory or pre-programmed displays shall not be lost as a result of power failures to the on-board computer. The sign legend shall be capable of being changed in the field. Three-line presentation formats with up to six message phases shall be supported. PCMS format shall permit the complete message for each phase to be read at least twice.

The PCMS shall contain an accurate clock and programming logic which will allow the sign to be activated, deactivated or messages changed automatically at different times of the day for different days of the week.

The PCMS unit shall be maintained in good working order by the Contractor in accordance with the provisions of CMS 614.07. The Contractor shall, prior to activating the unit, make arrangements, with an authorized service agent for the PCMS, to assure prompt service in the event of failure. Any failure shall not result in the sign being out of service for more than 12 hours, including weekends. Failure to comply may result in an order to stop work and open all traffic lanes and/or in the Department taking appropriate action to safely control traffic. The entire cost to control traffic, accrued by the Department due to the Contractor's noncompliance, will be deducted from moneys due, or to become due the Contractor on his or her contract.

The Contractor shall be responsible for 24-hour-per-day operation and maintenance of these signs on the project for the duration of the phases when the plan requires their use.

For this project, 2 PCMS Signs will be required for a total of 60 days each.

Payment for the above described item shall be at the contract unit price. Payment shall include all labor, materials, equipment, fuels, lubricating oils, software, hardware and incidentals to perform the above described work. The Contractor shall only be paid for PCMS units when they are in operation on the project as specified in the plans or by the Engineer.

Item 614 – Portable Changeable Message Sign,
As Per Plan ..... **120 Days**

Work Zone Traffic Supervisor

Subject to the approval of the Engineer, the Contractor shall employ and identify, a certified Worksite Traffic Supervisor (WTS) before starting work in the field. The WTS shall be certified from one of the following organizations:

1. American Traffic Safety Service Association (ATSSA), 1-877-642-4637, http://www.ATSSA.com/trainingcertification.aspx
Certified Traffic Control Supervisor (TCS).

2. National Highway Institute, Design and Operation of Work Zone Traffic, 1-877-558-6873. http://www.nhi.fhwa.dot.gov/training/course_search.aspx

3. The Ohio Contractors Association, Traffic Control Supervisor (OCA/TCS) Work Zone Class, only if taken after May 5, 2004, 1-800-229-1388. http://www.ohioContractors.org/default.aspx

4. Ohio Laborers' Training, Traffic Control Supervisors Class, 1-800-635-7570. http://www.ohiolaborerstraining.com/adv.htm

The WTS position is established for the purpose of supervising the installation of the work zone, monitoring it and correcting any deficiencies in the work zone. The WTS shall oversee all operations that affect the movement of vehicular and pedestrian traffic through the work zone.

The WTS shall be present when the Contractor or Subcontractor installs a traffic restriction, lane closure, etc. In lieu of the WTS being present when a Subcontractor has a work zone in place, the Subcontractor may use his own personnel if that person is a certified WTS. The Contractor and Subcontractor must present a copy of his WTS certificate to the Project Engineer.

A WTS must be present for any closure or traffic restriction that takes place on the project.

The WTS may be a part of the working crew and must be in charge of setting up the work zone. After the work zone is in place the WTS may resume other duties not related to work zone traffic control. If the restrictions are short term, the WTS shall monitor the zone for compliance. Traffic control will be the WTS's main duty during implementation of the work zones. The WTS shall have the authority to have the deficiencies corrected as soon as possible.

The WTS shall provide the Project Engineer a sketch of the (TCP) traffic control plan every day there is to be a short term traffic restriction, lane closure etc. This TCP shall show how the work zones are to be implemented, approximate locations of the traffic control devices and what standard drawing or section from the Ohio Manual of Uniform Traffic Control Devices was referenced.

A 24-hour phone number shall be made available to the Project Engineer/supervisor in order to contact the WTS. The WTS shall have a pager and/or cell phone number provided to the Project Engineer.

Failure of the Contractor to comply with any of the above shall constitute cause for the Project Engineer / supervisor to deduct $500.00 per day from money due the Contractor not as a penalty but as a liquidated damage.

Payment for the WTS shall be included under the lump sum for Item 614 – Maintaining Traffic.

SHEET NUMBER										PARTICIPATION			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	5	6	7	9	10	14	15	16	17	01/NHS /PV								
																	ROADWAY	
	LUMP									LUMP			201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN	5
								8067		8067			202	38001	8067	FT	GUARDRAIL REMOVED, AS PER PLAN	4
								132		132			209	70000	132	CY	BORROW	
								36		36			209	15001	36	STA	RESHAPING UNDER GUARDRAIL, AS PER PLAN	4
						6.73				6.73			209	72051	6.73	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	4
								2875		2875			606	15050	2875	FT	GUARDRAIL, TYPE MGS	
								13		13			606	26150	13	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
								3		3			606	26550	3	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
	3									3			623	39501	3	EACH	MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	5
	1									1			623	39600	1	EACH	MONUMENT BOX RECONSTRUCTED TO GRADE	
								43		43			626	00100	43	EACH	BARRIER REFLECTOR	
																	EROSION CONTROL	
										1000			832	30000	1000	EACH	EROSION CONTROL	
																	DRAINAGE	
									50	50			202	32600	50	FT	GUTTER REMOVED	
									5	5			202	58100	5	EACH	CATCH BASIN REMOVED	
									172	172			202	70120	172	FT	SPECIAL - PIPE CLEANOUT, 27" TO 48"	5
									35	35			203	20001	35	CY	EMBANKMENT, AS PER PLAN	5
									632	632			209	10001	632	FT	DITCH CLEANOUT, AS PER PLAN	5
									50	50			601	37500	50	FT	PAVED GUTTER, TYPE 1-2	
									10	10			611	05700	10	FT	15" CONDUIT, TYPE A, 706.02	
									20	20			611	07200	20	FT	18" CONDUIT, TYPE A, 706.02	
									10	10			611	10200	10	FT	24" CONDUIT, TYPE A, 706.02	
									10	10			611	19200	10	FT	42" CONDUIT, TYPE A, 706.02	
									3	3			611	98450	3	EACH	CATCH BASIN, NO. 2-2A	
									1	1			611	98510	1	EACH	CATCH BASIN, NO. 2-3	
									1	1			611	98540	1	EACH	CATCH BASIN, NO. 2-4	
																	PAVEMENT	
		300								300			251	01000	300	SY	PARTIAL DEPTH PAVEMENT REPAIR	
		1100								1100			253	02001	1100	CY	PAVEMENT REPAIR, AS PER PLAN	6
						3561				3561			254	01001	3561	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, VARIABLE	6
						63424				63424			254	01001	63424	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 3/4"	6
		50								50			304	20000	50	CY	AGGREGATE BASE	
						5030				5030			SPECIAL	40720500	5030	GAL	TACK COAT, TRACKLESS TACK	7
						2679				2679			SPECIAL	40720510	2679	GAL	TACK COAT, TRACKLESS TACK FOR INTERMEDIATE COURSE	7
						269				269			424	12001	269	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN "A"	6
						269				269			424	12001	269	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN "B"	6
						1980				1980			441	10101	1980	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN	6
						148				148			441	50101	148	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN	6
						1861				1861			441	50200	1861	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)	
						3				3			441	50400	3	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS)	
								134		134			441	50701	134	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN	4
		20				438				458			617	10101	458	CY	COMPACTED AGGREGATE, AS PER PLAN	6
			1							1			SPECIAL	69098000	1	EACH	MISC.:INSTALLATION OF ROADWAY WEATHER INFORMATION SYSTEM SENSOR (VX21-2)	7
			4440							4440			875	10000	4440	LB	LONGITUDINAL JOINT ADHESIVE	7

CALCULATED JGM CHECKED ---

General Summary

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SHEET NUMBER										PARTICIPATION			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	5	6	7	9	10	14	15	16	17	01/NHS /PV								
																	TRAFFIC CONTROL	
							222			222			621	00100	222	EACH	RPM	
							222			222			621	54000	222	EACH	RAISED PAVEMENT MARKER REMOVED	
			89							89			620	00500	89	EACH	DELINEATOR, POST MOUNTED	
			89							89			620	31200	89	EACH	REMOVAL OF DELINEATOR	
				300						300			630	97800	300	SF	SIGNING, MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	9
							6.73			6.73			646	10000	6.73	MILE	EDGE LINE, 4"	
							3.36			3.36			646	10200	3.36	MILE	CENTER LINE	
							112			112			646	10400	112	FT	STOP LINE	
			LUMP							LUMP			SPECIAL	69098400	LS		MISC.: INVENTORY EXISTNG PAVEMENT MARKINGS	7
																	MAINTENANCE OF TRAFFIC	
					40					40			614	11110	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
				50						50			614	13000	50	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
					120					120			614	18401	120	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	10
				6.73						6.73			614	21100	6.73	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
				13.45						13.45			614	22100	13.45	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	
				224						224			614	26200	224	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
				3.36						3.36			614	21550	3.36	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
				6.73						6.73			614	22350	6.73	MILE	WORK ZONE EDGE LINE, CLASS III, 642 PAINT	
				112						112			614	26610	112	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
																	INCIDENTALS	
										LUMP			614	11000	LS		MAINTAINING TRAFFIC	
6										6			619	16011	6	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	3
										LUMP			623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
										LUMP			624	10000	LS		MOBILIZATION	

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General Summary

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		STATION TO STATION		LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	209		254			407		424		441				617	
									Preparing Subgrade for Shoulder Paving, As Per Plan		Pavement Planing, Asphalt Concrete, 3/4"	Pavement Planing, Asphalt Concrete, As Per Plan, Variable		Tack Coat, Trackless Tack	Tack Coat, Trackless Tack For Intermediate Course	Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan "A", 1"	Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan "B", 1"	Asphalt Concrete, Surface Course, Type 1, (446), As Per Plan, 1-1/2"	Asphalt Concrete, Intermediate Course, Type 1, (446), 1"	Asphalt Concrete, Surface Course, Type 1, (448), (Driveways), 1" Avg.	Asphalt Concrete Surface Course, Type 1, (448), As Per Plan, 1-1/2"	Compacted Aggregate, As Per Plan, 2" Avg.	
				FT.	FT.	FT.	FT.	SQ. YD.	MILE		SQ. YD.	SQ. YD.		GALLON	GALLON	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	
		SR-44																					
		0+00	2+10	210	56	32	44	1,027			1,027			77	41			43	29				
		2+10	65+49	6339	32	32	32	22,539			22,539			1,690	902			939	626				
		65+49	71+68	619	32	32	32	2,201			2,201			165	88			92	61				
		71+68	120+63	4895	32	32	32	17,403			17,403			1,305	696			725	483				
		120+63	126+26	564	32	32	32	2,004			2,004			150	80			84	56				
	S.B.	126+26	174+48	4822	16	16	16	8,572			8,572			643	343		238		238				
	S.B.	174+48	177+59	311	16	16	16	553			553			41	22		15		15				
	N.B.	126+26	174+48	4822	16	16	16	8,572			8,572			643	343	238			238				
	N.B.	174+48	177+59	311	16	16	16	553			553			41	22	15			15				
		SAFETY EDGE																					
		0+00	126+26	12626			0.50	701	4.78									97				312	
	S.B.	126+26	177+59	5133			0.50	285	0.97								16					63	
	N.B.	126+26	177+59	5133			0.50	285	0.97							16						63	
		INTERSECTION EXTRA AREAS																					
		Hosford Road, 68+46 LT. & RT.		VARIES			CAD AREA	1,300				1,300		98	52				36		54		
		Clark Road, 123+40 LT. & RT.		VARIES			CAD AREA	829				829		62	33				23		35		
		Colburn Road, 177+18 LT. & RT.		VARIES			CAD AREA	1,432				1,432		107	57				40		60		
		MAPLE HIGHLANDS TRAIL		5' Avg.			26.0	43						3						2			
		Driveways		5' Avg.	64	55	60	33						2						1			
SUBTOTALS									6.73		63,424	3,561		5,030	2,679	269	269	1,980	1,861	3	148	438	
TOTALS CARRIED TO GENERAL SUMMARY									6.73		63,424	3,561		5,030	2,679	269	269	1,980	1861	3	148	438	

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Pavement Subsummary

GEA-44-18.45

SHEET NO.	LOCATION	STATION FROM	STATION TO	646 Edge Line, 4", White FT.	646 Center Line FT.	646 Stop Line FT.										621 RPM (Yellow/Yellow) EACH	621 Raised Pavement Markers Removed EACH	
	SR-44																	
	Begin Project/End Project	0+00	177+59	35,518	17,759											222	222	
	INTERSECTIONS																	
	Hosford Road, 68+46 LT. & RT.					32												
	Clark Road, 123+40 LT. & RT.					32												
	Colburn Road, 177+18 LT. & RT.					48												
	SUBTOTALS			35,518	17,759	112										222	222	
	TOTALS CARRIED TO GENERAL SUMMARY			6.73 MI	3.36 MI	112										222	222	

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Traffic Control Subsummary

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REF. NO.	SHEET NO.	STATION TO STATION		DIRECTION	SIDE	202	209	209	441	606								626	REMARKS
		FROM	TO			Guardrail Removed, As Per Plan	Reshaping Under Guardrail, As Per Plan	Borrow	Asphalt Concrete Intermediate Course, Type I, (448), (Under Guardrail), As Per Plan	Guardrail, Type MGS	Anchor Assembly, MGS Type E			Anchor Assembly, MGS Type T				Barrier Reflector, Type A2	
						FT.	STA.	CU. YD.	CU. YD.	FT.	EACH			EACH				EACH	
GR-1	18	0+14	3+00	SB	LT	287.5	2.88	10.65	10.67	225	1			1				4	Connect to Existing Rail
GR-2	18	7+59	11+35	NB	RT	375													
GR-3	18, 19	19+49	24+65	NB	RT	512.5													
GR-4	18, 19	21+82	25+05	SB	LT	325	3.38	12.04	12.52	225	2							4	
GR-5	19	28+78	36+19	NB	RT	750													
GR-6	19	31+43	35+26	SB	LT	387.5	4.00	14.35	14.81	287.5	2							5	
GR-7	19	37+02	42+73	NB	RT	575													
GR-8	19, 20	46+81	51+49	NB	RT	462.5													
GR-9	20	64+60	67+66	NB	RT	312.5													
GR-10	20	66+87	68+05	SB	LT	125	1.25	4.63	4.63	62.5	1			1				2	Connect to Existing Rail
GR-11	20	68+82	69+86	NB	RT	104													
GR-12	20, 21	69+15	72+22	SB	LT	312.5	3.13	11.57	11.59	250	1			1				4	Connect to Existing Rail
GR-13	21	79+22	92+22	SB	LT	1300	13.13	48.15	48.63	1200	2							14	
GR-14	21	82+00	96+11	NB	RT	1412.5													
GR-15	24	147+67	151+84	SB	LT	412.5	4.25	15.28	15.74	312.5	2							5	
GR-16	24	147+75	151+92	NB	RT	412.5	4.25	15.28	15.74	312.5	2							5	
TOTALS CARRIED TO GENERAL SUMMARY						8067	36	132	134	2875	13			3				43	

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Guardrail Subsummary

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Drainage Subsummary

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LOCATION NO.	REF. NO.	SHEET NO.	LOCATION			SIDE	202			203	209	601	611							REMARKS
			STATION	CFN	TYPE		GUTTER REMOVED	CATCH BASIN REMOVED	SPECIAL - PIPE CLEANOUT, 27" to 48"	EMBANKMENT, AS PER PLAN	DITCH CLEANOUT, AS PER PLAN	PAVED GUTTER, TYPE 1-2	15" CONDUIT, TYPE A, 706.02	18" CONDUIT, TYPE A, 706.02	24" CONDUIT, TYPE A, 706.02	42" CONDUIT, TYPE A, 706.02	CATCH BASIN, NO. 2-24	CATCH BASIN, NO. 2-3	CATCH BASIN, NO. 2-4	
							FT.	EACH	FT.	CY	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH	EACH	
1	CB-1	26, 27	10+17.90	280441857	24" RCP	50' LT.	10	1		2		10			10		1			REPLACE WEST SIDE OF SR 44 CATCH BASIN AND PAVED GUTTER
2	CB-2	28, 29	15+10.60	280441866	18" RCP	50' LT.	10	1		2		10		10			1			REPLACE WEST SIDE OF SR 44 CATCH BASIN AND PAVED GUTTER
3	CH-1	30	22+77.90	280441882	27" RCP	84' LT.					34									CLEAN UPSTREAM (WEST SIDE OF SR 44) CHANNEL
	CH-2	30	23+27.90	280441882	27" RCP	98' RT.					120									CLEAN DOWNSTREAM (EAST SIDE OF SR 44) CHANNEL
4	CH-3	31	29+38.90	280441894	18" RCP	65' LT.				2	57									CLEAN UPSTREAM (WEST SIDE OF SR 44) CHANNEL
	CH-4	31	29+39.90	280441894	18" RCP	68' RT.					105									CLEAN DOWNSTREAM (EAST SIDE OF SR 44) CHANNEL
5	CH-5	32	32+56.90	280441901	27" RCP	89' LT.					62									CLEAN UPSTREAM (WEST SIDE OF SR 44) CHANNEL
6	CH-6	33	35+92.90	280441904	18" RCP	59' LT.					20									CLEAN UPSTREAM (WEST SIDE OF SR 44) CHANNEL
7	D-1	34	41+17.90	280441917	24" RCP	67' LT.				5	100									REALIGN WEST SIDE OF SR 44 DITCHES
8	CB-3	35	45+67.90	280441924	18" RCP	50' LT.	10	1		2		10		10				1		REPLACE WEST SIDE OF SR 44 CATCH BASIN AND PAVED GUTTER
	CH-7	35	45+67.90	280441924	18" RCP	50' RT.				5	34									CLEAN DOWNSTREAM (EAST SIDE OF SR 44) CHANNEL
9	CB-4	36, 37	67+85.40	280441966	42" RCP	80' LT.	10	1		7		10				10			1	REPLACE WEST SIDE OF SR 44 CATCH BASIN AND PAVED GUTTER
10	P-1	38, 39	86+77.90	280442002	42" RCP	CL			172											CLEAN 42" CULVERT PIPE
11	CB-5	40, 41	143+17.90	280442109	15" RCP	42' RT.	10	1		10		10	10				1			REPLACE EAST SIDE OF SR 44 CATCH BASIN AND PAVED GUTTER
	CH-8	40, 41	143+18.90	280442109	15" RCP	51' LT.					100									CLEAN DOWNSTREAM (WEST SIDE OF SR 44) CHANNEL
SUBTOTALS							50	5	172	35	632	50	10	20	10	10	3	1	1	
TOTALS CARRIED TO GENERAL SUMMARY							50	5	172	35	632	50	10	20	10	10	3	1	1	

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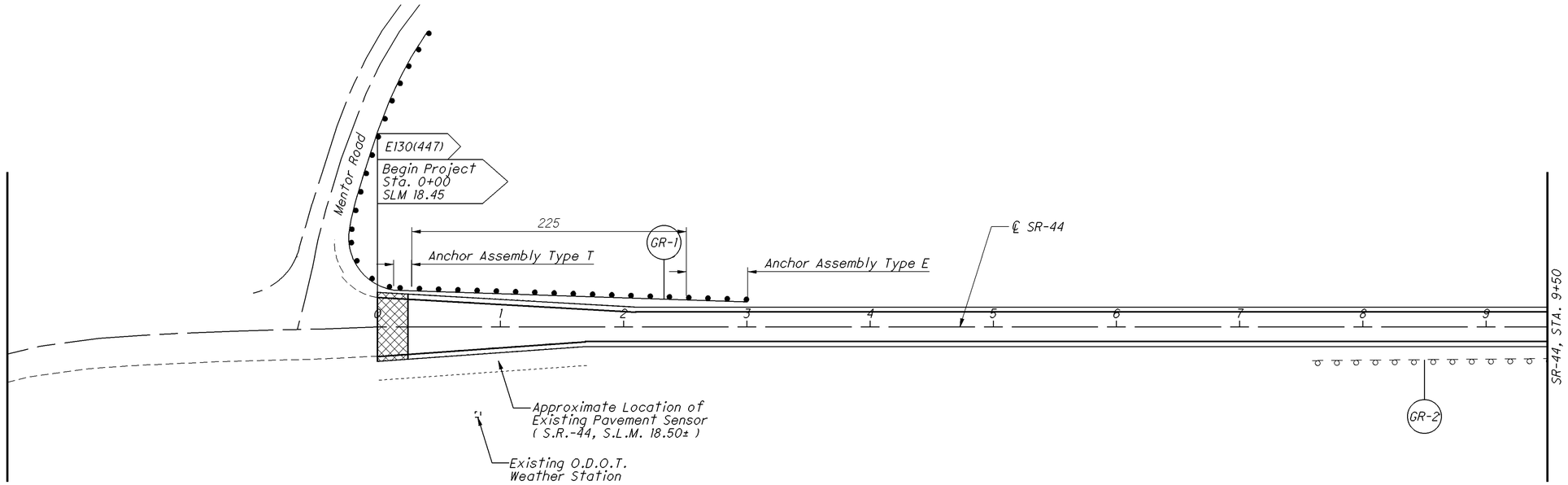

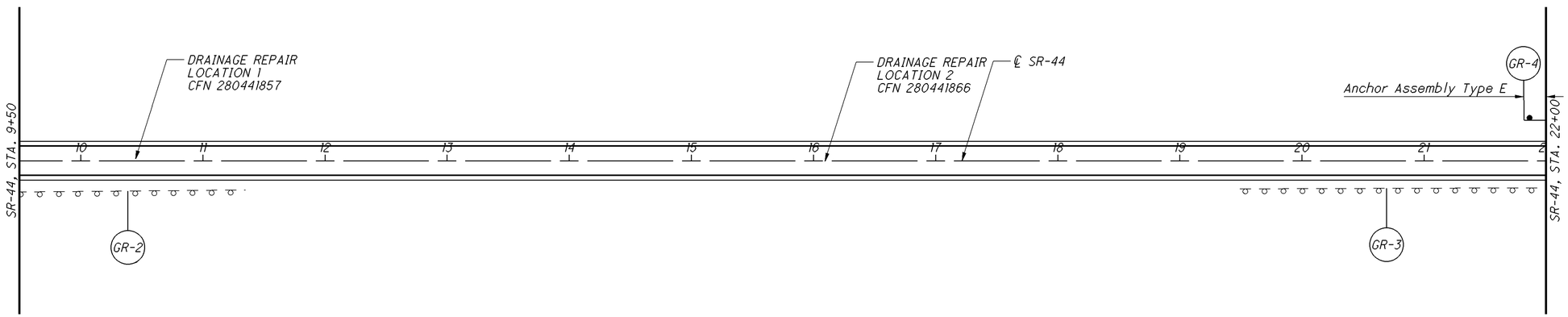

- Butt Joint Per BP-3.1

HORIZONTAL SCALE IN FEET
0 25 50 100

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General Plan Sheet
SR-44, Sta. 0+00 to Sta. 22+00

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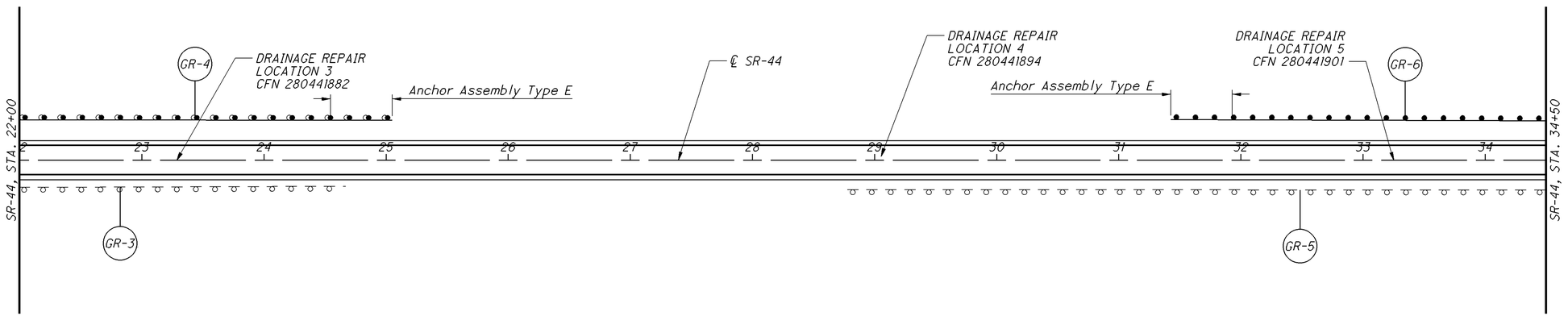

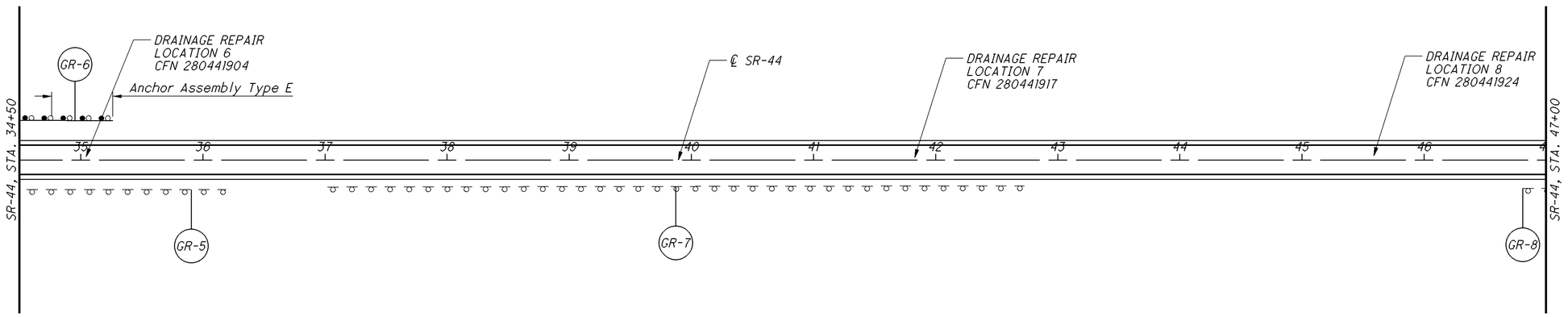

HORIZONTAL SCALE IN FEET
0 25 50 100

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General Plan Sheet
SR-44, Sta. 22+00 to Sta. 47+00

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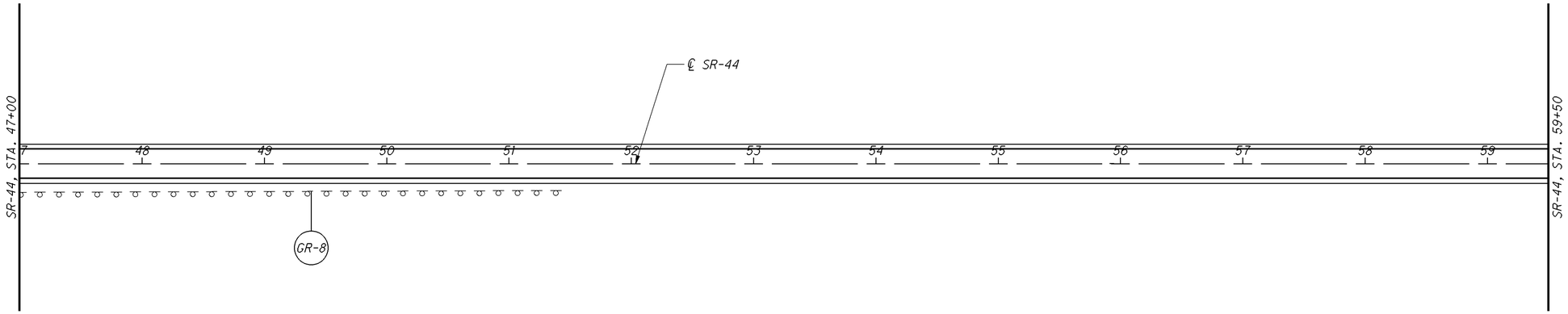

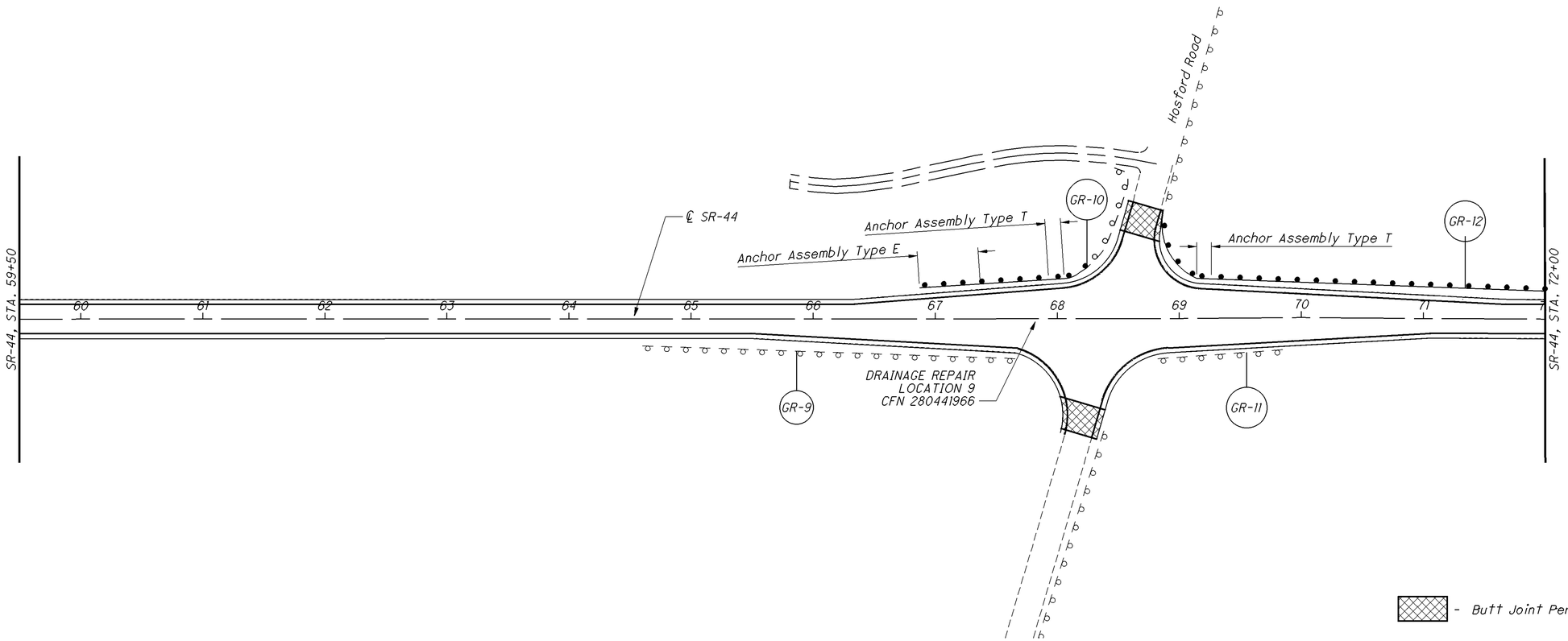

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED JGM
CHECKED

General Plan Sheet
SR-44, Sta. 47+00 to Sta. 72+00

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44

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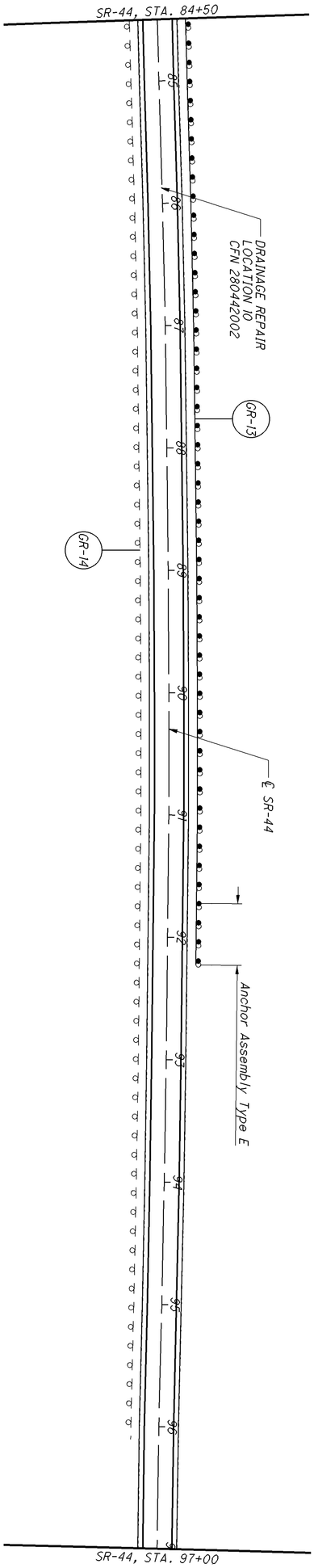
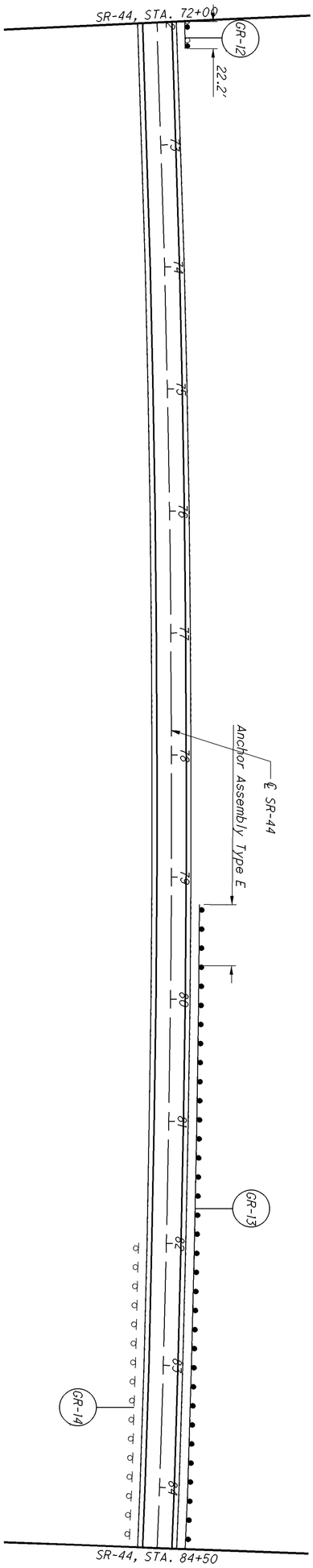
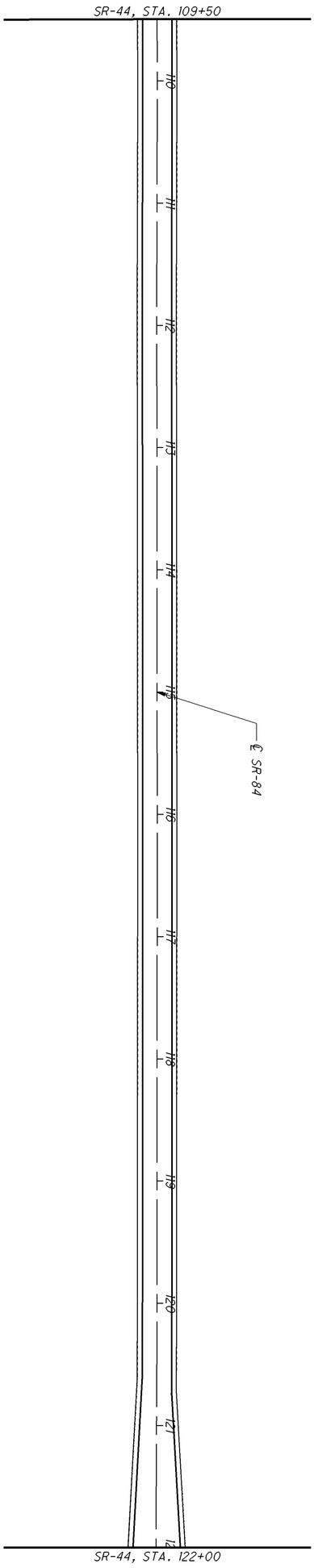
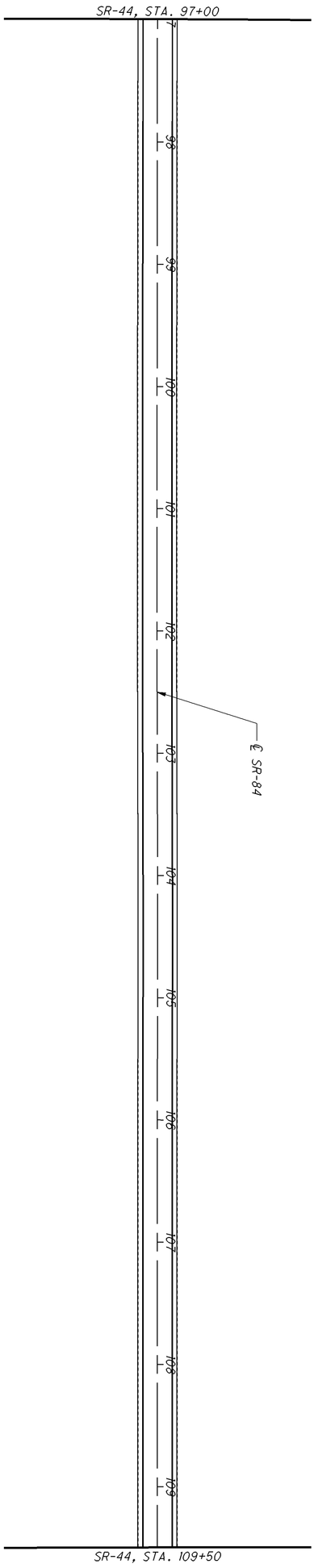




21 / 44	**GEA-44-18.45**	**General Plan Sheet** **SR-44, Sta. 72+00 to Sta. 97+00**	CALCULATED JGM CHECKED	0 50 25 100 HORIZONTAL SCALE IN FEET





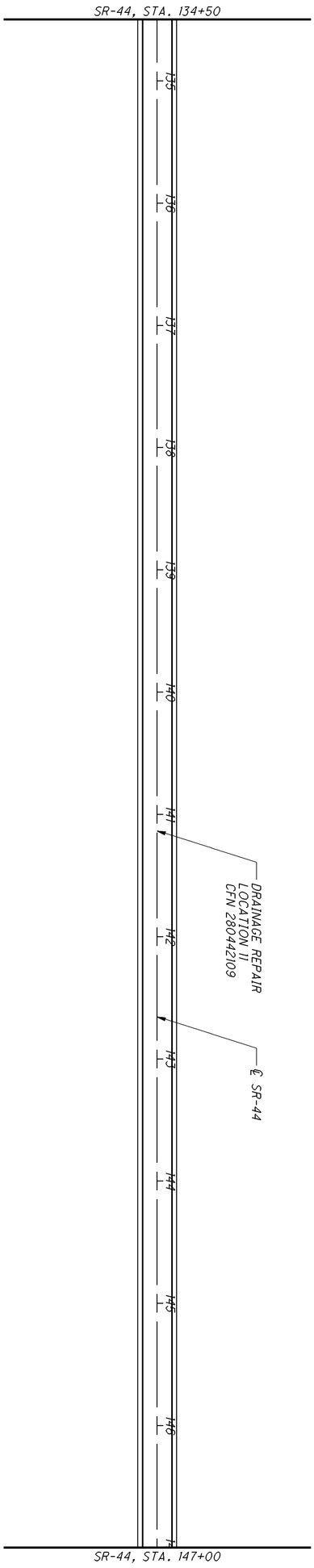
GEA-44-18.45

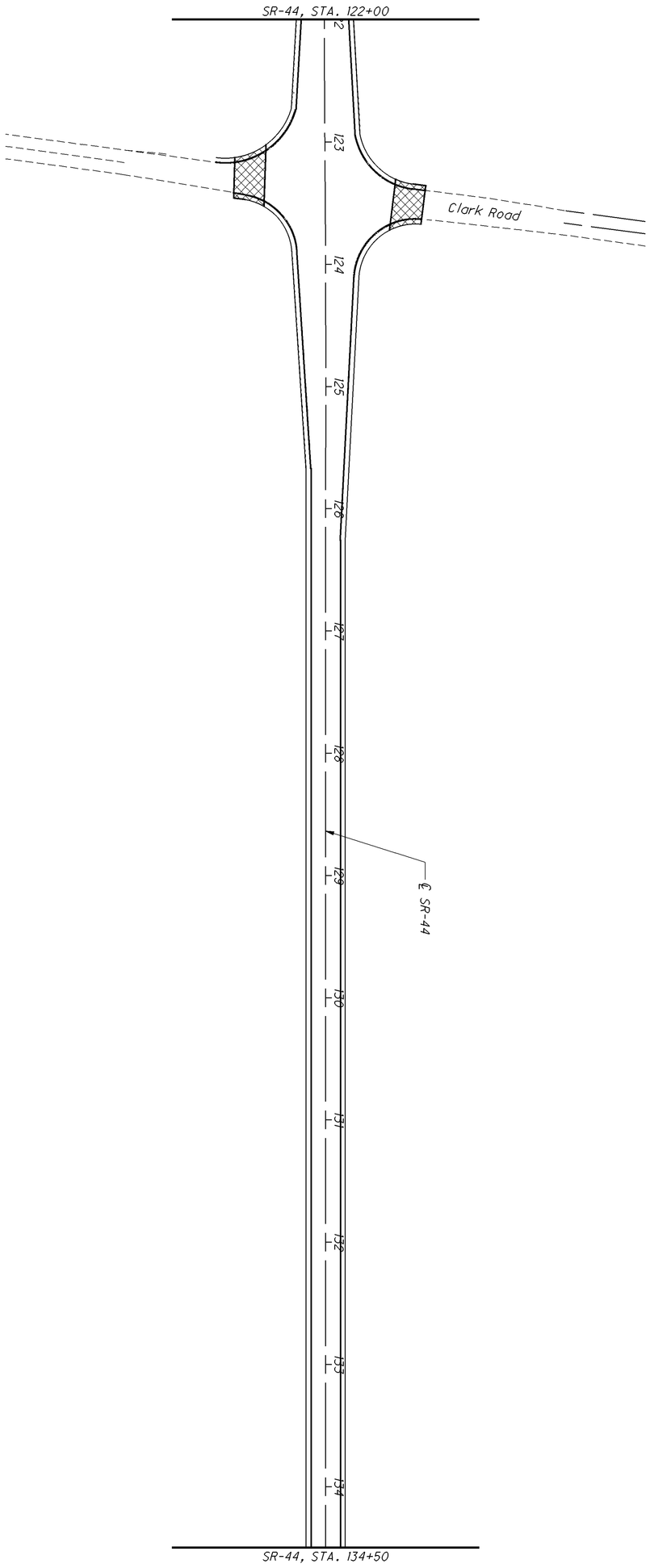
General Plan Sheet
SR-44, Sta. 97+00 to Sta. 122+00

CALCULATED JGM
CHECKED

0 50
25 100
HORIZONTAL SCALE IN FEET

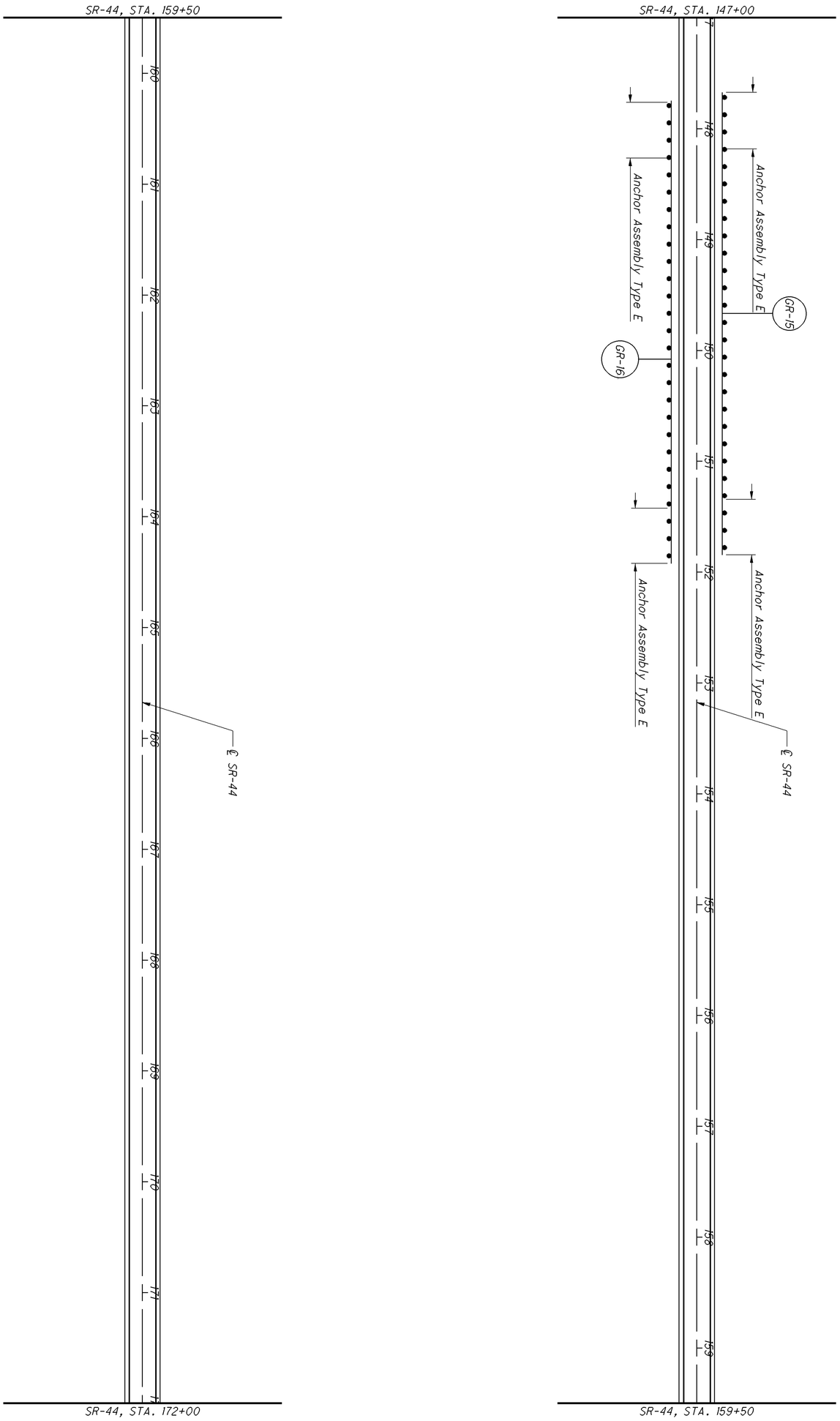
N



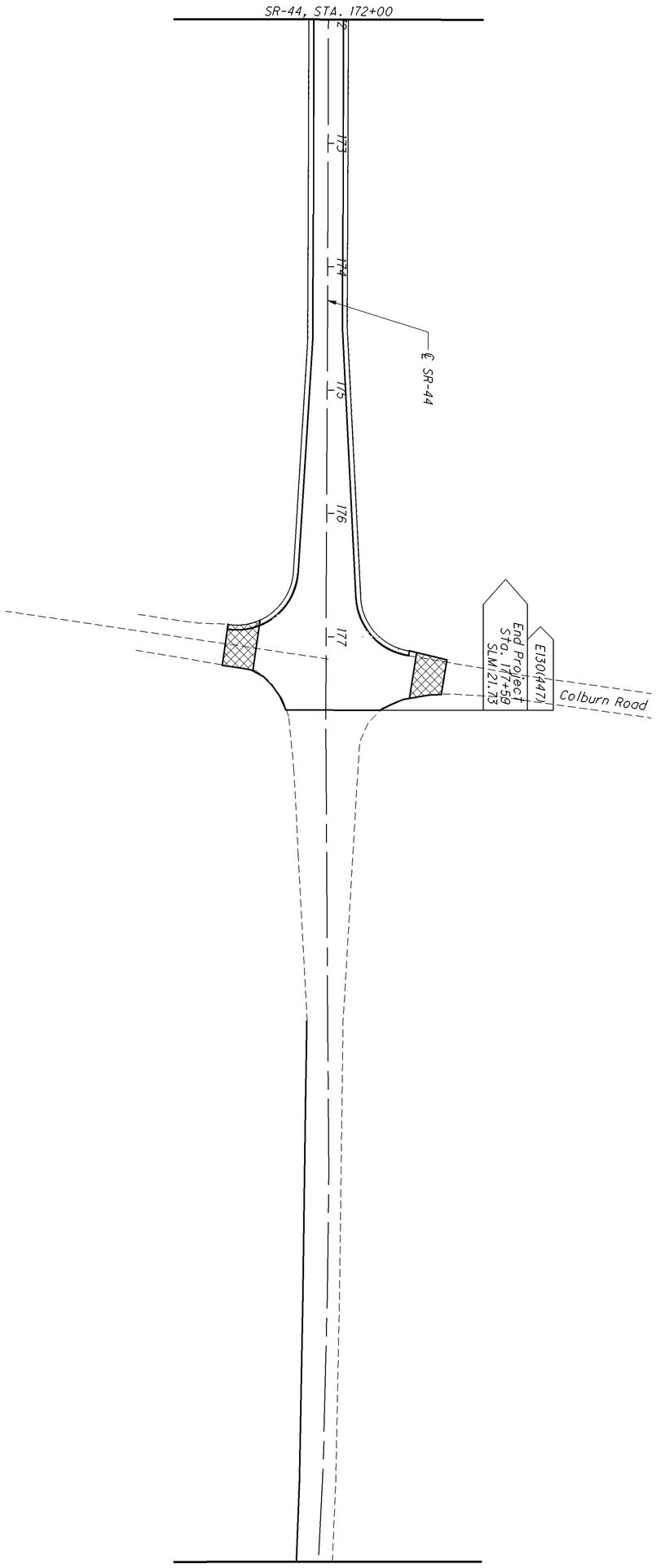


- Butt Joint Per BP-3.1

23 / 44	GEA-44-18.45	General Plan Sheet SR-44, Sta. 122+00 to Sta. 147+00	CALCULATED JGM CHECKED	0 50 25 100 HORIZONTAL SCALE IN FEET



24 / 44	**GEA-44-18.45**	**General Plan Sheet** **SR-44, Sta. 147+00 to Sta. 172+00**	CALCULATED JGM CHECKED	0 50 25 100 HORIZONTAL SCALE IN FEET



- Butt Joint Per BP-3.1

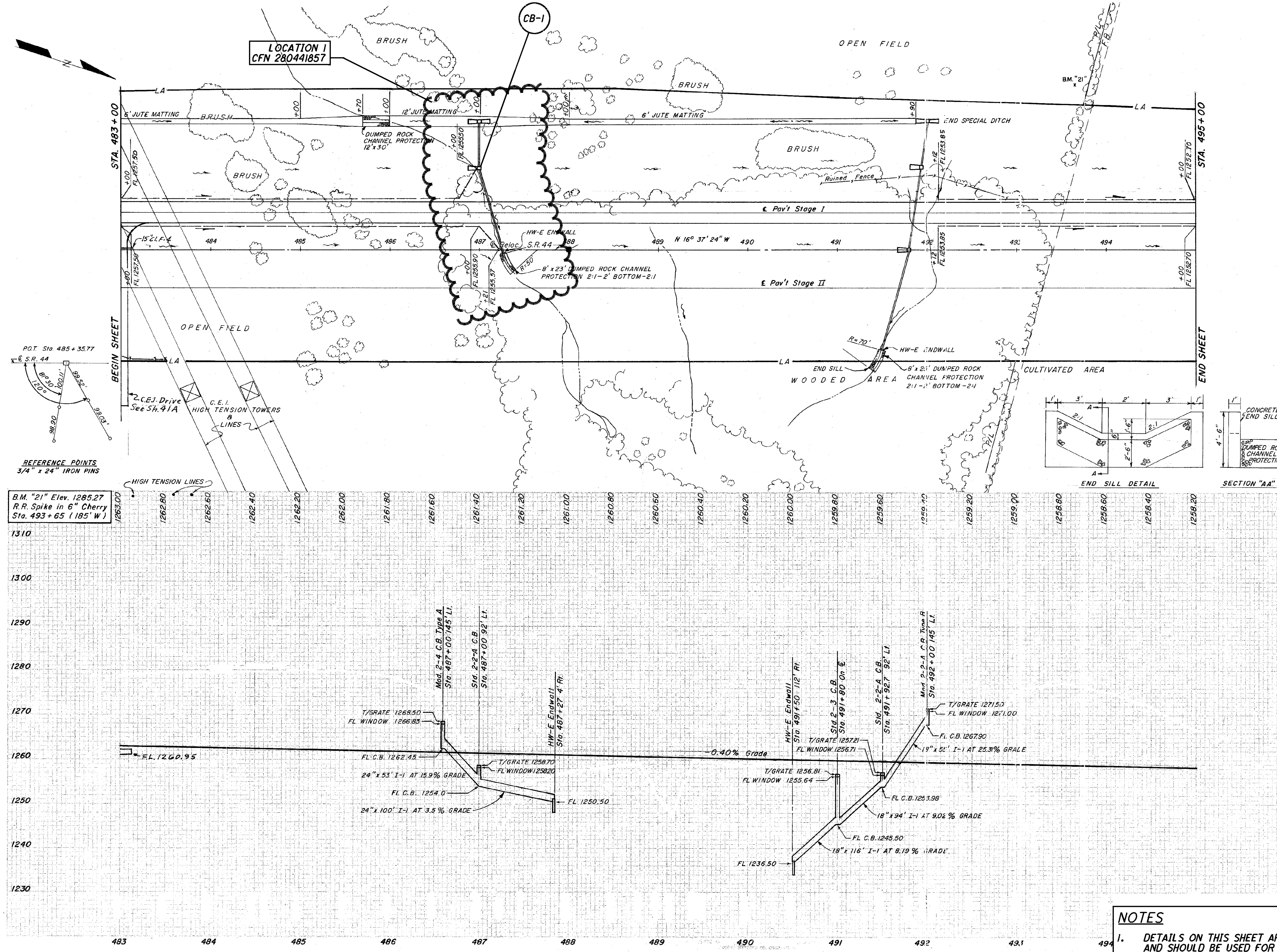
GEA-44-18.45

General Plan Sheet
SR-44, Sta. 172+00 to Sta. 177+59

CALCULATED JGM
CHECKED

0 50
25 100
HORIZONTAL SCALE IN FEET

N



LOCATION I
CFN 280441857
CB-1
OPEN FIELD
BRUSH
STA. 483+00
STA. 495+00
BEGIN SHEET
END SHEET
6' JUTE MATTING
12' JUTE MATTING
DUMPED ROCK CHANNEL PROTECTION 12'x30'
END SPECIAL DITCH
Ruined Fence
℄ Pav't Stage I
℄ Pav't Stage II
N 16° 37' 24" W
Reloc. S.R. 44
HW-E ENDWALL
8' x 23' DUMPED ROCK CHANNEL PROTECTION 2:1-2' BOTTOM-2:1
WOODED AREA
CULTIVATED AREA
END SILL
C.E.I. HIGH TENSION TOWERS & LINES
C.E.J. Drive See Sh. 41A
P.O.T. Sta. 485+35.77
REFERENCE POINTS
3/4" x 24" IRON PINS
END SILL DETAIL
SECTION "AA"
CONCRETE END SILL
DUMPED ROCK CHANNEL PROTECTION
HIGH TENSION LINES
B.M. "21" Elev. 1285.27
R.R. Spike in 6" Cherry
Sta. 493+65 (185' W)
Mod. 2-4 C.B. Type A Sta. 487+00 (145' Lt.
Std. 2-2-A C.B. Sta. 487+00.92' Lt.
HW-E Endwall Sta. 487+27 4' Rt.
HW-E Endwall Sta. 491+50 112' Rt.
Std. 2-3 C.B. Sta. 491+80 On ℄
Std. 2-2-A C.B. Sta. 491+92.7 92' Lt.
Mod. 2-2-A C.B. Type A Sta. 492+00 145' Lt.
FL 1260.95
-0.40% Grade
T/GRATE 1268.50
FL WINDOW 1266.83
FL C.B. 1262.45
T/GRATE 1258.70
FL WINDOW 1258.20
24" x 53' I-I AT 15.9% GRADE
FL C.B. 1254.0
24" x 100' I-I AT 3.5% GRADE
FL 1250.50
T/GRATE 1271.50
FL WINDOW 1271.00
FL C.B. 1267.90
19" x 53' I-I AT 25.3% GRADE
T/GRATE 1257.21
FL WINDOW 1256.71
T/GRATE 1256.81
FL WINDOW 1255.64
FL C.B. 1253.98
18" x 94' I-I AT 9.02% GRADE
FL C.B. 1245.50
18" x 116' I-I AT 8.19% GRADE
FL 1236.50

NOTES

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION PURPOSES ONLY.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

GENERAL PLAN
LOCATION 1-CFN 280441857

GEA-44-18.45

CALCULATED JGM
CHECKED

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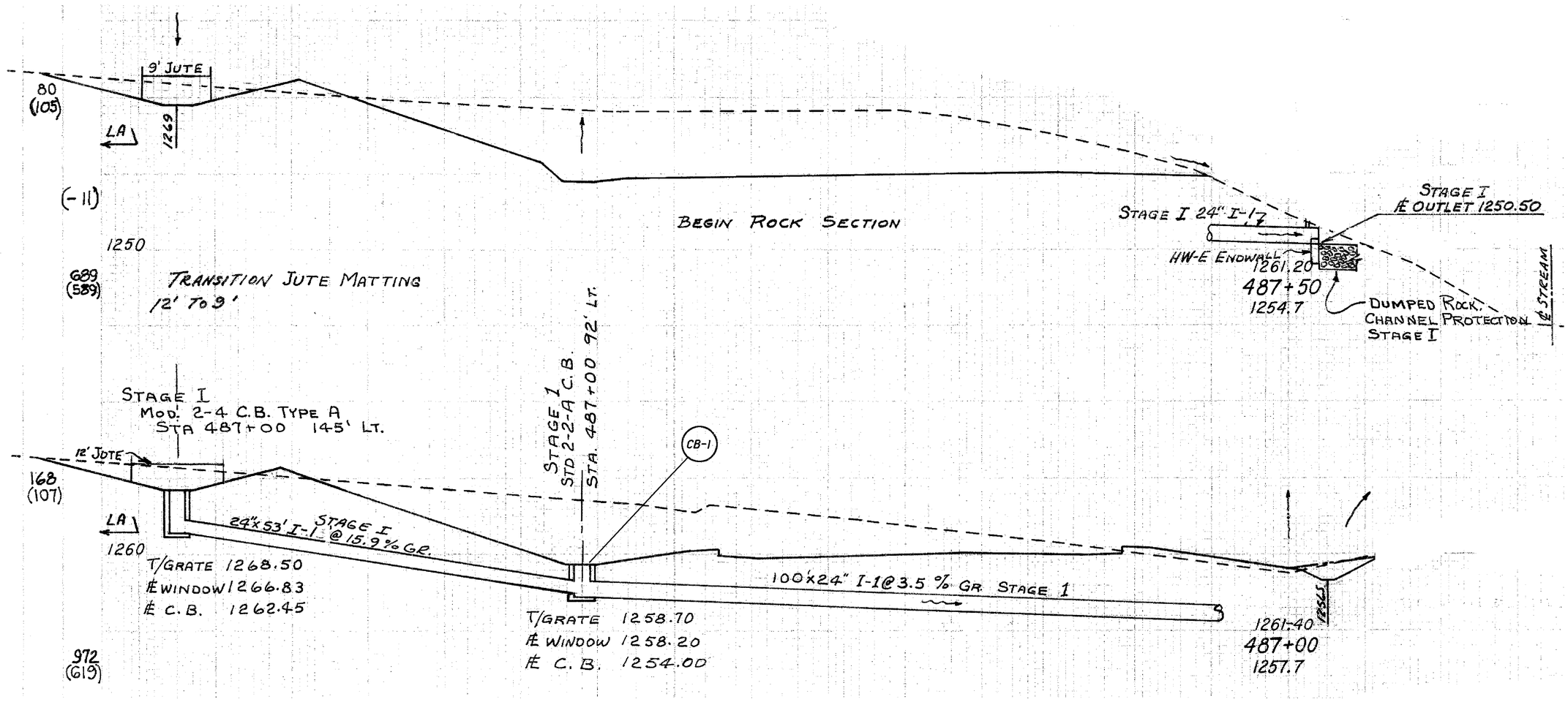

NOTES

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CALCULATED JGM
CHECKED

SEWER PROFILE
LOCATION 1-CFN 280441857

GEA-44-18.45

27
44

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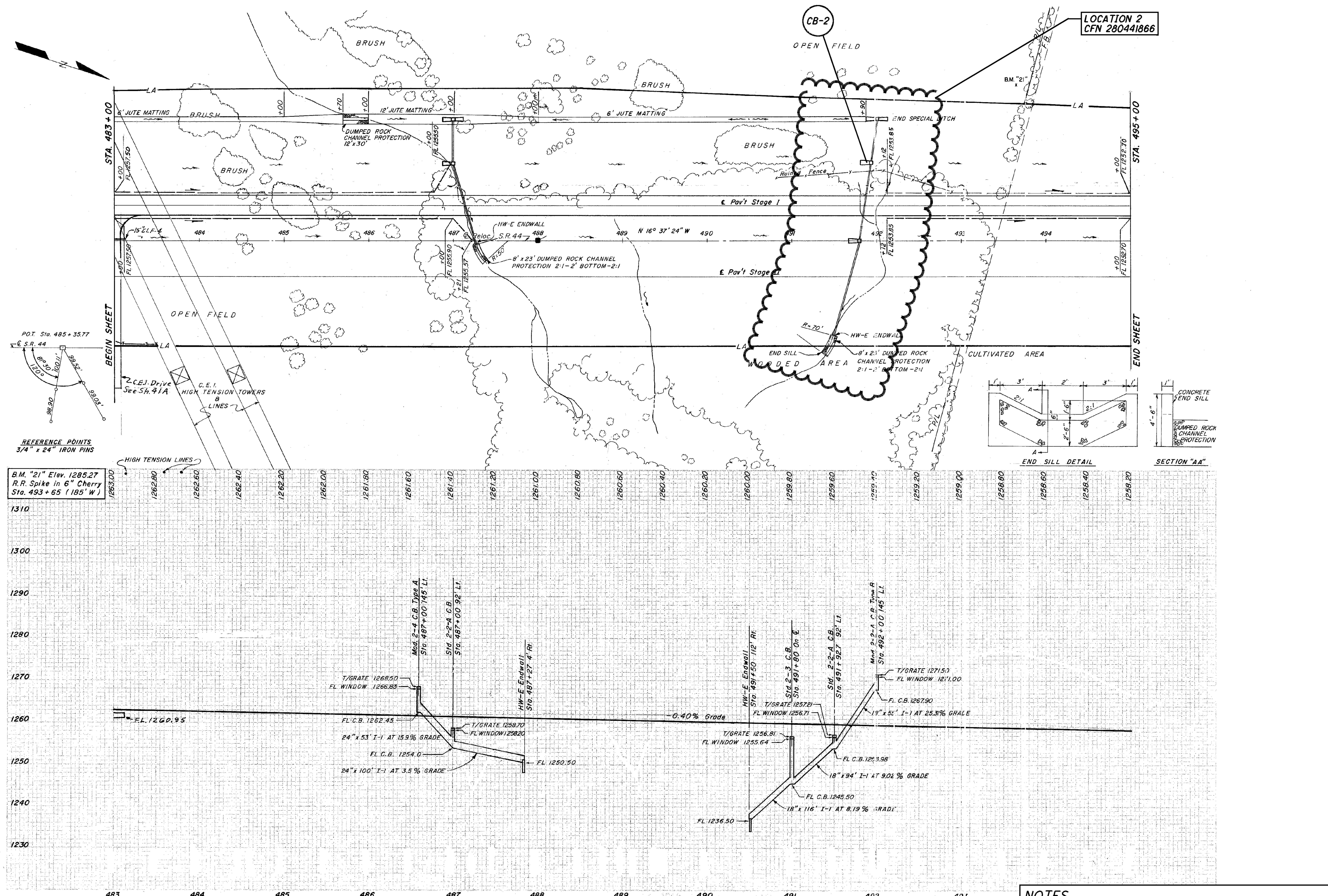
LOCATION 2
CFN 280441866
CB-2
OPEN FIELD
BRUSH
STA. 483+00
STA. 495+00
BEGIN SHEET
END SHEET
6' JUTE MATTING
12' JUTE MATTING
DUMPED ROCK CHANNEL PROTECTION 12'x30'
END SPECIAL DITCH
℄ Pav't Stage I
℄ Pav't Stage II
N 16° 37' 24" W
HW-E ENDWALL
Reloc. S.R. 44
8' x 23' DUMPED ROCK CHANNEL PROTECTION 2:1-2' BOTTOM-2:1
CULTIVATED AREA
WOODED AREA
END SILL
POT. Sta. 485+35.77
℄ S.R. 44
C.E.I. Drive See Sh. 41A
C.E.I. HIGH TENSION TOWERS 8 LINES
REFERENCE POINTS
3/4" x 24" IRON PINS
HIGH TENSION LINES
END SILL DETAIL
SECTION "AA"
CONCRETE END SILL
DUMPED ROCK CHANNEL PROTECTION
B.M. "21" Elev. 1285.27
R.R. Spike in 6" Cherry
Sta. 493+65 (185' W)
Mod. 2-4 C.B. Type A Sta. 487+00 (145' Lt.
Std. 2-2-A C.B. Sta. 487+00.92 Lt.
HW-E Endwall Sta. 487+27.4' Rt.
HW-E Endwall Sta. 491+50 112' Rt.
Std. 2-3 C.B. Sta. 491+80 On ℄
Std. 2-2-A C.B. Sta. 491+92.7 92' Lt.
Mod. 2-2-A C.B. Type B Sta. 492+00 (145' Lt.
T/GRATE 1268.50
FL WINDOW 1266.83
FL C.B. 1262.45
24" x 53' I-I AT 15.9% GRADE
FL C.B. 1254.0
24" x 100' I-I AT 3.5% GRADE
T/GRATE 1258.70
FL WINDOW 1258.20
FL 1250.50
FL 1260.95
-0.40% Grade
T/GRATE 1271.50
FL WINDOW 1271.00
FL C.B. 1267.90
19" x 54' I-I AT 25.31% GRADE
T/GRATE 1257.21
FL WINDOW 1256.71
T/GRATE 1256.81
FL WINDOW 1255.64
FL C.B. 1253.98
18" x 94' I-I AT 9.08% GRADE
FL C.B. 1245.50
18" x 116' I-I AT 8.19% GRADE
FL 1236.50

NOTES

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GENERAL PLAN
LOCATION 2-CFN 280441866

GEA-44-18.45

CALCULATED JGM CHECKED

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NOTES

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CALCULATED JGM
CHECKED

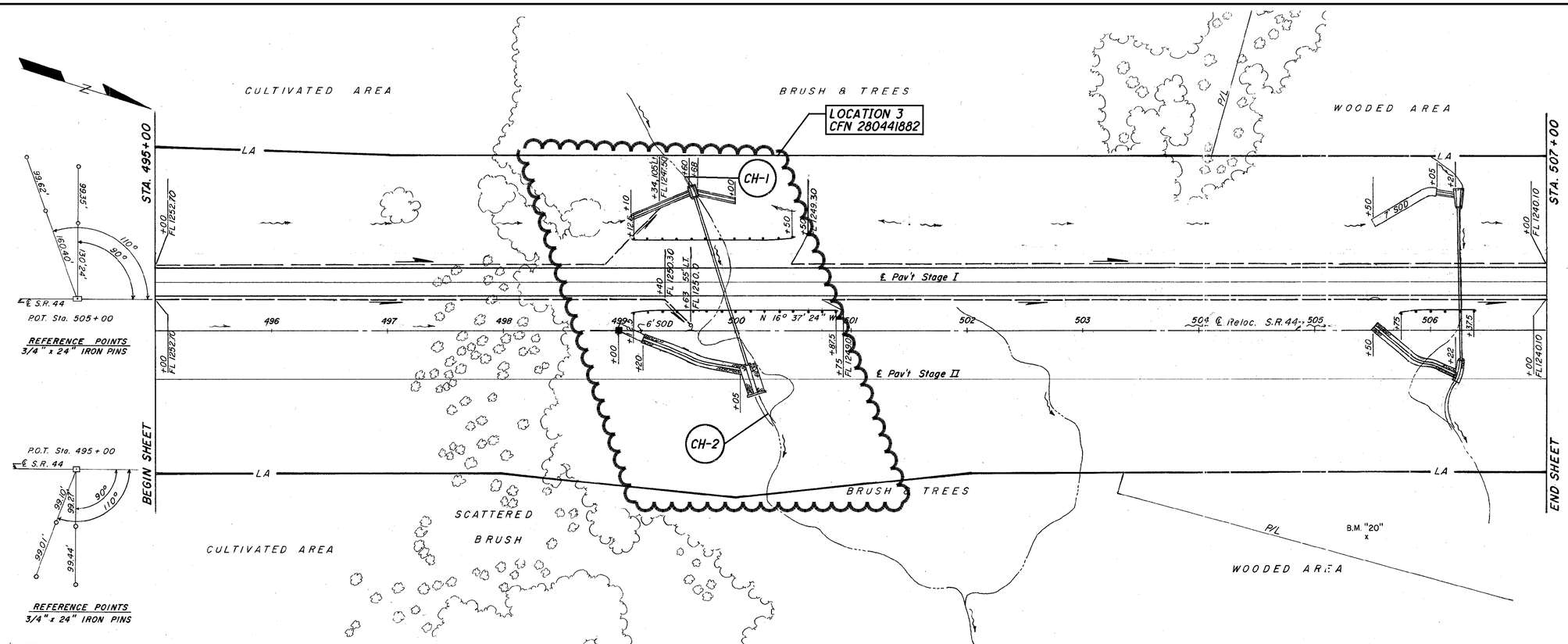
SEWER PROFILE
LOCATION 2-CFN 20441866

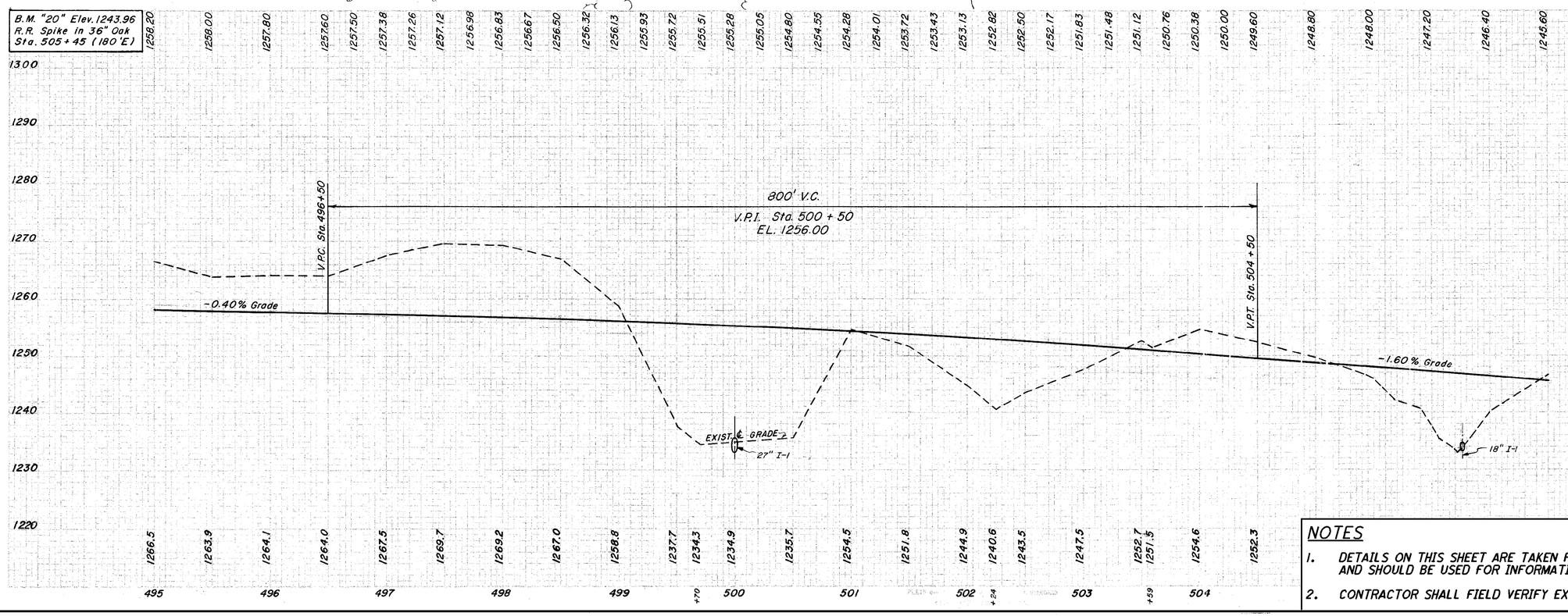
GEA-44-18.45

CALCULATED JGM
CHECKED

GENERAL PLAN
LOCATION 3-CFN 280441882

GEA-44-18.45





NOTES

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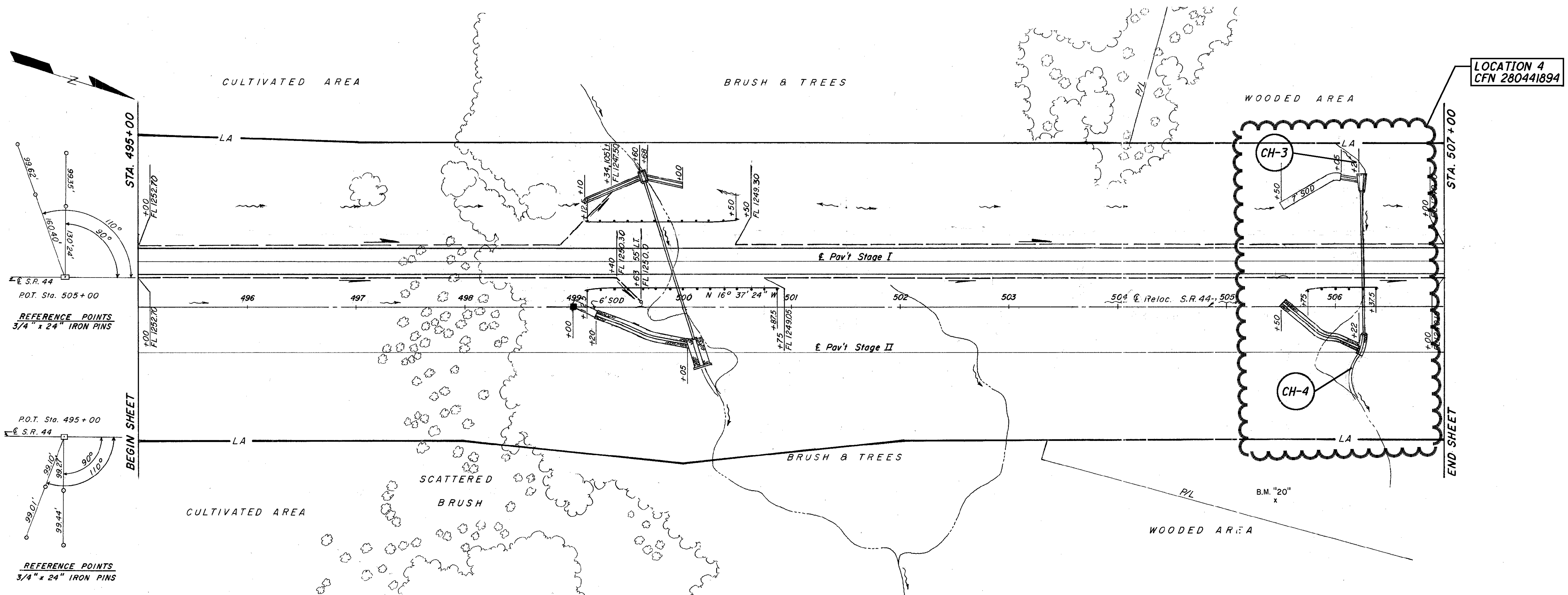
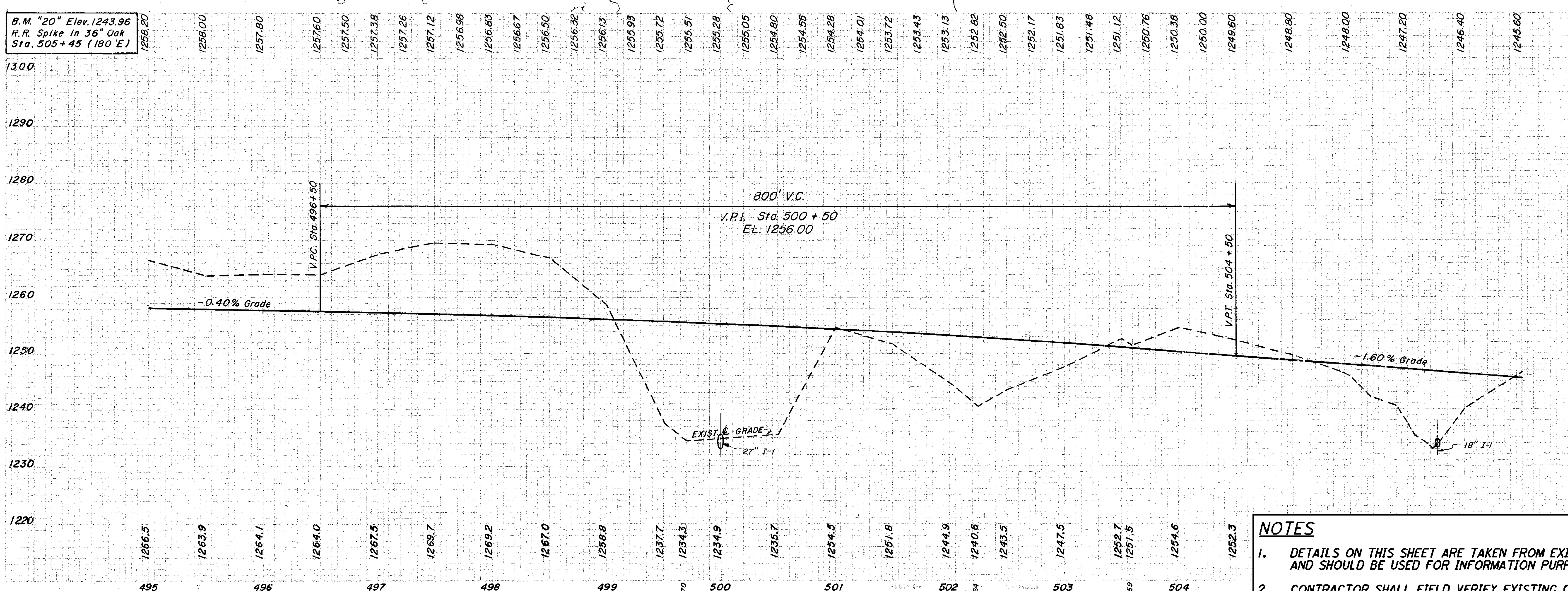
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.





NOTES

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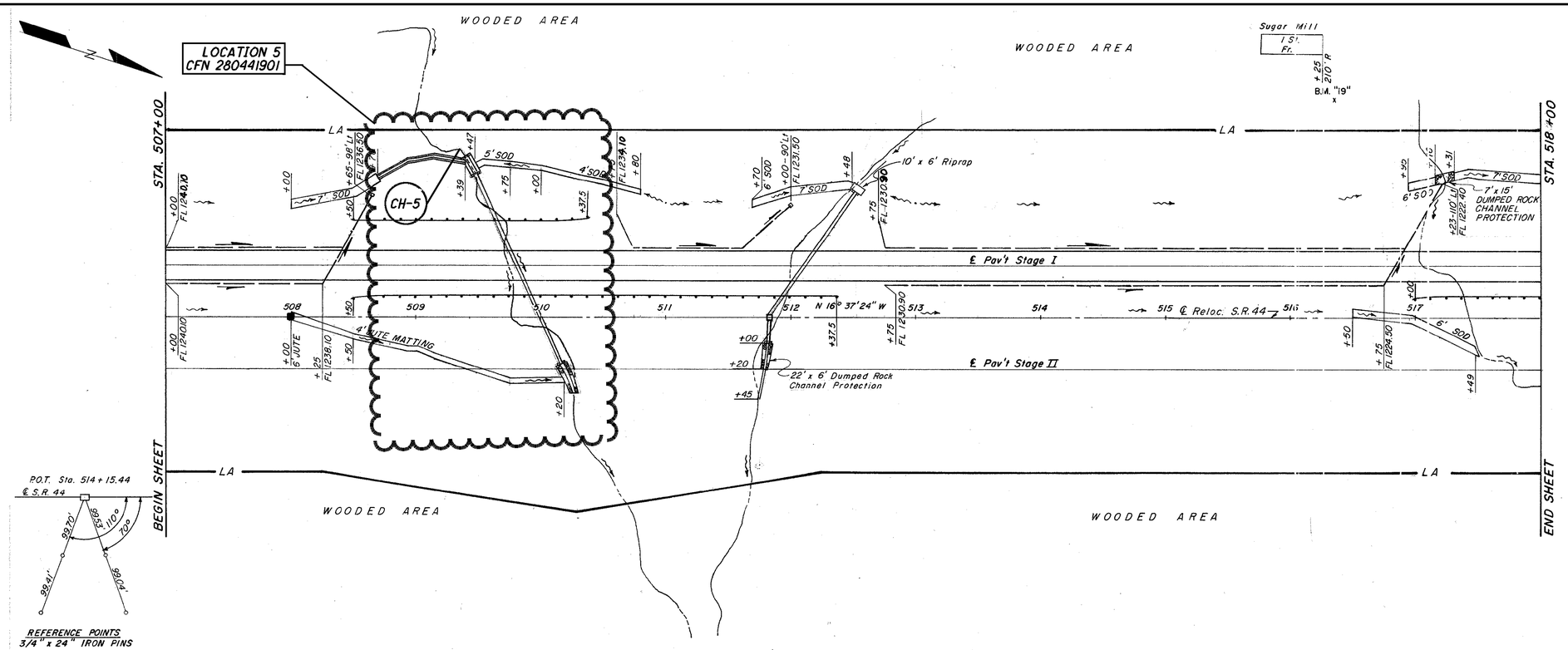
2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

GENERAL PLAN
LOCATION 4-CFN 280441894

GEA-44-18.45

CALCULATED JGM CHECKED



NOTES

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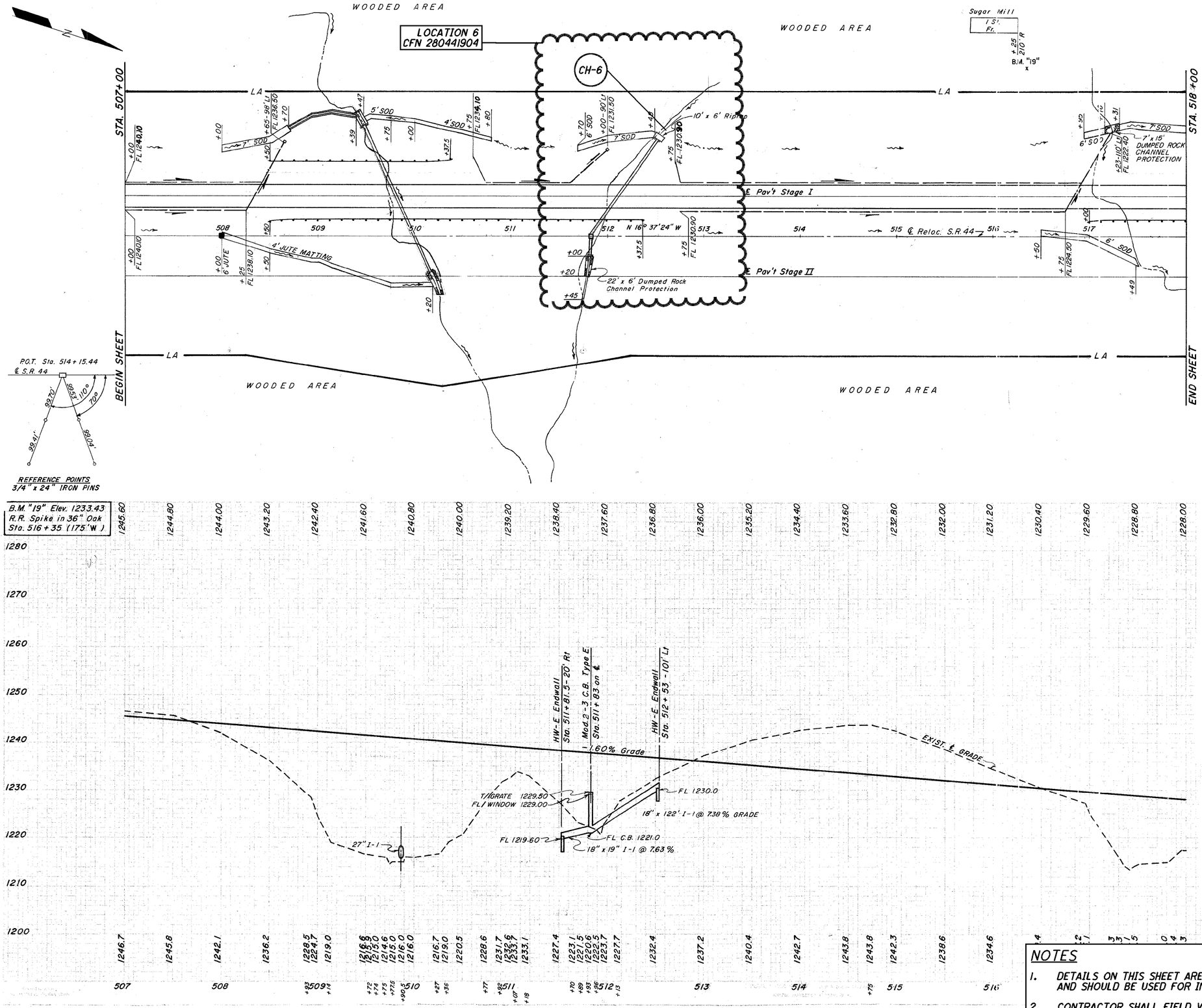
CALCULATED JGM CHECKED

GENERAL PLAN
LOCATION 5-CFN 280441901

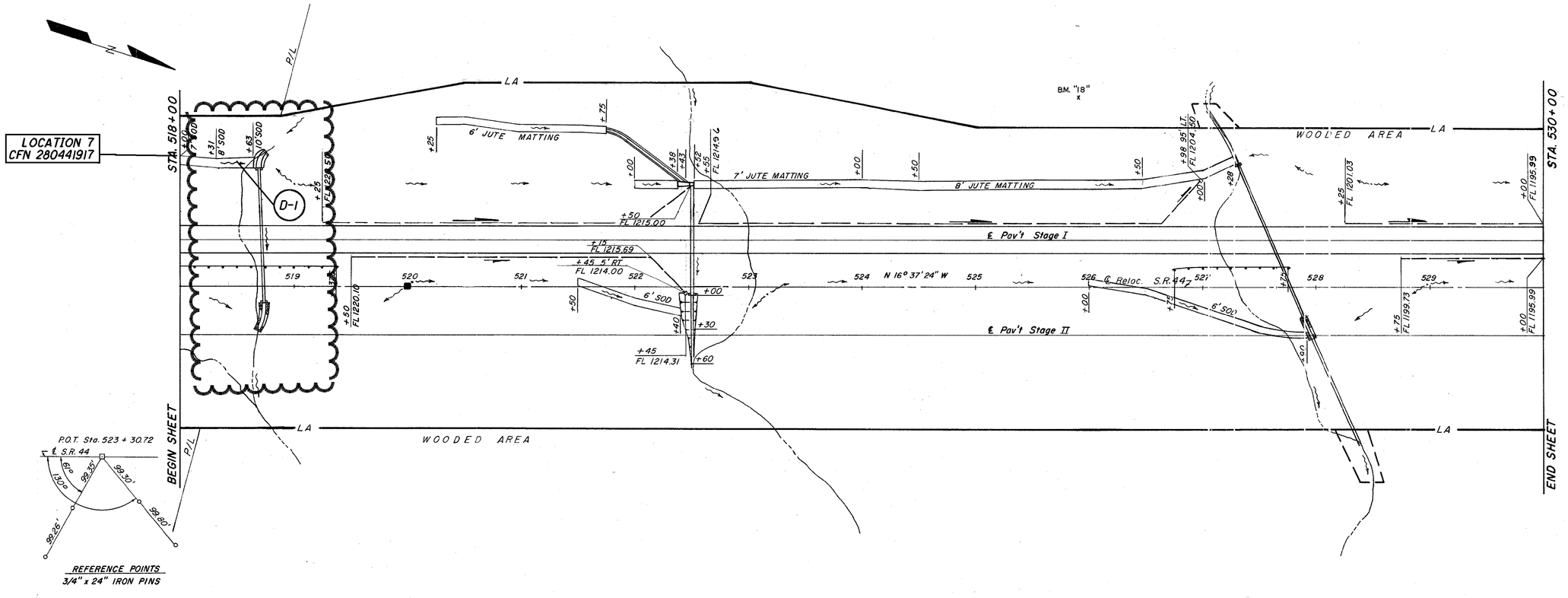
GEA-44-18.45

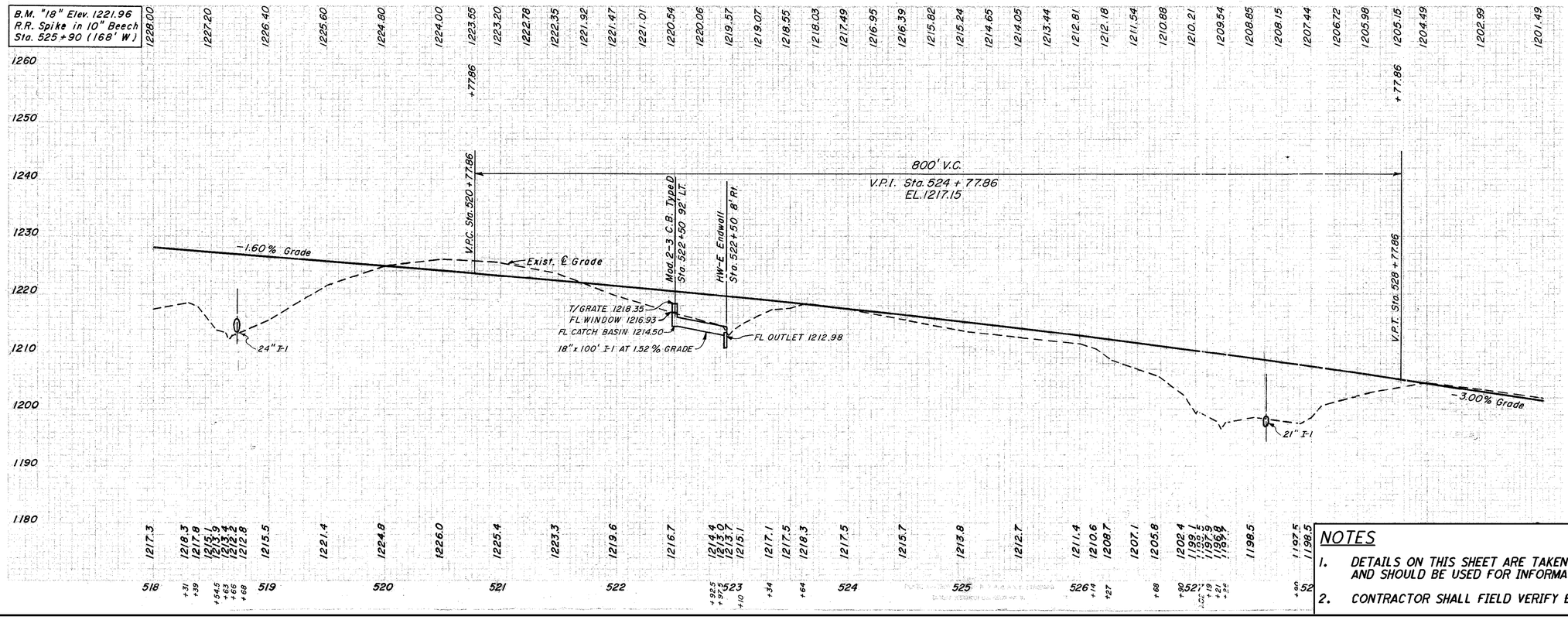


CALCULATED JGM CHECKED

GENERAL PLAN
LOCATION 6-CFN 280441904

GEA-44-18.45





NOTES

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2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

CALCULATED JGM
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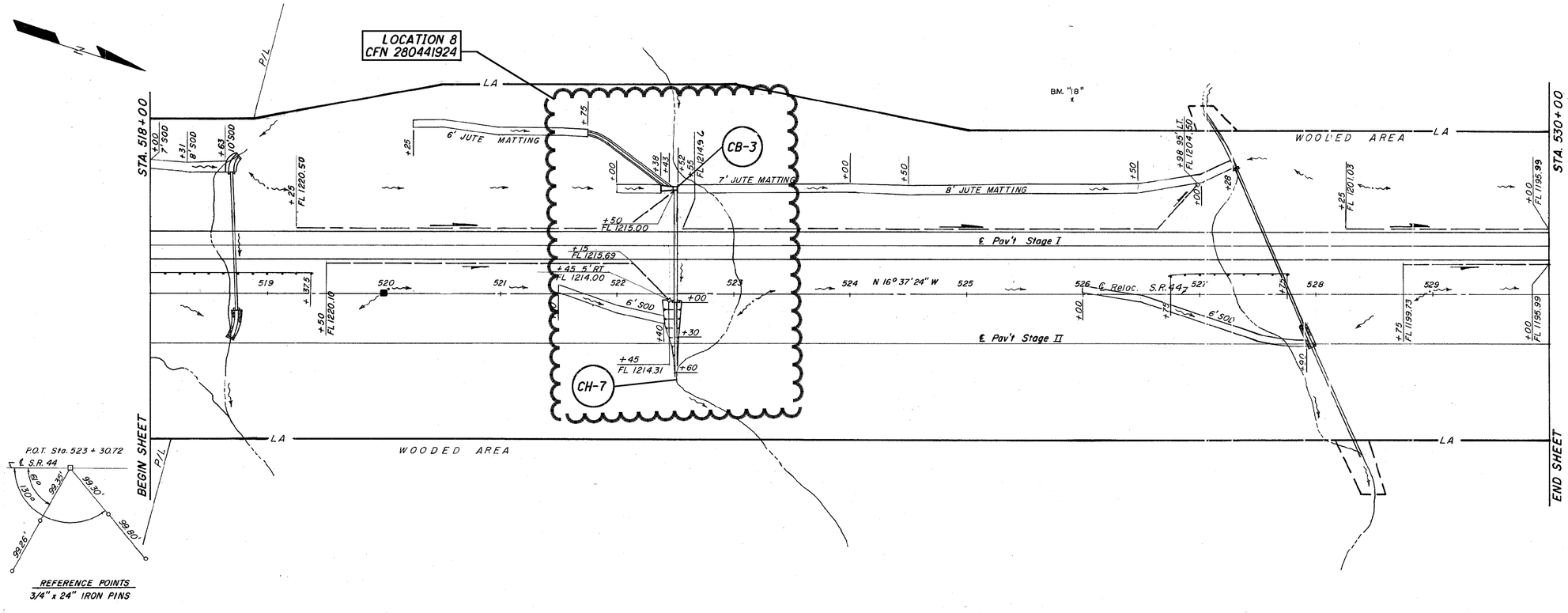
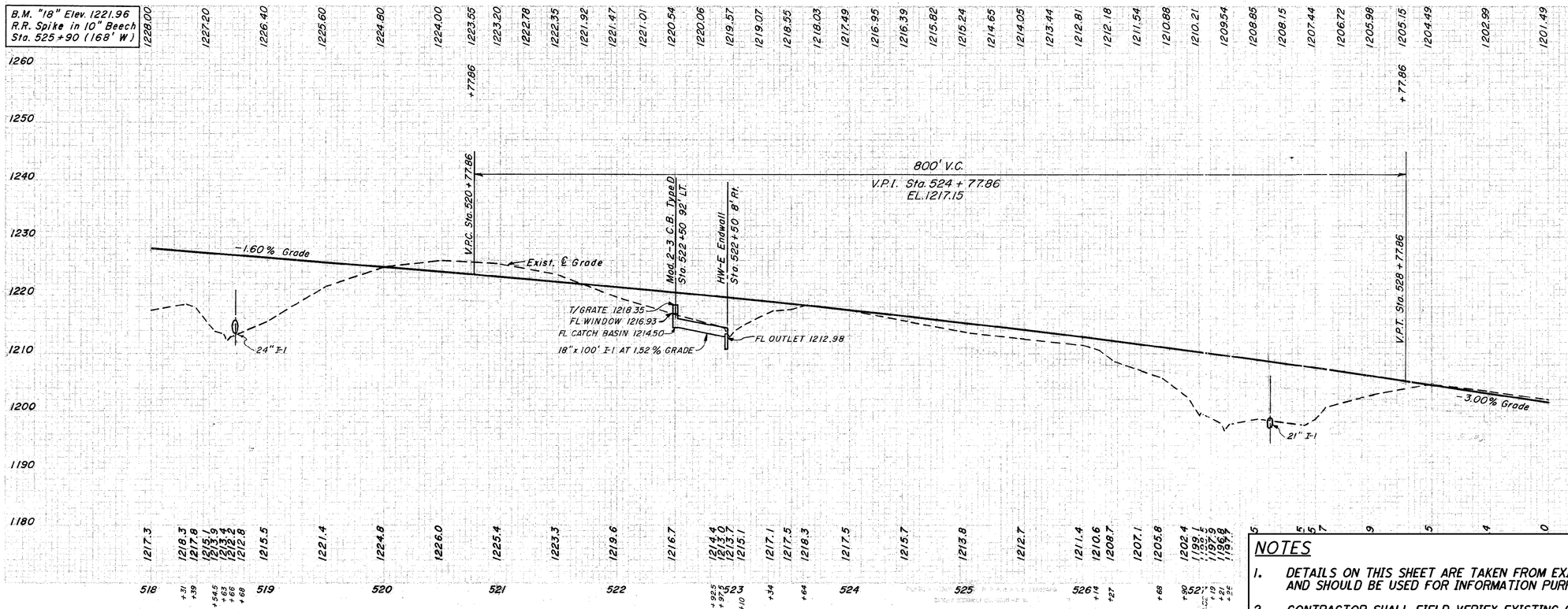
GENERAL PLAN
LOCATION 7-CFN 280441917

GEA-44-18.45





NOTES

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2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

CALCULATED JGM
CHECKED

GENERAL PLAN
LOCATION 8-CFN 280441924

GEA-44-18.45

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44

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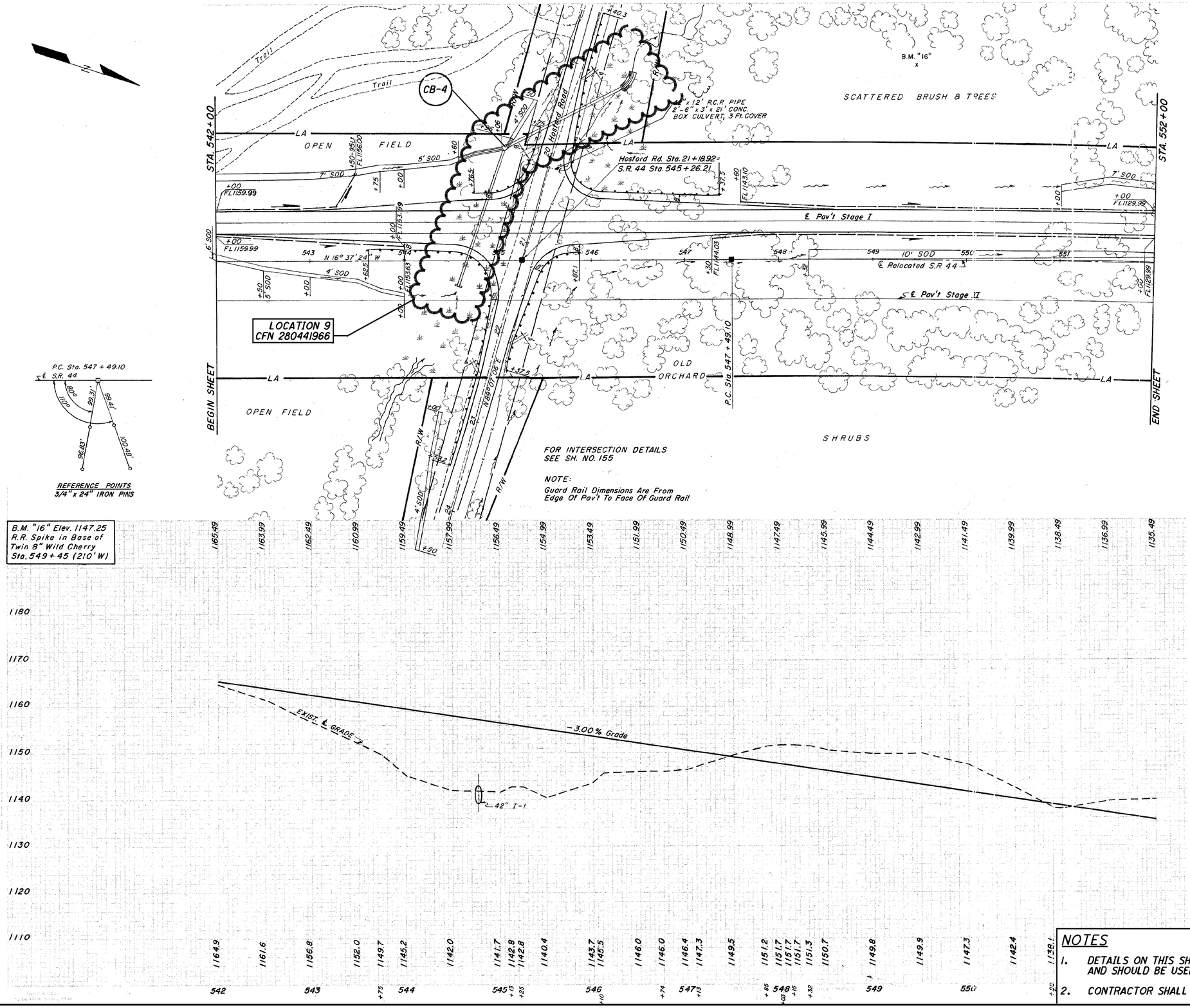

NOTES

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CALCULATED JGM
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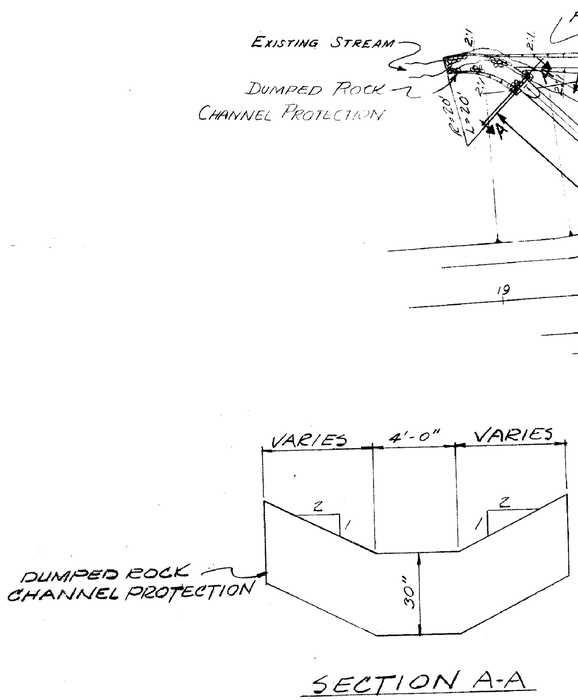
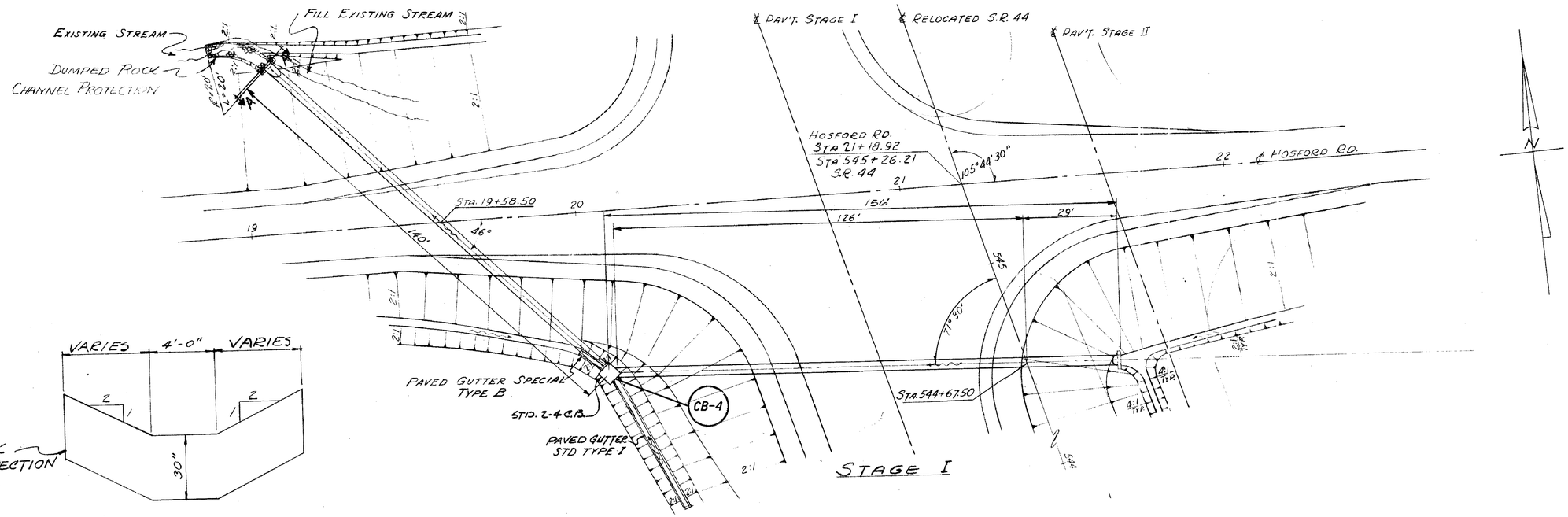
GENERAL PLAN
LOCATION 9-CFN 280441966

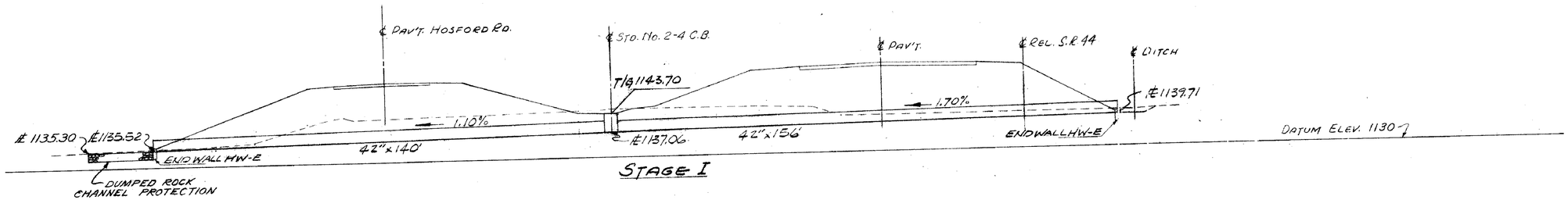
GEA-44-18.45



SECTION A-A



PLAN



ELEVATION

NOTES

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2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

CALCULATED JGM
CHECKED

SEWER PROFILE
LOCATION 9-CFN 280441966

GEA-44-18.45

37
44

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LOCATION 10
CFN 280442002

N

B.M. "14"

WOODED AREA

OPEN FIELD

POND

WOODED AREA

STA. 563+00

STA. 575+00

BEGIN SHEET

END SHEET

P-1

LA

℄ Pav't Stage I

℄ Pav't Stage II

℄ Reloc. S.R. 44

4' SOD

5' SOD

N 8° 50' 24" W

P.T. Sta. 570 + 84.10

P.T. Sta. 570 + 84.10
℄ S.R. 44
60°
99.27'
99.31'
60°
99.17'
99.06'

REFERENCE POINTS
3/4" x 24" IRON PINS

B.M. "14" Elev. 1112.17
R.R. Spike in 24" Elm
Sta. 568 + 00 (200' W)

+0.40% Grade

V.P.C. Sta. 571 + 00

600' V.C.
V.P.I. Sta. 574 + 00
EL. 1125.59

42" I-1

EXIST. ℄ GRADE

60" I-1

1150
1140
1130
1120
1110
1100
1090
1080

563 564 565 566 567 568 569 570 571 572

NOTES

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2. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.

CALCULATED JGM
CHECKED

GENERAL PLAN
LOCATION 10-CFN 280442002

GEA-44-18.45

38
44

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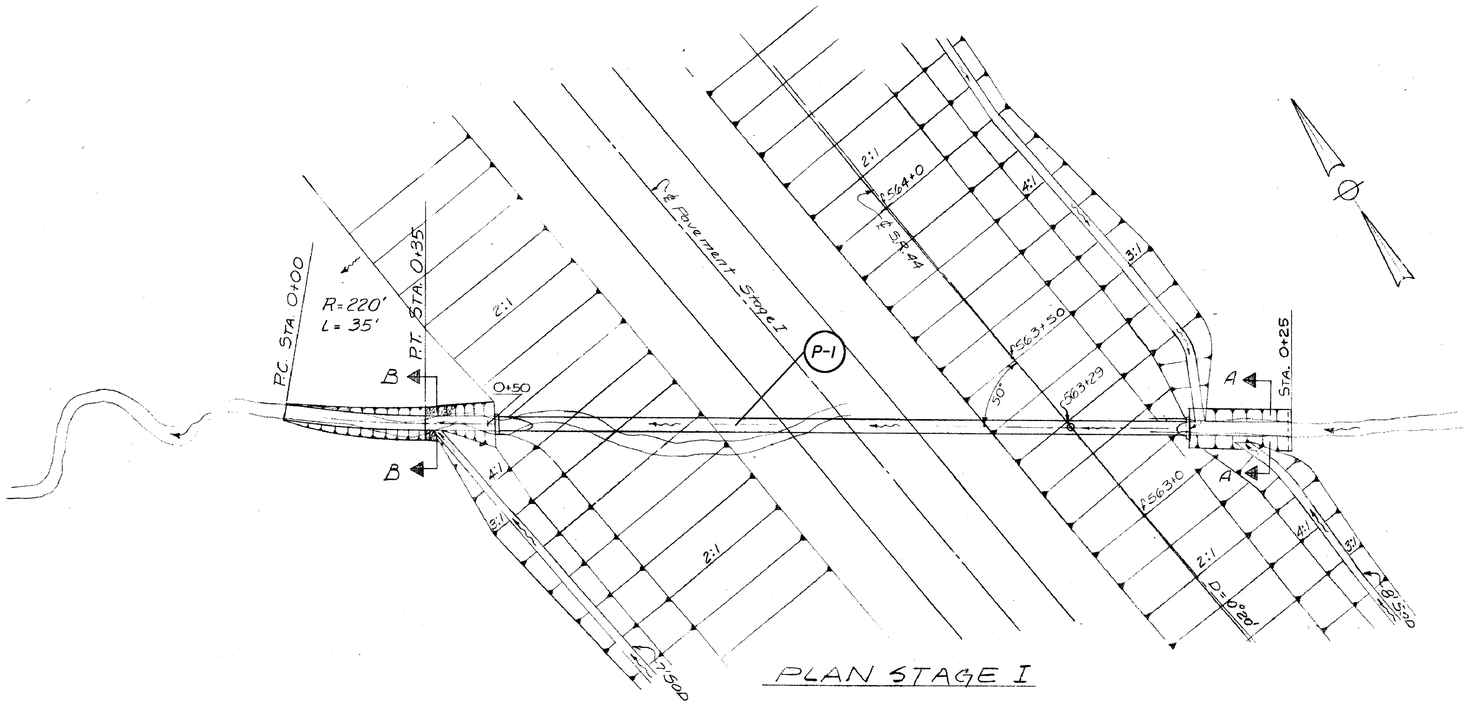
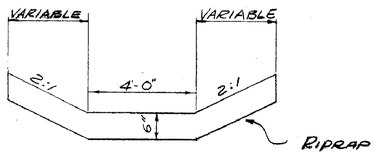
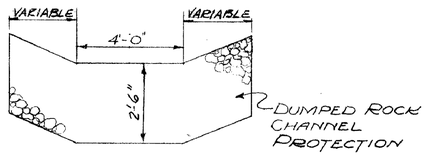


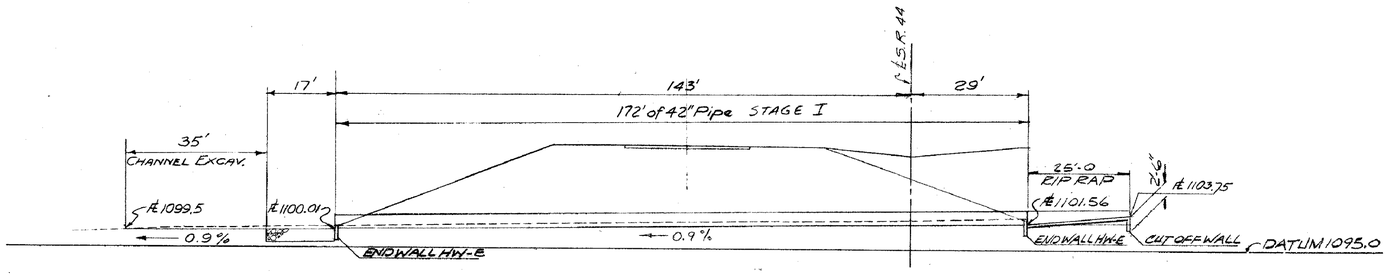
PLAN STAGE I



SECTION A-A



SECTION B-B



ELEVATION STAGE I

NOTES

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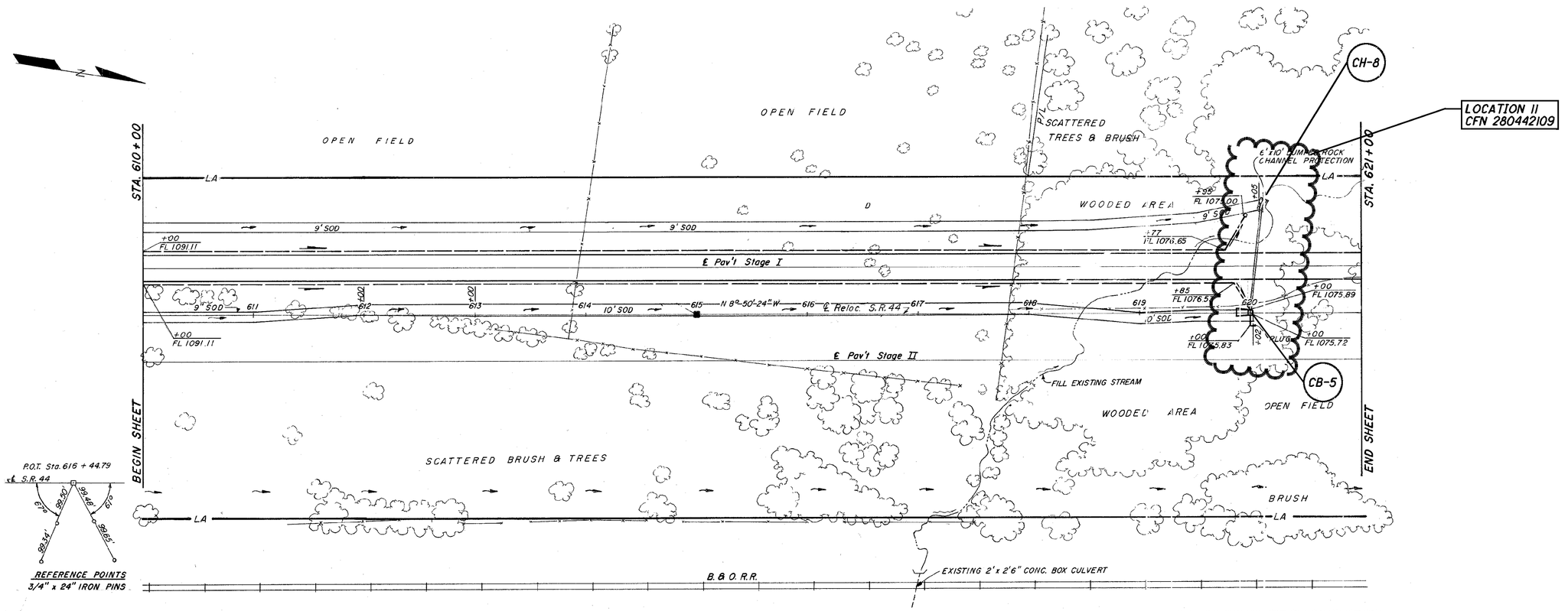
CALCULATED JGM
CHECKED

SEWER PROFILE
LOCATION 10-CFN 280442002

GEA-44-18.45



NOTES

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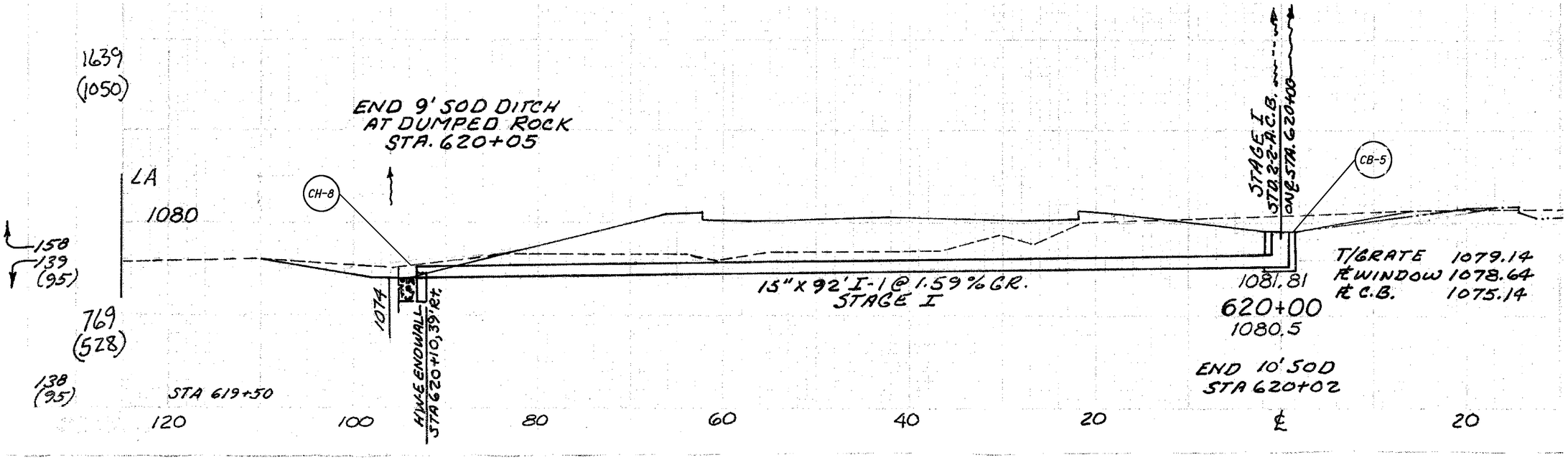
CALCULATED JGM
CHECKED

GENERAL PLAN
LOCATION 11-CFN 280442109

GEA-44-18.45



NOTES

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CALCULATED JGM
CHECKED

SEWER PROFILE
LOCATION 11-CFN 280442109

GEA-44-18.45

41
44

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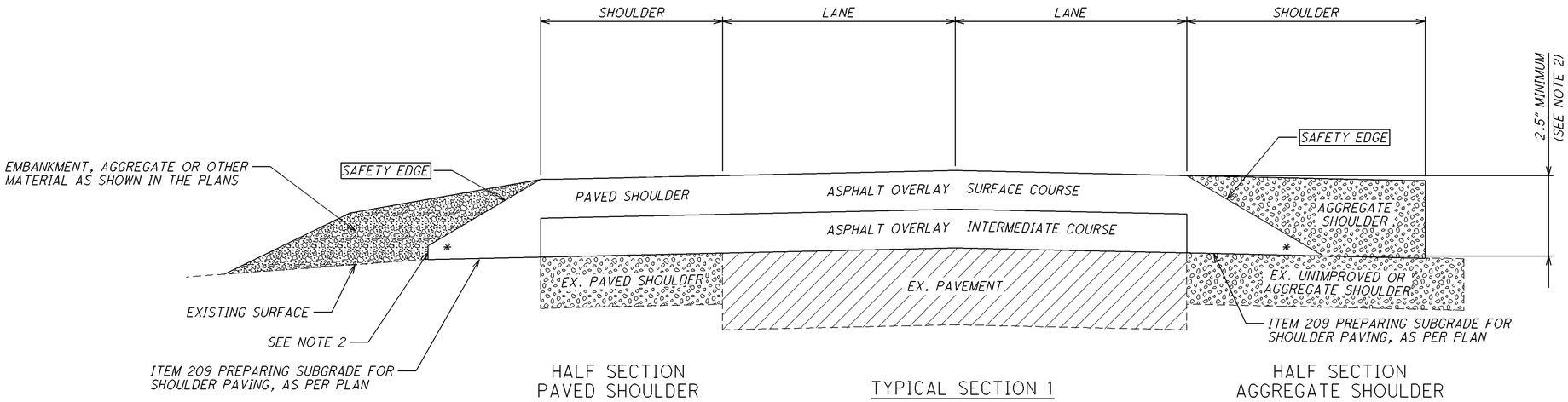


HALF SECTION
PAVED SHOULDER

TYPICAL SECTION 1

N.T.S.

HALF SECTION
AGGREGATE SHOULDER

NOTES:

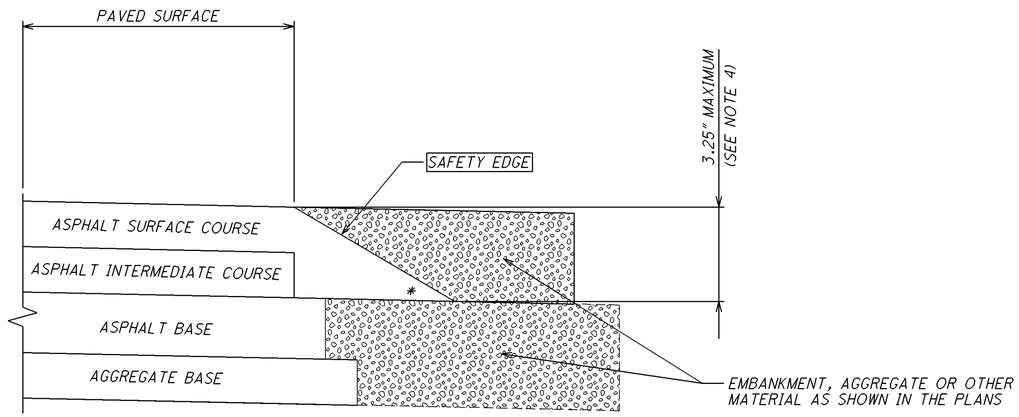
1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).

2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" (63MM) WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6" (150MM). CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6" (150 MM).

3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.

4.) FOR NEW PAVEMENT CONSTRUCT THE SAFETY EDGE THE FULL THICKNESS OF THE SURFACE AND INTERMEDIATE COURSES, NOT TO EXCEED 3.25" (82 MM).

* 40° MAX



HALF SECTION
NEW CONSTRUCTION

TYPICAL SECTION 3

N.T.S.

CALCULATED JGM
CHECKED ---

Safety Edge Detail

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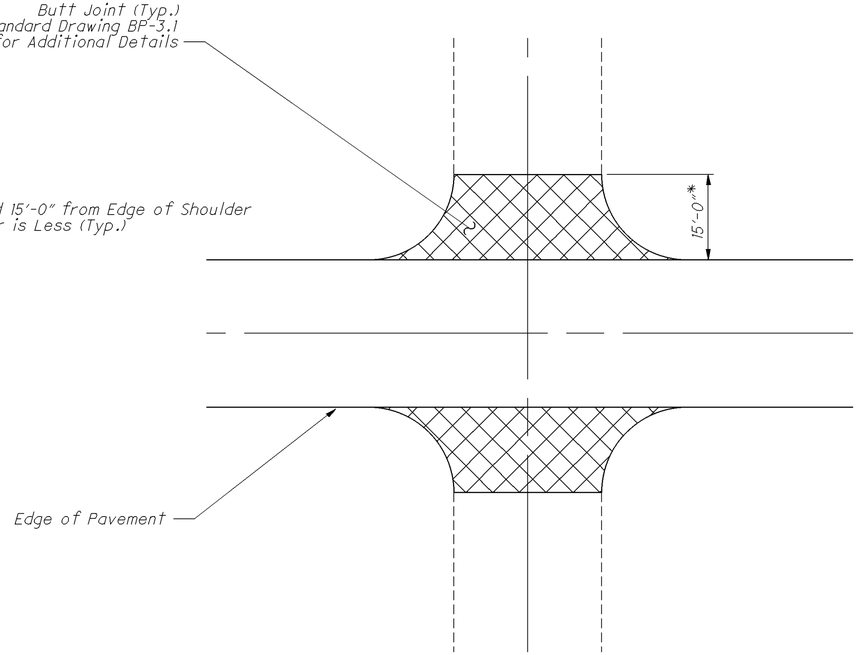
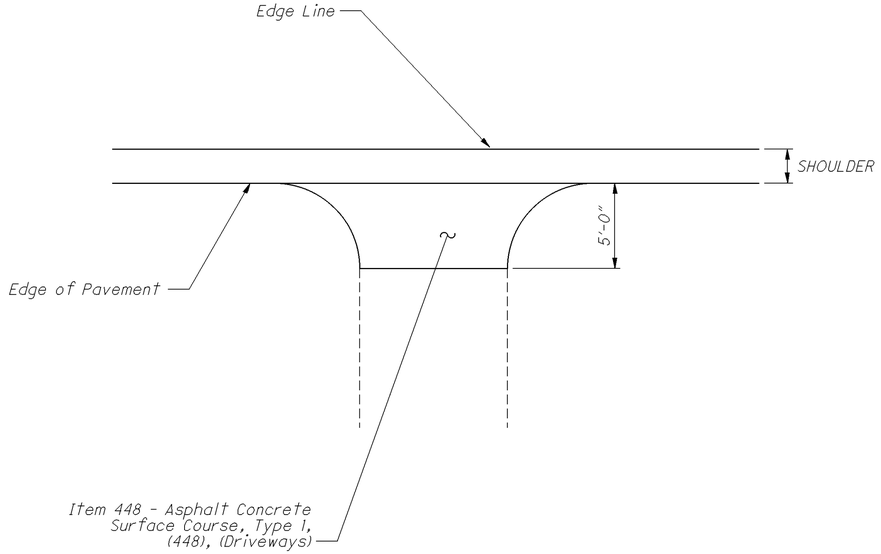


TYPICAL ASPHALT INTERSECTION DETAIL



DRIVEWAY APRON DETAIL

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CALCULATED JGM
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Pavement Details
Intersections & Driveway Aprons

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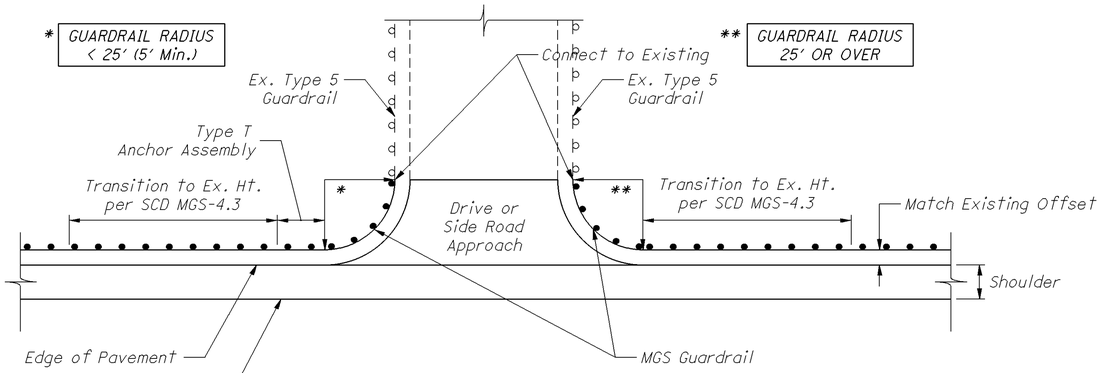
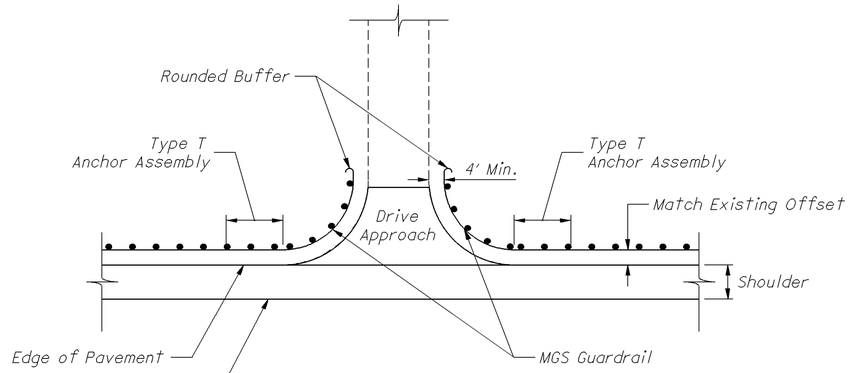


GUARDRAIL OPENING WHERE GUARDRAIL EXTENDS ALONG EXISTING SIDE ROAD OR DRIVEWAY



DRIVEWAY GUARDRAIL OPENING

CALCULATED JGM
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Guardrail Replacement Details
Intersections & Driveway Aprons

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