

**REQUEST FOR SEALED BIDS
(RFB#2024-10-11)**

The City of Alamo is soliciting sealed Bids for the following:

City of Alamo Signage Project at the Intersection of FM 907 and I.H. 2

Sealed bids addressed to **Robert L. Salinas, City Manager, at 420 N. Tower Rd., Alamo, Texas 78516.** City of Alamo normal business days are Monday through Friday between the hours of 8:00 a.m. to 5:00 p.m. and shall be closed on recognized holidays.

RFB'S will be received until **3:00 p.m. Central Time, on Thursday, November 14, 2024,** shortly thereafter all submitted RFB'S will be gathered and taken to the City's Conference Room, to be publicly opened and read aloud. Any RFB received after the closing time will not be accepted and will be returned to the submitter unopened. It is the responsibility of the submitter to see that any RFB submitted shall have sufficient time to be received by the City prior to the RFB opening date and time. The receiving time at the City Hall Front Desk will be the governing time for acceptability of the RFB's. RFB's will not be accepted by telephone or facsimile machine. All RFB'S must bear original signatures and figures.

The City of Alamo reserves the right to accept or reject any and all bids and to accept the bid to be the best and most advantageous to the City and to hold bids for a period of forty-five (45) days from the date of the bid opening without taking action for the purpose of reviewing the bids and investigation of bidders' qualifications prior to award. Bids submitted past the aforementioned date and time will not be accepted.

A **Pre-Bid Conference** will be held at City Hall for the City of Alamo located at **420 N Tower RD, Alamo, TX 78516 at 10:00 am on Thursday, November 7, 2024.**

VENDOR'S NOTICE OF INTENT TO SUBMIT A BID

If you intend to submit a bid for the Signage Project with the City of Alamo as outlined in the specifications, please indicate your intention by signing, dating, and returning this form to the fax or email below so that you may receive any addendums to the specifications should the need arise.

Adela Perez

Purchasing Agent

City of Alamo

Purchasing Department

420 N. Tower Road

Alamo, Texas 78516

Phone:(956) 787-0006, ext. 141

Fax:(956) 283-8855

Email:aperez@alamotexas.org

Name: _____ Signature: _____

(print)

Title: _____ Company/Agency: _____

Mailing

Address: _____ City/State/Zip: _____

Phone: _____ Fax: _____

Email address: _____

COUNTY **Hidalgo** PROJ. NO. **CSJ-0039-03-XXX**
 HWY. NO. **H 2** LETTING DATE **21 OCT 2024**
 DATE ACCEPTED

IH 2 & FM 907 CITY LOGO, LANDSCAPE AND IRRIGATION IMPROVEMENTS
CSJ 0039-03-XXX

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THIS DOCUMENT IS FOR
 NOT WITHHELD FOR
 CONSTRUCTION PURPOSES.
 IT IS THE PROPERTY OF
 THE ENGINEER AND SHALL
 BE RETURNED TO HIM
 OR HER UPON REQUEST.



21 OCT 2024
 DATE

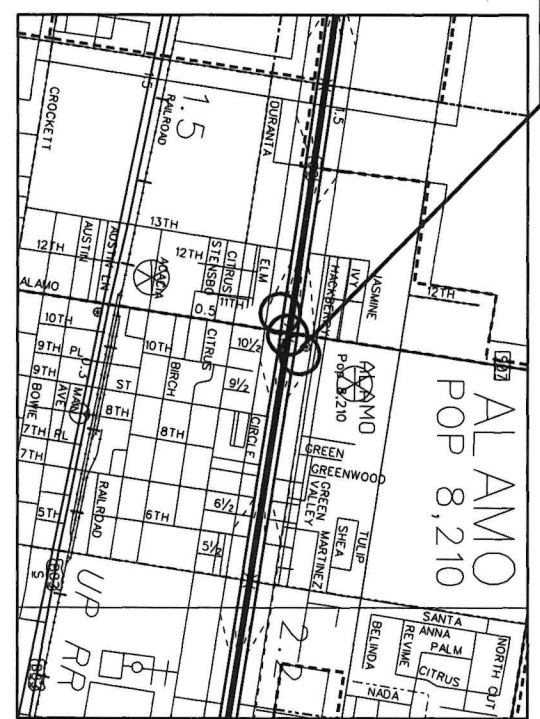
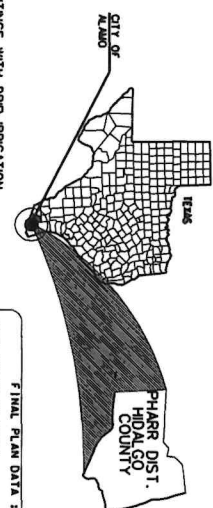
STANDARD SHEETS NO. 18 THRU NO. 30
 HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE
 SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

21 OCT 2024
 DATE

[Signature]

STATE OF TEXAS
CITY OF ALAMO
PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT
INTERSTATE HIGHWAY IH 2
 PROJECT NO.: CSJ-0039-03-XXX

NET LENGTH OF PROJECT - 2 MILES
 HIDALGO COUNTY
 LIMITS: AT INTERSECTION OF FM 907 AND H 2 INTERCHANGE
 AT THE INTERSECTION OF FM 907 AND H 2 WITHIN THE CITY OF ALAMO, TEXAS
 CONSTRUCTION OF LANDSCAPE IMPROVEMENTS CONSISTING OF CITY LOGO, VEGETATION PLANTINGS WITH DRIP IRRIGATION



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SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF
 TRANSPORTATION ON JUNE 1, 2004 AND SPECIFICATION
 ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN
 ON THIS PROJECT:
 REQUIRED CONTRACT PROVISIONS FOR FEDERAL - AD
 CONSTRUCTION CONTRACTS FROM FHWA 273 MAY 2021.

TOR INSPECTION NOT REQUIRED

DESIGN SPEED: WVA RPM
 EXCEPTION: NONE
 EQUATION: NONE
 ALM ROAD CROSSING: NONE

NO SCALE

TEXAS DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR LETTING:

DISTRICT DESIGNER:

APPROVED FOR LETTING:

DIRECTOR TRAFFIC OPERATIONS DIVISION

FORWARDED FOR LETTING:

DISTRICT DESIGN SUPPORT DESIGNER:

APPROVED FOR LETTING:

DIRECTOR DESIGN DIVISION

LOCAL ENTITIES

CITY OF ALAMO
 CONSENT:

NAME: _____ DATE: _____

TITLE: _____

FINAL PLAN DATA:

FINAL CONTRACT PRICE: _____

CONTRACTING NAME: _____

CONTRACT ADDRESS: _____

LETTING DATE: _____

DATE WORK BEGAN: _____

DATE WORK COMPLETED: _____

DATE OF ACCEPTANCE: _____

CHANGE ORDERS & SUPP. AGREEMENTS: _____

| | |
|-------------------|-------------|
| STATE PROJECT NO. | 385 |
| STATE | TX |
| COUNTY | HIDALGO |
| PROJECT NO. | 0039-03-XXX |
| DATE | 21 OCT 2024 |

SUMMARY OF LANDSCAPE ITEMS

| ITEM CODE | DESCRIPTIVE CODE | 1005 | 104 | 170 | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 102 | 500 | 502 | 520 | XXXX |
|--------------|------------------|-----------------------|----------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------------------|--------------|-----------------|---------------------------|-------------------------|-----|------|------|------|------|------|
| SHEET NO. | WASH ROCK SO/VOS | SEEING EROSION SO/VOS | IRRIGATION SYSTEM LS | LANDSCAPE PLANTING 1 CAL. EA | LANDSCAPE PLANTING 5 CAL. EA | LANDSCAPE PLANTING 10 CAL. EA | LANDSCAPE PLANTING 15 CAL. EA | LANDSCAPE PLANTING 30 CAL. EA | LANDSCAPE PLANTING 2.5 BAR EA | LANDSCAPE PLANTING 4" PALM | PLANT BED ST | MOBILIZATION LS | BARBER'S SIGN & HAND. MO. | CONC. SIGN (SEE DETAIL) | 209 | XXXX | XXXX | XXXX | XXXX | XXXX |
| 5-8 | 224 | 364 | 1 | 34 | 94 | 12 | 12 | 4 | 2 | 4 | 224 | 1 | 2 | 209 | 2 | | | | | |
| 14-17 | | | | | | | | | | | | | | | | | | | | |
| 18-20 | | | | | | | | | | | | | | | | | | | | |
| GENERAL ITEM | | | | | | | | | | | | | | | | | | | | |
| TOTAL | 224 | 364 | 1 | 34 | 94 | 12 | 12 | 4 | 2 | 4 | 224 | 1 | 2 | 209 | 2 | | | | | |

SUMMARY OF ENVIRONMENTAL CONTROL ITEMS

| ITEM CODE | DESCRIPTIVE CODE | 506 | 506 |
|--------------|------------------------|-----|-----|
| SHEET NO. | BORECO ERO B" INST. UP | 550 | 550 |
| GENERAL ITEM | | | |
| TOTAL | | 48 | 48 |



Stephen P. Walker, 21 Oct 2024
 REGISTERED LANDSCAPE ARCHITECT
 STATE OF TEXAS
 NO. 1774
 THE TEXAS BOARD OF ARCHITECTURAL EXAMINERS,
 P.O. BOX 12337, AUSTIN, TEXAS 78711-2337
 OVER COMPLIANCE SECTION HAS REVIEWED AND APPROVED THE PROFESSIONAL PRACTICES OF PERSONS REGISTERED AS LANDSCAPE ARCHITECTS IN TEXAS.

LANDSCAPE SUMMARY OF ESTIMATED QUANTITIES
 SHEET 1 OF 1
 © 2024
 STATE PROJECT NO. _____
 COUNTY: HIDALGO
 DISTRICT: 0039
 SECTION: 03
 JOB: XXX
 SHEET NO: 2
 DRAWING NO: 2

CONTRACT TIME ESTIMATE WORKSHEET

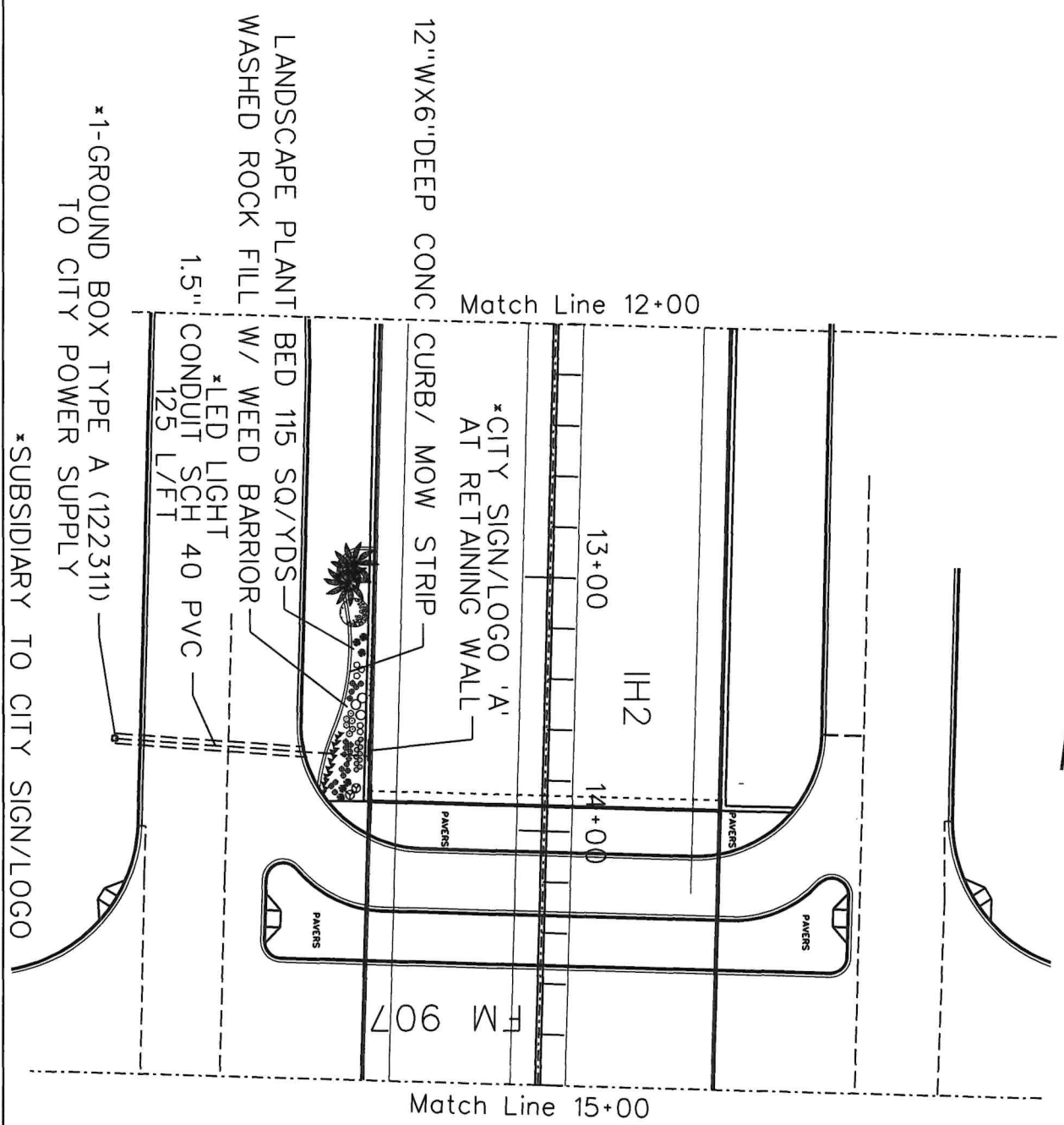
Highway: H 2 / 907 CITY OF ALAMO LANDSCAPE IMPROVEMENT PROJECT
 Project: XXXX
 Date: OCT 2024
 C-S-J# 0039-03-XXX
 COUNTY: HIDALGO

| ID No. | Work Item (Unit) | Quantity | Duration (days) | Start Day | Finish Day | Timeline in calendar days | | | | | | | | | | | | | |
|--------|---|----------|-----------------|-----------|------------|------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1 | ITEM 500 / 502 MOBILIZATION & SIGNS SWPPP | 1 | 5 | 1 | 5 | [Gantt bar from Day 1 to Day 5] | | | | | | | | | | | | | |
| 2 | ITEM 529 CONC. MOW STRIP L/FT | 209 | 15 | 5 | 20 | [Gantt bar from Day 5 to Day 20] | | | | | | | | | | | | | |
| 3 | ITEM 192 PLANT BED PREPARATION Q/YDS | 244 | 10 | 15 | 25 | [Gantt bar from Day 15 to Day 25] | | | | | | | | | | | | | |
| 4 | ITEM 170 IRRIGATION SYSTEM L/S | 1 | 20 | 20 | 40 | [Gantt bar from Day 20 to Day 40] | | | | | | | | | | | | | |
| 5 | ITEM XXXXX SIGNAGE EACH | 2 | 20 | 30 | 50 | [Gantt bar from Day 30 to Day 50] | | | | | | | | | | | | | |
| 6 | ITEM 192 LANDSCAPE PLANTING EACH | 162 | 15 | 5 | 25 | [Gantt bar from Day 5 to Day 25] | | | | | | | | | | | | | |
| 7 | ITEM 302 AGGREG. SURFACE TREATMENT SQ/YDS | 224 | 15 | 35 | 50 | [Gantt bar from Day 35 to Day 50] | | | | | | | | | | | | | |
| 8 | 90 PLANT MAINTENANCE EACH | 1 | 90 | 50 | 140 | [Gantt bar from Day 50 to Day 140] | | | | | | | | | | | | | |
| 9 | CLEAN UP EACH | 1 | 10 | 45 | 55 | [Gantt bar from Day 45 to Day 55] | | | | | | | | | | | | | |



Stephen P. Walker
 REGISTERED LANDSCAPE ARCHITECT
 STATE OF TEXAS
 1774
 STEPHEN P. WALKER
 ARCHITECT

CONTRACT TIME LINE
 SHEET 1 OF 1
 © 2024
 STATE PROJECT NO. _____
 STATE: TEXAS DIST: PHARR COUNTY: HIDALGO CONT: 0039 SECT: 03 JOB: XXX H: 2
 SHEET NO. 3



*1-GROUND BOX TYPE A (122311)
 TO CITY POWER SUPPLY
 *SUBSIDIARY TO CITY SIGN/LOGO

1.5" LED LIGHT
 CONDUIT SCH 40 PVC
 125 L/FT

LANDSCAPE PLANT
 WASHED ROCK FILL
 BED 115 SQ/YDS
 W/ WEED BARRIER

12" WX 6" DEEP CONC CURB/ MOW STRIP

*CITY SIGN/LOGO 'A'
 AT RETAINING WALL

Match Line 12+00

Match Line 15+00



SCALE: 1" = 40'

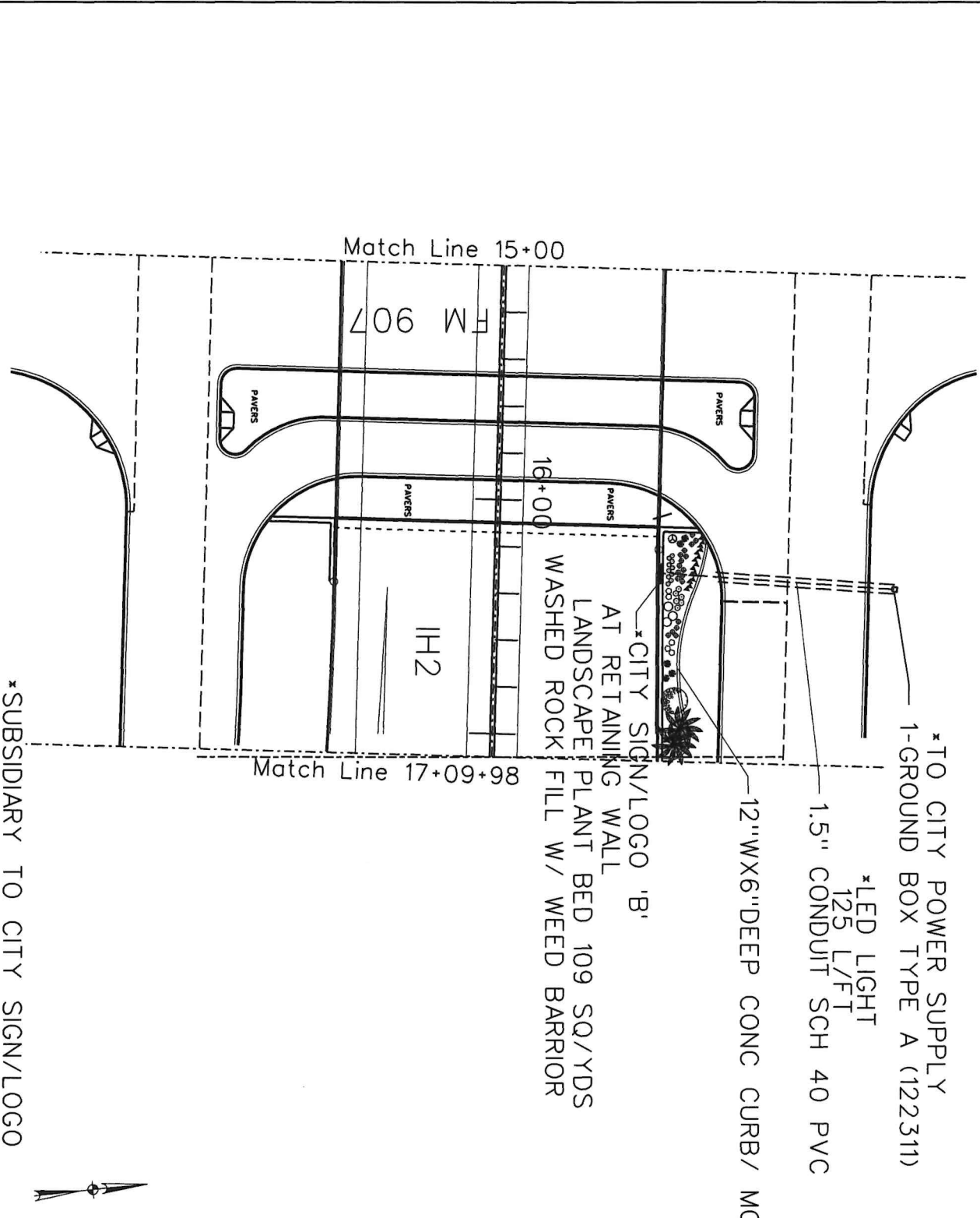
© 2024

CITY OF ALAMO
LANDSCAPE LAYOUT
AT IH2 & FM 907

SHEET 1 OF 2

| | | | |
|------------------|----------|-------------|--------|
| TITLE | DATE | PROJECT NO. | SHEET |
| LANDSCAPE LAYOUT | 6/2024 | 122311 | 1 OF 2 |
| DESIGNED BY | DRAWN BY | CHECKED BY | DATE |
| PRABHU | PRABHU | PRABHU | 6/2024 |
| CITY OF ALAMO | 122311 | 122311 | 1 OF 2 |





* TO CITY POWER SUPPLY
1-GROUND BOX TYPE A (122311)

* LED LIGHT
125 L/FT
1.5" CONDUIT SCH 40 PVC

12" W X 6" DEEP CONC CURB/ MOW STRIP

* CITY SIGN/LOGO 'B'
AT RETAINING WALL
LANDSCAPE PLANT BED 109 SQ/YDS
WASHED ROCK FILL W/ WEED BARRIOR

Match Line 15+00

FM 907

16+00

Match Line 17+09+98

* SUBSIDIARY TO CITY SIGN/LOGO

SCALE: 1" = 40'

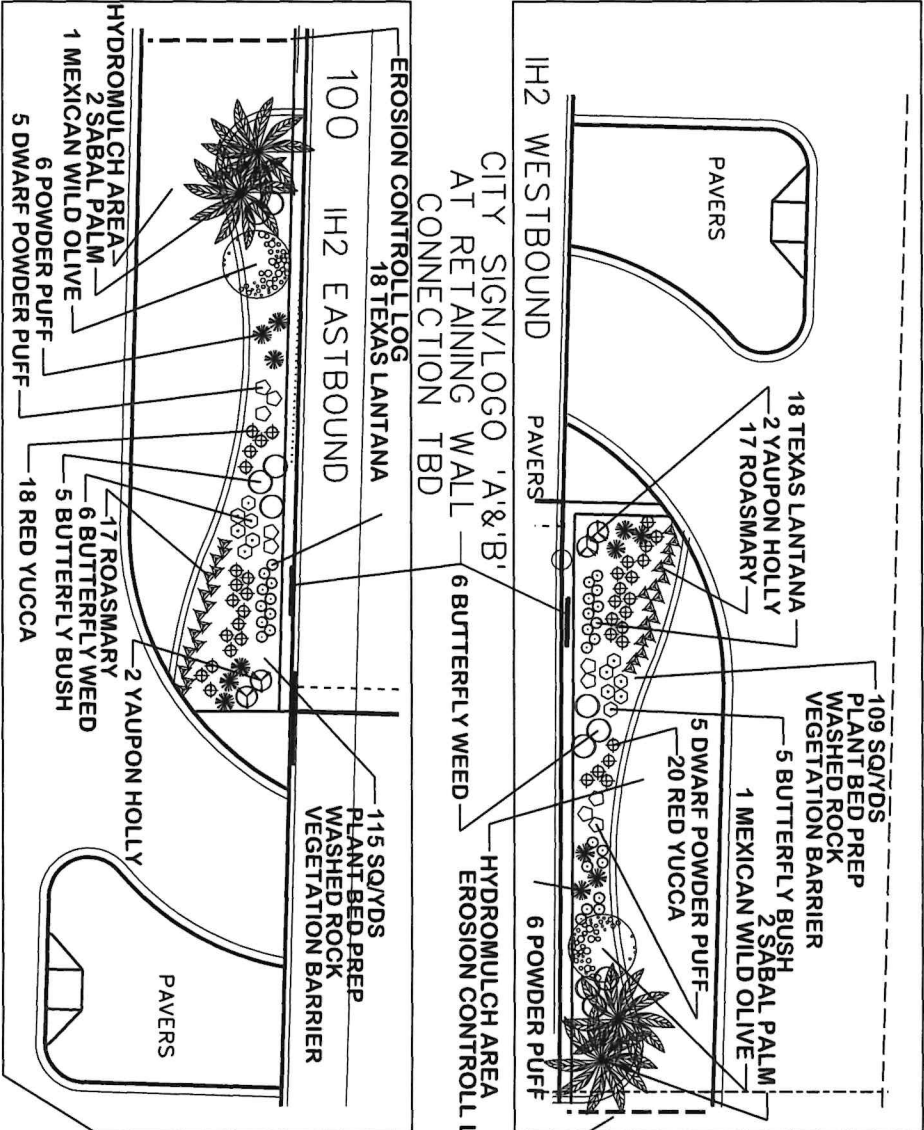
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CITY OF ALAMO
LANDSCAPE LAYOUT
AT IH2 & FM 907

SHEET 2 OF 2

| | | |
|----------|-------------|-------|
| DATE | PROJECT NO. | SHEET |
| 6 | | 5 |
| STATE | COUNTY | |
| TEXAS | INDUOG | |
| CONTRACT | JOB | |
| 0039 | XIX | 42 |





ITEM 192 LANDSCAPE PLANTING

| COMMON NAME | SCIENTIFIC NAME | QUANTITY |
|-------------------|---------------------------|----------|
| SABAL PALM | SABAL TEXAMA | 4 |
| WILD OLIVE | COROLA BOISSIERI | 2 |
| YAUPOH HOLLY | ILEX VONITZIOHA | 4 |
| POWDER PUFF | CALLIANDRA EMBORQUATA | 12 |
| ROSMARY | DESERTE OFFICINALLS 'ARP' | 34 |
| DWARF POWDER PUFF | CALLIANDRA EMBORQUATA | 10 |
| BUTTERFLY BUSH | BUDDEIA SP. LANZAROTE | 10 |
| BUTTERFLY WEED | ASCLEPIAS TUBEROSA | 12 |
| TEXAS RED YUCCA | HESTRALGE PARVIFLORA | 30 |
| TEXAS LANTANA | LANTANA HORNDIA | 30 |

| | | |
|-------------------------------|--------------------------------------|-------|
| WASHED ROCK | 1'-1.5' ROCK* | 50/70 |
| ITEM 1005 WASHED ROCK. | | 224 |
| VEGETATION BARRIER | ITEM 1005 VEGETATION BARRIER | 50/70 |
| | | 224 |
| PLANT BED PREP. AT PLANT BEDS | ITEM 192 PLANT BED PREP. | 50/70 |
| | | 224 |
| SEEDING FOR EROSION CONTROL | ITEM 164 SEEDING FOR EROSION CONTROL | 50/70 |
| | | 364 |
| SEEDING FOR EROSION CONTROL | ITEM 506 SEEDING FOR EROSION CONTROL | L/F/T |
| EROSION CONTROL LOG | | 76 |

PLANT LEGEND

- BUTTERFLY BUSH
- ⊗ BUTTERFLY WEED
- ⊗ YAUPOH HOLLY
- ⊗ POWDER PUFF
- ⊗ DWARF POWDER PUFF
- ⊗ RED YUCCA
- ⊗ ROSMARY
- ⊗ TEXAS LANTANA



SABAL PALM



MEXICAN WILD OLIVE

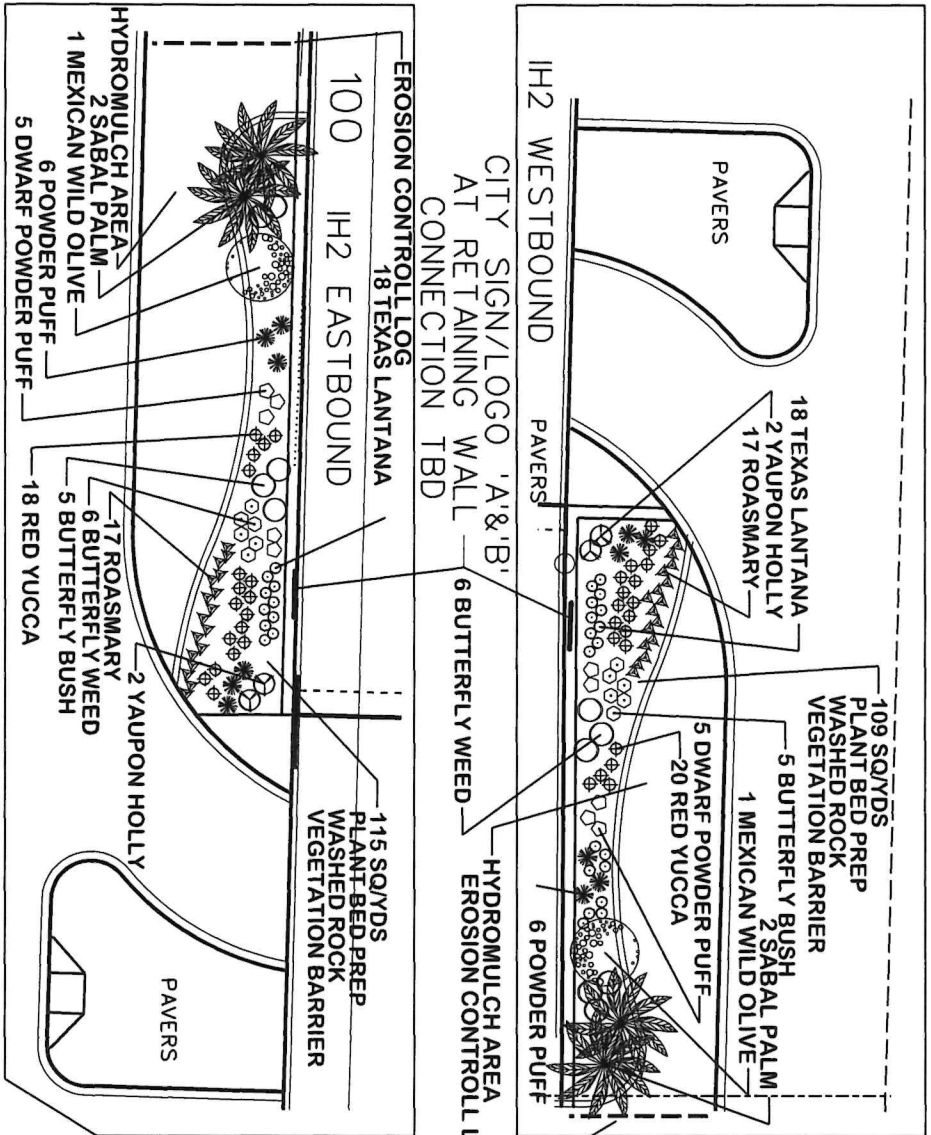


SCALE: 1" = 20'

CITY OF ALAMO
LANDSCAPE PLANTING
AT IH2 & FM 907

SHEET 2 OF 2

| DATE | BY | REVISION |
|------------|----|-------------------|
| 11/04/2024 | PH | ISSUED FOR PERMIT |
| 03/19 | CS | REVISED |





ITEM 192 LANDSCAPE PLANTING

| COMMON NAME | SCIENTIFIC NAME | QUANTITY |
|-------------------|------------------------|----------|
| SABAL PALM | SABAL TEXANA | 4 |
| WILD OLIVE | CORDIA BOISSIERI | 2 |
| YAUPOON HOLLY | ILEX VORLITHORNA | 4 |
| ROASMARY | CALLIANDRA EMBARGUATA | 12 |
| DWARF POWDER PUFF | DESERT GREGGIIUS 'AMP' | 34 |
| BUTTERFLY BUSH | BUDONIA SP. 'LAVENDER' | 18 |
| BUTTERFLY WEEED | ASCLEPIAS TOBERNSA | 12 |
| TEXAS RED YUCCA | HESTRALOE PARVIFLORA | 38 |
| TEXAS LANTANA | LANTANA HORRIDA | 38 |

| | |
|--------------------------------------|--------|
| ITEM 1005 WASHED ROCK. | 50/7/D |
| WASHED ROCK | 224 |
| ITEM 1005 VEGETATION BARRIER | 50/7/D |
| VEGETATION BARRIER | 224 |
| ITEM 192 PLANT BED SEEDS | 50/7/D |
| PLANT BED PREP. AT PLANT BEDS | 224 |
| ITEM 164 SEEDING FOR EROSION CONTROL | 50/7/D |
| SEEDING FOR EROSION CONTROL | 364 |
| ITEM 506 SEEDING FOR EROSION CONTROL | L/FT |
| EROSION CONTROL LOG | 46 |

PLANT LEGEND

- BUTTERFLY BUSH
 - BUTTERFLY WEEED
 - YAUPOON HOLLY
 - POWDER PUFF
 - DWARF POWDER PUFF
 - RED YUCCA
 - ROASMARY
 - TEXAS LANTANA
-  SABAL PALM
 MEXICAN WILD OLIVE



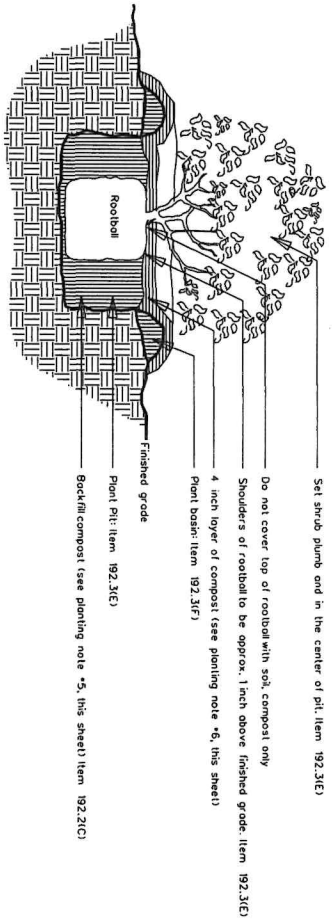
SCALE 1" = 20'

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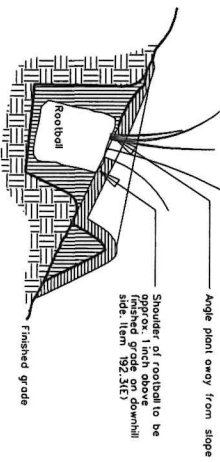
CITY OF ALAMO
LANDSCAPE PLANTING
AT IH2 & FM 907

SHEET 2 OF 2

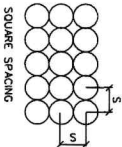
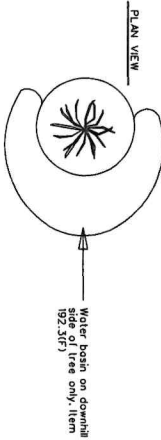
| | | | |
|-------------|-------------|--------------|----------|
| DATE | 21 OCT 2024 | SCALE | AS SHOWN |
| STATE | TEXAS | COUNTY | B |
| PROJECT NO. | 0039 | DRAWN BY | PM |
| DATE | 03 | REVISION NO. | 02 |



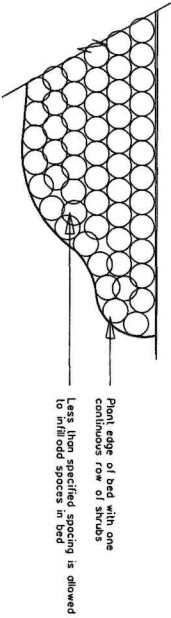
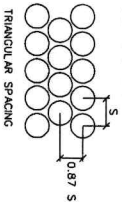
SHRUB AND VINE PLANTING



SHRUB AND VINE PLANTING ON SLOPES



5- Spacing as indicated on the plans, Square or Triangular spacing shall be used. The spacing will be called out in the plan label.



SHRUB AND VINE SPACING IN MASS PLANTING BEDS

| PHASE | ITEM DESCRIPTION | FREQUENCY | RATE |
|---|---|--------------------------|---|
| Construction/operation (Item 192.31G) | Watering with the irrigation system. If the automatic system shall be provided by the contractor's expense. | JANUARY through DECEMBER | See note by as planting 2 times per week 2 days minimum between watering at the contractor's expense. |
| Topsoil Establishment per Item 192.210(1) | | | 2 lines plant continue per plant |

NOTES:
 Rate and frequency may be adjusted to meet site conditions and weather as approved or directed by the Engineer.
 Plants which utilize an automatic irrigation system shall be installed with appropriate irrigation section valve assembly and quick connect devices are operable. At time of installation of plants shall be watered at the same day as planting at a rate and frequency shown on the drawings. Water delivered through irrigation system shall be paid according to general notes on Watering Details Sheet (15) and rejected according to Item 192.21B) and rejected at Contractor's expense.

PLANTING NOTES:

- Contractor shall be responsible for referencing Item 192 of the Texas Standard Specifications for Construction and Maintenance of Highways for dimension, volume and measurement but have been modified or not shown.
- Item 192.21B) points shall be in accordance with the following:
 - Contractor shall verify that all planting meets the spacing, color zone and trees 30' standards from edge of travel lane unless protected by barriers, shrubs 15' set from edge of travel lane, groundcover, no min. distance, if protected by barrier, the Engineer shall determine, the roadway edges shown on the plans are to be considered the edge of travel lane unless otherwise noted.
 - All allocations of trees, shrubs and beds shall be stored in the field by the Contractor and shall be protected with 2' x 2' x 2' boll removed from the plant pit, 30% general Specification Item 151 Compost and shall be incidental.
 - Contractor shall use Special Specification for shrub planting shall be general use compost as described in Special Specification Item 151 Compost.
 - Contractor shall use Special Specification for shrub planting shall be general use compost as described in Special Specification Item 151 Compost.
 - Contractor shall use Special Specification for shrub planting shall be general use compost as described in Special Specification Item 151 Compost.

Stephen P. Walker, Registered Landscape Architect, State of Texas, No. 1774.

21 Oct 2024
 SHEET 2 OF 5
 PLANTING AND ESTABLISHMENT
 SHRUB AND VINE

| | | | | | |
|----------|----------|-------|----------|---------|----------------|
| DATE | 10/21/24 | STATE | TX | PROJECT | SHRUB AND VINE |
| SCALE | AS SHOWN | DATE | 10/21/24 | PROJECT | SHRUB AND VINE |
| BY | SP | DATE | 10/21/24 | PROJECT | SHRUB AND VINE |
| CHECKED | SP | DATE | 10/21/24 | PROJECT | SHRUB AND VINE |
| APPROVED | SP | DATE | 10/21/24 | PROJECT | SHRUB AND VINE |

PLANT SPECIFICATIONS

| Botanical Name | Common Name | Color | Quantity | Root Condition | Caliper | Height | Spread | Remarks |
|--------------------------|--------------------------|-------|----------|-----------------|--------------|----------|----------|---------------|
| TREES | | | | | | | | |
| SABAL PALM | SABAL TEXANA | | 4 | B&B | 4 TRUNK FOOT | 4 MIN. | 4'-5" | NURSERY-GROWN |
| WILD OLIVE | CORDIA BOISSIERI | | 2 | B&B | 2 1/2" | 6' - 8' | 3'-4" | NURSERY-GROWN |
| YAPON HOLLY | ILEX VOMITORIA | | 4 | 30 GALLON CONT. | 2" | 6' - 8' | 3'-4" | NURSERY-GROWN |
| SHRUBS | | | | | | | | |
| POWDER PUFF | CALLIANDRA EMARGINATA | | 12 | 10 GAL. | | MIN. 3' | MIN. 2' | NURSERY-GROWN |
| BUTTERFLY WEED | BUDDLEIA SP. (LAVENDER) | | 12 | 15 GAL. | | MIN. 3' | MIN. 2' | NURSERY-GROWN |
| DWARF POWDER PUFF | CALLIANDRA EMARGINATA | | 10 | 5 GAL. | | MIN. 12" | MIN. 12" | NURSERY-GROWN |
| BUTTERFLY BUSH | BUDDLEIA SP. (LAVENDER) | | 10 | 5 GAL. | | MIN. 2' | MIN. 2' | NURSERY-GROWN |
| TEXAS RED YUCCA | HESPERALOE PARVIFLORA | | 38 | 5 GAL. | | MIN. 2' | MIN. 2' | NURSERY-GROWN |
| ROASMARY | DESEPT OFFICINALIS 'ARP' | | 34 | 1 GAL. | | MIN. 12" | MIN. 12" | NURSERY-GROWN |
| TEXAS LANTANA | LANTANA HORRIDA | | 36 | 5 GAL. | | MIN. 2' | MIN. 2' | NURSERY-GROWN |
| VINE/GROUND COVER | | | | | | | | |

- PLANT SPECIFICATIONS:
- Contractor shall be responsible for referencing the Contractor's latest Standard Specifications for Construction, Texas Standard Specifications Streets and Bridges 2014 for specifications that have been modified or not shown.
 - Rejection of plants shall be in accordance with 3. The contractor shall be responsible for the safe transportation of plants to the project surface or left exposed to the sun, protect planting, if plants are left in storage over the weekend or holiday, a means of protection shall be provided.
 - All plants shall be hardy, symmetrical, light and appearance as to be superior in form, number of branches, and compactness. Plants shall be densely foliated when in leaf, and shall have healthy, well-developed root systems.
 - Plants shall be inspected and approved by the contractor unless otherwise shown on plans.



THE STATE BOARD OF ARCHITECTURE, ENGINEERS AND SURVEYORS HAS REVIEWED THESE PLANS AND FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL ACT AND THE PUBLIC HEALTH, SAFETY AND INTERESTS THEREOF. APPROVED IN TEXAS.

Stephen P. Walker
 STEPHEN P. WALKER, L.A.
 DATE: 21 Oct 2024

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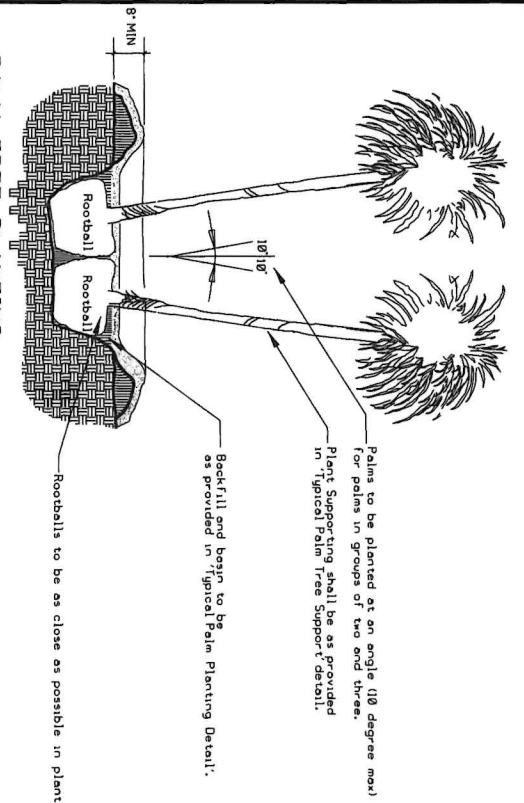
**PLANTING AND ESTABLISHMENT
 PLANT SPECIFICATIONS**

| | | | | |
|----------------------------|-------------|-------------------|----------------|-------|
| TITLE | DATE | BY | PROJECT NUMBER | ISSUE |
| PLANTING AND ESTABLISHMENT | 21 OCT 2024 | STEPHEN P. WALKER | | 1 |
| DESCRIPTION | DATE | BY | PROJECT NUMBER | ISSUE |
| | | | | |

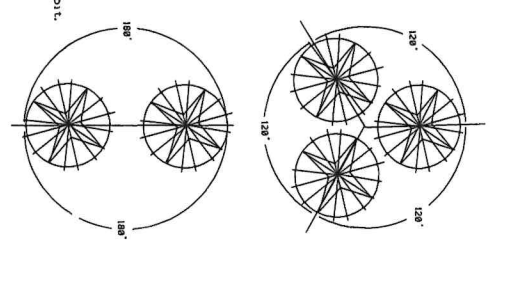
SHEET 5 OF 5

| VEGETATIVE WATERING SCHEDULE FOR PALMS | | |
|--|---|------------------------------------|
| PHASE | ITEM DESCRIPTION | RATE |
| Construction/Installation operations, Item 192.31(C) | Including water provided by the irrigation system, if any, during the 90-day Establishment period, Item 922.30(1)(15) | 2 times plant gallon site per palm |
| Or as required in item 922.30(1)(15) of the Contracting Form by the manufacturer, or as applicable to this project | Watering requirements including requirements for electrical power | per 60 gallons |

NOTES:
 Rate and frequency may be adjusted to meet site conditions and weather as approved or directed by the Engineer.
 Refer to Item 968.2 for water quality information.
 Palms which will have an automatic irrigation system installed with appropriate backflow prevention devices are operable. At time of installation, a backflow prevention device shall be installed immediately after point installation. Water delivered through irrigation system shall be paid according to general/irrigation notes on Contracting Form, Item 922.31(B) and (C).
 Stressed palm material water applied according to Item 192.21(B) response.
 Contractor's expense.



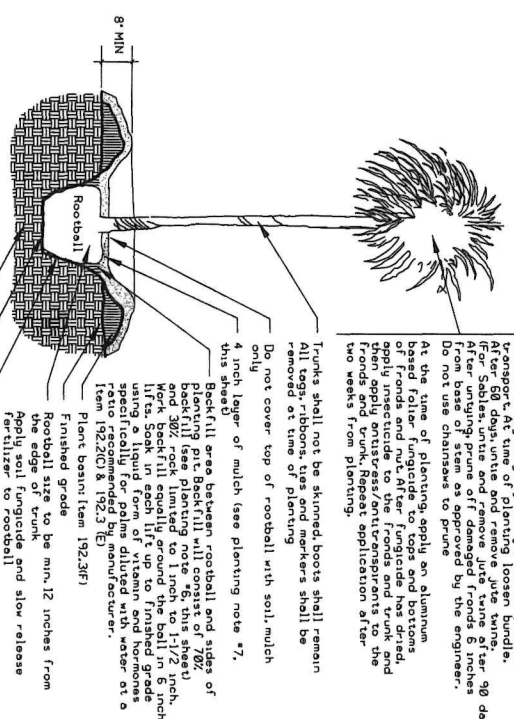
PALM TREE PLANTING IN CLUSTERS
NOT TO SCALE



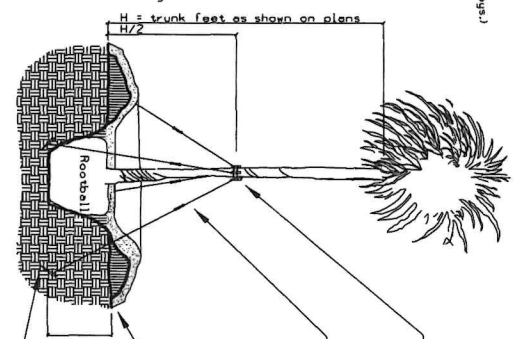
PALM TREE PLANTING (PLAN VIEW) IN CLUSTERS
NOT TO SCALE

Set tree plumb and in center of pit, top 1/3 of rootball should be above finished grade.
 Backfill and basin to be as provided in Typical Palm Planting Detail.
 Bundle foliage tightly with jute twine prior to transport. At time of planting loosen bundle.
 After 60 days, untie and remove jute twine.
 After 60 days, remove jute twine.
 After untwining prune off damaged fronds 6 inches from base of stem as approved by the engineer.
 Do not use chainsaws to prune.
 At the time of planting, apply an aluminum based foliar fungicide to tops and bottoms of fronds and trunk. After fungicide has dried, then apply antistress/antitranspirants to the fronds and trunk. Repeat application after two weeks from planting.

Trunks shall not be skinned; boots shall remain. All tags, ribbons, ties and markers shall be removed at time of planting.
 Do not cover top of rootball with soil, mulch only.
 4 inch layer of mulch (see planting note 7, this sheet).
 Backfill area between rootball and sides of backfill (see planting note 6, this sheet) and 30% rock limited to 1 inch to 1-1/2 inch. Work backfill equally around the ball in 8 inch increments.
 Use a liquid form of vitamin and hormones specifically for palms diluted with water at a rate 1/2 recommended by manufacturer.
 Refer to 192.31(C) & 192.31(B).



TYPICAL PALM TREE PLANTING
NOT TO SCALE



TYPICAL PALM TREE SUPPORT
NOT TO SCALE



Steven Baker
 21 Oct 2024

1x4\"/>
 3 - 2x4x12 metal blocks wrapped to trunk with 2 nylon straps designed to prevent scoring, cutting or other damage at point of contact to tree

Plant Support, Item 192.31(J).
 Greeter than 18 foot trees: Four 1/4 inch galvanized steel aircraft zinc plated, 3/8 inch thick diameter with 6 inch take-up, speed equal distance around and beyond rootball.
 Less than 18 foot trees: Two 1/4 inch diameter 6 inch take-up, speed equal distance around and beyond rootball.
 Use 3/8 inch threaded equal diameter and beyond rootball.
 Finished grade
 Min. 36 inch when manufacturer recommendation is less
 Steel anchor as specified for tree height

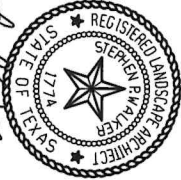
21 Oct 2024

PLANTING AND ESTABLISHMENT SHEET 3 OF 5

| DATE | BY | STATE | STATE OF TEXAS | PALM TREE |
|------|----|-------|----------------|-----------|
| 24 | 8 | 197 | 197 | |
| 20 | 10 | 197 | 197 | |
| 15 | 10 | 197 | 197 | |
| 10 | 10 | 197 | 197 | |

LANDSCAPE ESTABLISHMENT AND MAINTENANCE REQUIREMENTS

| DESCRIPTION | LIMITS | REQUIREMENTS | FREQUENCY |
|---|--|--|--|
| <p>B2-PLANTING AND ESTABLISHMENT</p> <p>AFTER COMPLETION OF THE PROJECT INSTALLATION AS SHOWN ON THE PLANS AND CONTRACTOR SHALL PERFORM MAINTENANCE AND REPLACEMENT ACTIVITIES FOR A PERIOD OF 90 CALENDAR DAYS. ALL WORK DURING 90 CALENDAR DAY ESTABLISHMENT PERIOD SHALL BE PERFORMED BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN THE ESTABLISHMENT PERIOD FOR THE ENTIRE DURATION OF THE PROJECT. THE CONTRACTOR SHALL MAINTAIN THE ESTABLISHMENT PERIOD FOR THE ENTIRE DURATION OF THE PROJECT. THE CONTRACTOR SHALL MAINTAIN THE ESTABLISHMENT PERIOD FOR THE ENTIRE DURATION OF THE PROJECT.</p> | <p>LIMITS OF PLANTING ARE AS SHOWN ON THE PLANS.</p> | <p>CONTRACTOR SHALL COMPLETE INSTALLATION AS SHOWN IN THE PLANS AND PERFORM MAINTENANCE AND REPLACEMENT ACTIVITIES FOR A PERIOD OF 90 CALENDAR DAYS. ALL WORK DURING 90 CALENDAR DAY ESTABLISHMENT PERIOD SHALL BE PERFORMED BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN THE ESTABLISHMENT PERIOD FOR THE ENTIRE DURATION OF THE PROJECT. THE CONTRACTOR SHALL MAINTAIN THE ESTABLISHMENT PERIOD FOR THE ENTIRE DURATION OF THE PROJECT. THE CONTRACTOR SHALL MAINTAIN THE ESTABLISHMENT PERIOD FOR THE ENTIRE DURATION OF THE PROJECT.</p> | <p>PLANTING AND ESTABLISHMENT ACTIVITIES SHALL OCCUR AT LEAST ONCE PER MONTH. VEGETATIVE WATERING SHALL OCCUR AS SHOWN ON THE PLANS. MAINTENANCE AND ESTABLISHMENT PERIODS SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. MAINTENANCE PERIODS SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.</p> |
| <p>B3-901 PLANT MAINTENANCE (90)</p> <p>IF APPLICABLE TO THIS PROJECT</p> <p>PLANT MAINTENANCE APPLIES TO LANDSCAPE ESTABLISHMENT PERIOD ACCORDING TO REQUIREMENTS SHOWN OR REFERENCED ON THIS SHEET.</p> | <p>LIMITS OF PLANTING ARE AS SHOWN ON THE PLANS.</p> | <p>CONTRACTOR SHALL MAINTAIN ALL PLANTING AREAS GENERALLY WEED AND GRASS FREE. WEEDS AND GRASS SHALL BE MANUALLY REMOVED OR CONTROLLED WITH FREEDOM EXCEPT FOR WEEDS AND GRASS THAT ARE IDENTIFIED AS WEEDS AND GRASS IN THE PLANS. CONTRACTOR SHALL MAINTAIN WEED AND GRASS FREE AREAS THROUGHOUT THE ESTABLISHMENT PERIOD. CONTRACTOR SHALL MAINTAIN WEED AND GRASS FREE AREAS THROUGHOUT THE ESTABLISHMENT PERIOD. CONTRACTOR SHALL MAINTAIN WEED AND GRASS FREE AREAS THROUGHOUT THE ESTABLISHMENT PERIOD.</p> | <p>PLANT MAINTENANCE ACTIVITIES SHALL OCCUR AT LEAST ONCE PER MONTH. VEGETATIVE WATERING SHALL OCCUR AS SHOWN ON THE PLANS. MAINTENANCE AND ESTABLISHMENT PERIODS SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. MAINTENANCE PERIODS SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.</p> |
| <p>B3-906 VEGETATIVE WATERING (90)</p> <p>IF APPLICABLE TO THIS PROJECT</p> | <p>LIMITS OF IRRIGATION SYSTEM MAINTENANCE WILL BE THE ENTIRE SYSTEM(S) FROM THE WATER METERS(S)</p> | <p>VEGETATIVE WATERING SHALL OCCUR AS SHOWN ON "TREE PLANTING DETAILS, WATERING SCHEDULE, NOTES AND SPECIFICATIONS" SHEETS. STRESSED, DAMAGED, OR DEAD PLANTS RESULTING FROM CONTRACTOR'S ACTIONS OR INADEQUATE WATERING SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.</p> | <p>VEGETATIVE WATERING SHALL OCCUR AS SHOWN ON "TREE PLANTING DETAILS, WATERING SCHEDULE, NOTES AND SPECIFICATIONS" SHEETS. STRESSED, DAMAGED, OR DEAD PLANTS RESULTING FROM CONTRACTOR'S ACTIONS OR INADEQUATE WATERING SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.</p> |
| <p>B3-907 IRRIGATE 51% OPEN AND LIMIT (90)</p> <p>IF APPLICABLE TO THIS PROJECT</p> | <p>LIMITS OF IRRIGATION SYSTEM MAINTENANCE WILL BE THE ENTIRE SYSTEM(S) FROM THE WATER METERS(S)</p> | <p>CONTRACTOR SHALL MAINTAIN ALL IRRIGATION SYSTEMS ACCORDING TO ITEM B3.2 AND THE REQUIREMENTS DESCRIBED IN THE "IRRIGATION DETAILS SHEET(S)". STRESSED, DAMAGED, OR DEAD PLANTS RESULTING FROM CONTRACTOR'S ACTIONS OR INADEQUATE WATERING SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.</p> | <p>CONTRACTOR SHALL INSPECT IRRIGATION SYSTEM PERIODICALLY AND MAKE NECESSARY ADJUSTMENTS TO MAINTAIN 51% OPEN AND LIMIT. STRESSED, DAMAGED, OR DEAD PLANTS RESULTING FROM CONTRACTOR'S ACTIONS OR INADEQUATE WATERING SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.</p> |

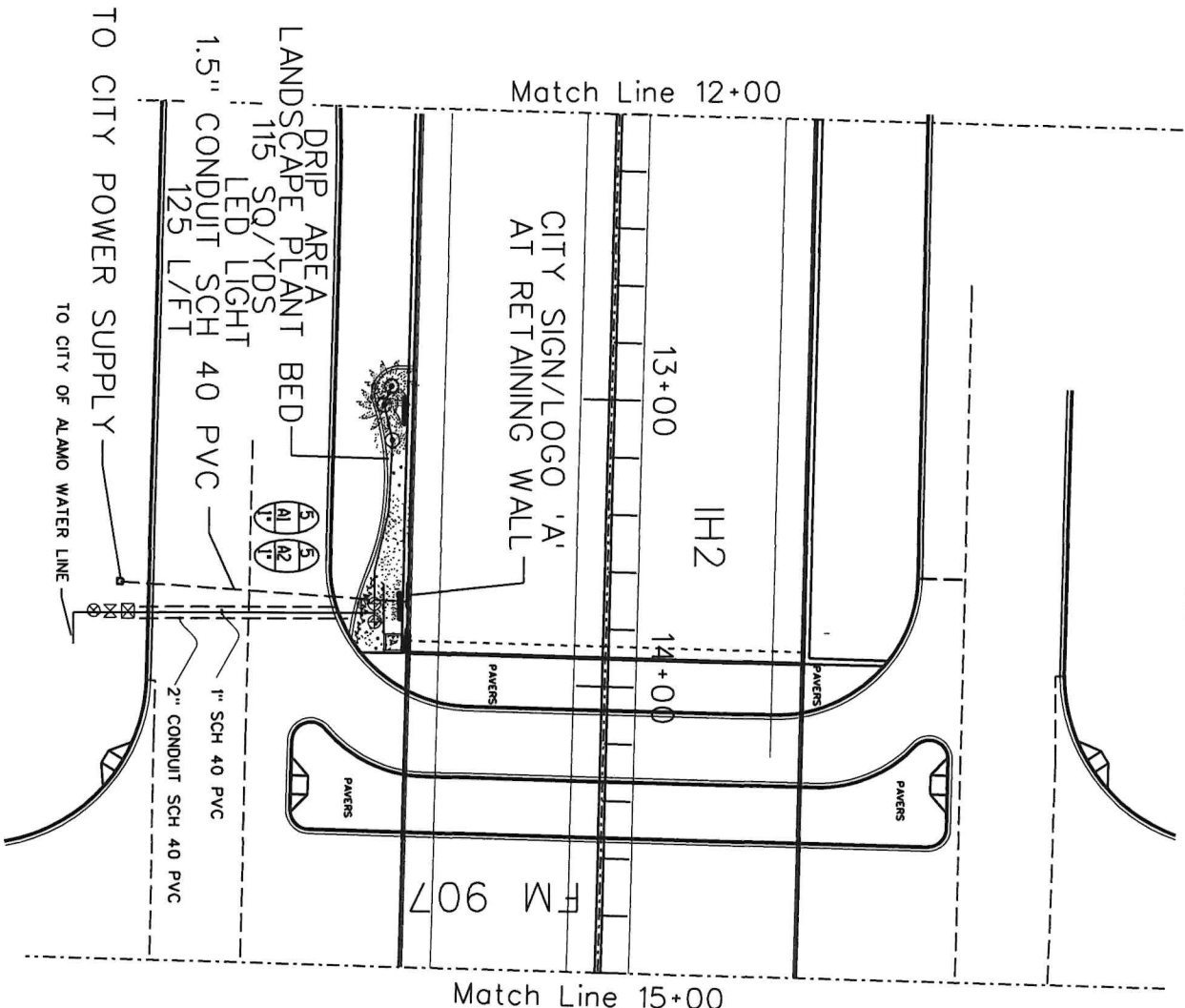


 THE STATE BOARD OF ARCHITECTURE AND ENGINEERS
 HAS GRANTED LICENSE TO THE UNDERSIGNED
 TO EXERCISE AS A REGISTERED LANDSCAPE ARCHITECT IN THE STATE OF TEXAS
 Stephen Walker 21 Oct 2024

© 2024
 DESIGN DIVISION
PLANTING AND ESTABLISHMENT
SHEET 5 OF 5

Details not to scale
 MANTENANCE

| | | | |
|------|----------------------------|-------------------------------|-------|
| NO. | TITLE | STATE OF TEXAS PROJECT NUMBER | SHEET |
| 8 | PLANTING AND ESTABLISHMENT | C-21-17-234 | 5 |
| DATE | DATE | DATE | DATE |
| 2024 | 2024 | 2024 | 2024 |



LEGEND

- ☒ 1" WATER METER
- ☒ 1" RP BACKFLOW PREVENTION DEVICE WITH GUARDSHACK ENCLOSURE (SEE DETAIL SHEET)
- ⊗ 1" MAIN SHUT-OFF VALVE
- ⊕ RAINBIRD FEB 1" ELECTRIC REMOTE CONTROL VALVE
- ⊕ 100-PEB
- ⊕ RAIN BIRD SLRC QUICK COUPLING VALVE
- ☒ RAINBIRD DRIP SYSTEM OPERATION POP-UP VISUAL INDICATOR KIT
- ☒ #BASELINE 1000 IRRIGATION CONTROLLER TWO WIRE SYSTEM W/2 STATIONS (MINI), WITH BL-5315B ORIGINAL BI-SENSOR AND BASELINE P SS CABINET MOUNT, RAIN-CLICK RAIN SENSOR AND VALVE DECODERS, VERIFY FINAL LOCATION WITH OWNER.
- SOIL MOISTURE SENSOR LOCATIONS
- CITY MAIN
- MAINLINE PIPE: CLASS 200 PVC (1 - 3" INCH SIZE)
- LATERAL PIPE: CLASS 200 PVC (SIZED AS SHOWN)
- ②8 INDICATES LATERAL DISCHARGE IN GPM
- Ⓜ INDICATES CONTROLLER AND CONTROLLER STATION NUMBER
- Ⓜ INDICATES REMOTE CONTROL VALVE SIZE
- ⊕ BORING WITH 2", 4" OR 6" SCH 40 SLEEVE BY CONTRACTOR
- PLANT WITH DRIP LOOP AND WATERING RING (10 GPH)
- 125 SQ/YDS PLANT BED XFD SURFACE DRAINAGE 18" O.C. / 1 GPH RAINBIRD 99' EQUAL
- *OR EQUAL



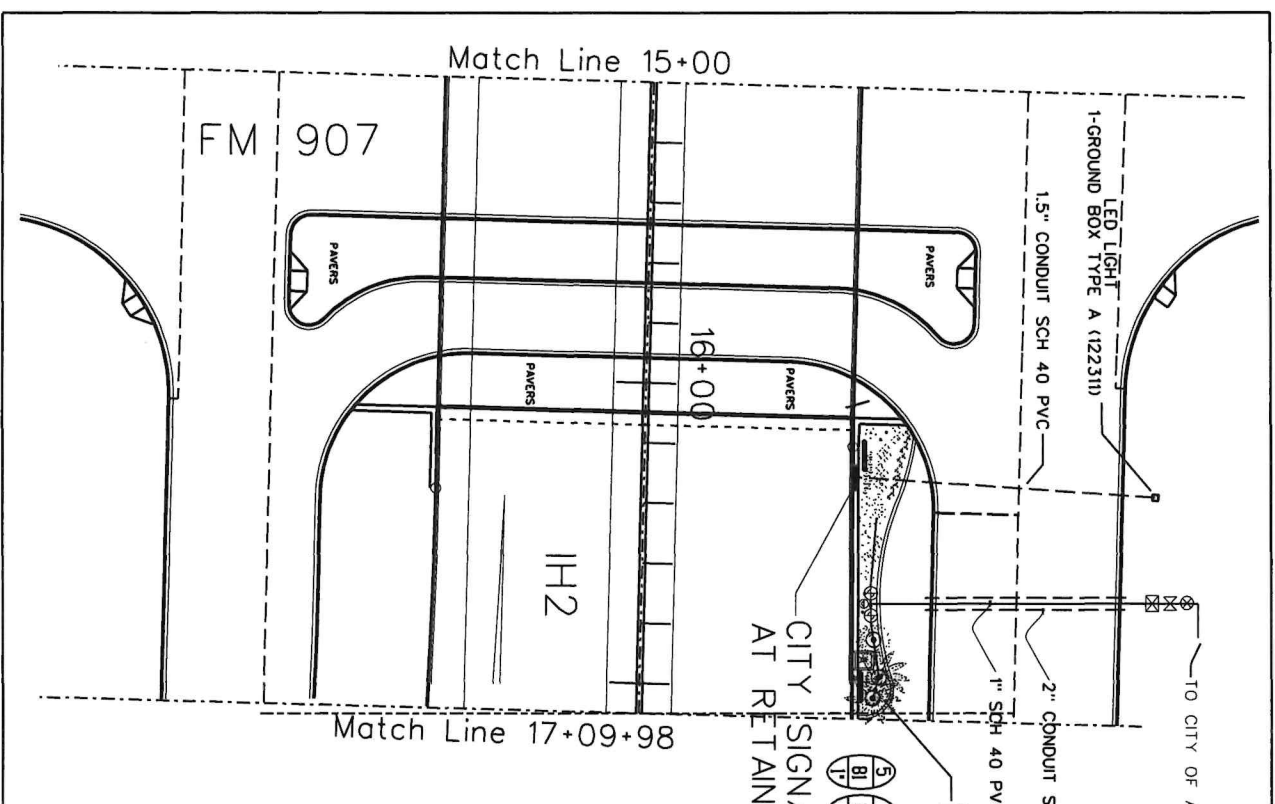
SCALE: 1" = 40'

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LANDSCAPE IRRIGATION
AT IH2 & FM 907

| | |
|-------------|---------|
| PROJECT NO. | SHEET |
| 6 | 14 |
| STATE | COUNTY |
| TEXAS | HALL CO |
| OWNER | JOB |
| 0039 | 03 |
| | 02 |





LEGEND

- ☒ 1" WATER METER
- ☒ 1" RP BACKFLOW PREVENTION DEVICE WITH GUARDSHACK ENCLOSURE (SEE DETAIL SHEET)
- ⊗ 1" MAIN SHUT-OFF VALVE
- ⊗ RAINBIRD PEB 1" ELECTRIC REMOTE CONTROL VALVE
- ⊕ RAIN BIRD SLIC QUICK COUPLING VALVE
- ⊕ 1000-PEB
- ⊕ RAIN BIRD DRIP SYSTEM OPERATION POP-UP VISUAL INDICATOR KIT
- ⊕ *BASELINE 1000 IRRIGATION CONTROLLER TWO WIRE SYSTEM W/2 STATIONS (MINI), WITH BL-53158 ORIGINAL BISENSOR AND BASELINE P 55 CABINET MOUNT.
- ⊕ RAIN-CLICK RAIN SENSOR AND VALVE DECODERS. VERIFY FINAL LOCATION WITH OWNER.
- ⊕ SOIL MOISTURE SENSOR LOCATIONS
- CITY MAIN
- MAINLINE PIPE: CLASS 200 PVC (1 - 3" INCH SIZE)
- LATERAL PIPE: CLASS 200 PVC (SIZED AS SHOWN)
- ⊕ INDICATES LATERAL DISCHARGE IN GPM
- ⊕ INDICATES REMOTE CONTROL VALVE SIZE
- ⊕ INDICATES CONTROLLER AND CONTROLLER STATION NUMBER
- ⊕ BORING WITH 2", 4" OR 6" SCH 40 SLEEVE BY CONTRACTOR
- ⊕ PLANT WITH DRIP LOOP AND WATERING RING (10 GPH)
- ⊕ 126 SQ/YDS PLANT BED XFO SURFACE DRAPIRE 18" O.C. / 1 GPH RAINBIRD OR EQUIL
- *OR EQUAL

SCALE: 1" = 40'

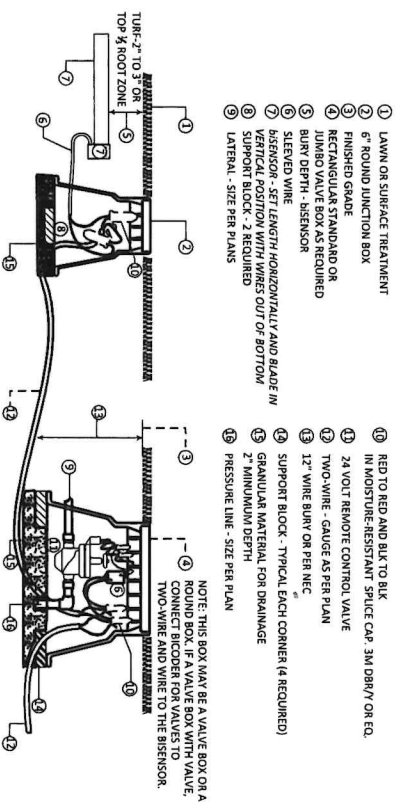
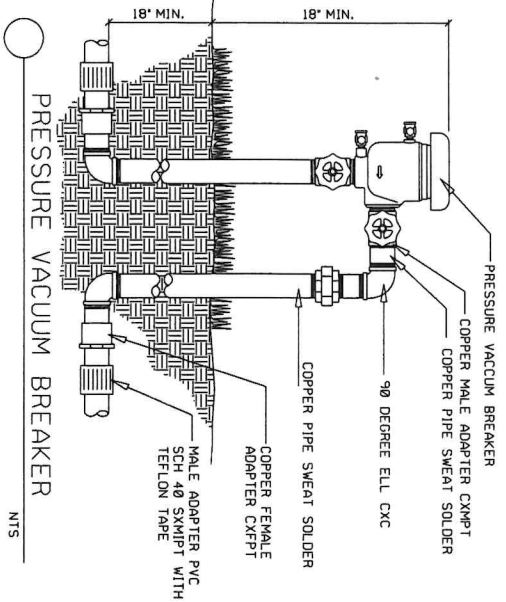
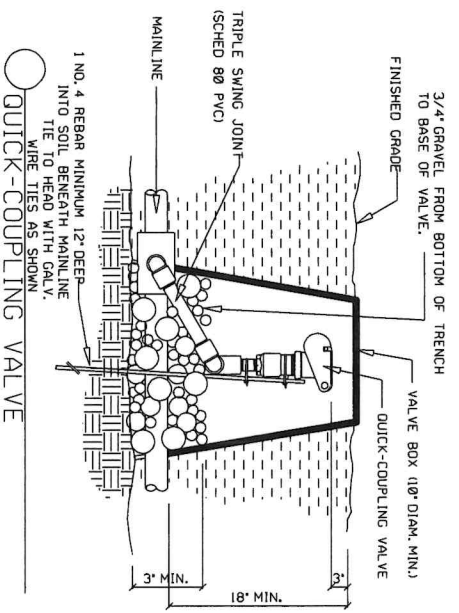
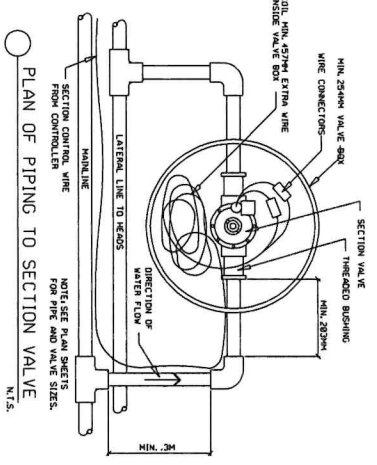
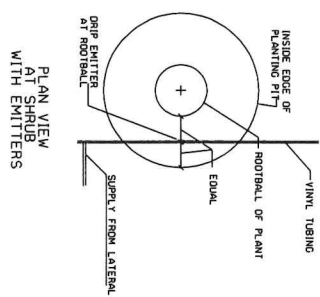
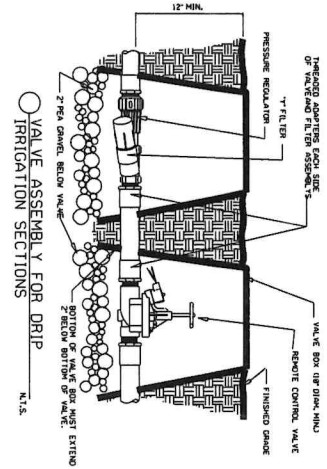
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LANDSCAPE IRRIGATION
AT IH2 & FM 907

SHEET 2 OF 10

| | | | |
|----------------------|-------------|-----------|--------------|
| TITLE | DATE | BY | CHECKED |
| LANDSCAPE IRRIGATION | 06/20/24 | PM | PM |
| STATE | COUNTY | CITY | |
| TEXAS | PRIDDER | INDALGO | |
| CONTRACT NO. | PROJECT NO. | SHEET NO. | TOTAL SHEETS |
| 0039 | 03 | 133 | 142 |





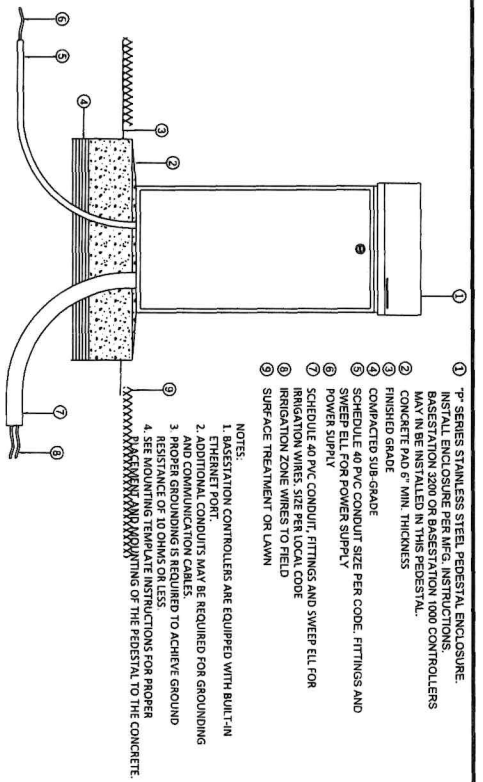
**BL-5315B BISENSOR SOIL MOISTURE SENSOR
TWO-WIRE INSTALLATION & WIRING DETAIL**

21-01-2024

**LANDSCAPE IRRIGATION
DETAILS**

2024

| | | | |
|-------------------|--------------|--------------|----------|
| STATE PROJECT NO. | C-38-17-XXXX | SHEET NO. | 1 OF 1 |
| DATE | NOV 2023 | CONTRACT NO. | 0035917 |
| CITY | HEWLETT | COUNTY | DADE |
| CLIENT | HEXANS | SCALE | AS SHOWN |



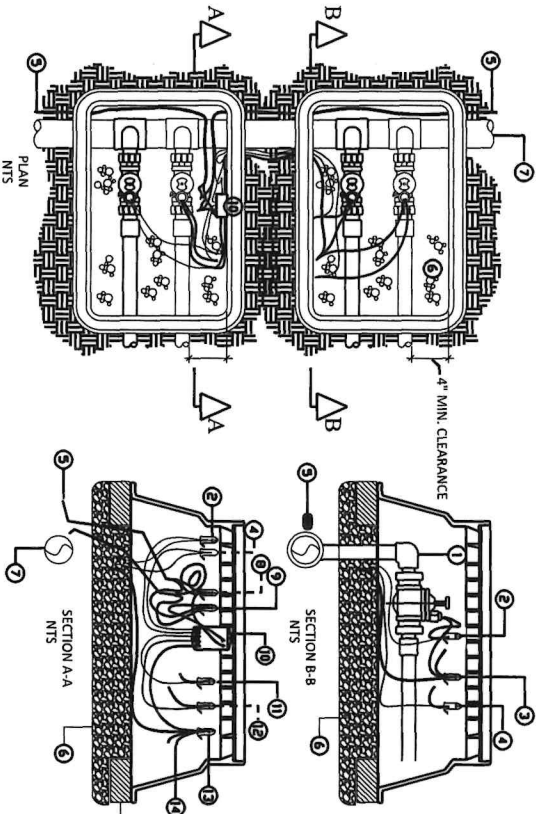
- 1 P-SERIES STAINLESS STEEL PEDESTAL ENCLOSURE
- 2 BASESTATION 320N OR BASESTATION 100N CONTROLLERS MAY IN BE INSTALLED IN THIS PEDESTAL.
- 3 CONCRETE PAD 6" MIN. THICKNESS
- 4 FINISHED GRADE
- 5 COMPACTED SUB-GRADE
- 6 SCHEDULE 40 PVC CONDUIT SIZE PER CODE, FITTINGS AND SWEEP ELL FOR POWER SUPPLY
- 7 SCHEDULE 40 PVC CONDUIT, FITTINGS AND SWEEP ELL FOR IRRIGATION WIRES, SIZE PER LOCAL CODE
- 8 IRRIGATION ZONE WIRES TO FIELD
- 9 SURFACE TREATMENT OR LAWN

NOTES:
 1. BASESTATION CONTROLLERS ARE EQUIPPED WITH BUILT-IN ETHERNET PORT.
 2. ADDITIONAL CONDUITS MAY BE REQUIRED FOR GROUNDING AND COMMUNICATION CABLES.
 3. RESISTANCE OF 10 OHMS OR LESS.
 4. SEE MOUNTING TEMPLATE INSTRUCTIONS FOR PROPER MOUNTING OF THE PEDESTAL TO THE CONCRETE.

"P" STAINLESS STEEL PEDESTAL

NTS

NOTE: MOISTURE-RESISTANT CONNECTORS 3M DBRY-6 OR EQUAL, TO BE INSTALLED IN VERTICAL POSITION AS SHOWN

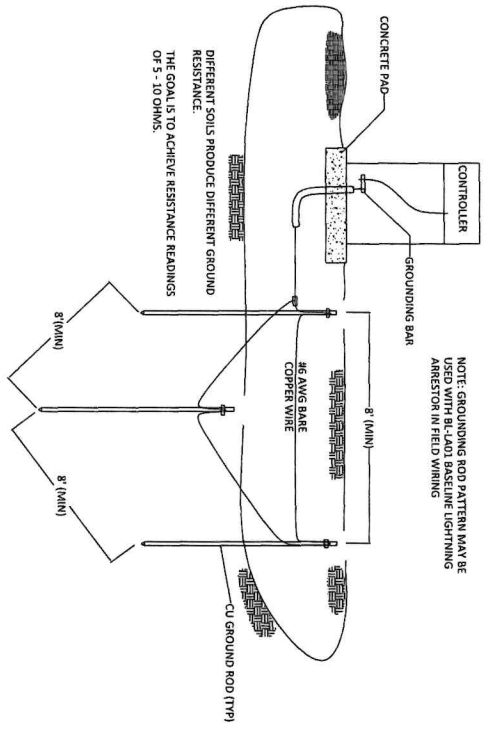


BASELINE BL-5404 VALVE bicODER INSTALLATION

NTS

BASELINE CONTROLLER IN P PEDESTAL GROUNDING DETAIL

NTS



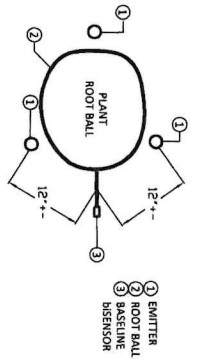
DIFFERENT SOILS PRODUCE DIFFERENT GROUND RESISTANCE.
 THE GOALS TO ACHIEVE RESISTANCE READINGS OF 5 - 10 OHMS.

NOTE: GROUNDING ROD PATTERN MAY BE USED TO ACHIEVE FIELD WIRING ABREASTOR IN FIELD WIRING

- 1 VALVE AND PIPING PER PLANS
- 2 MOISTURE-RESISTANT CONNECTION TO VALVE #3 (DBRY-6 OR EQ.)
- 3 MOISTURE-RESISTANT CONNECTION FOR COMMON WIRES FOR VALVES #3 & #4 (DBRY-6 OR EQ.)
- 4 MOISTURE-RESISTANT CONNECTION TO VALVE #4 (DBRY-6 OR EQ.)
- 5 TWO-WIRE - GAUGE PER PLANS
- 6 POROUS MATERIAL FOR DRAINAGE - 3" MINIMUM
- 7 MAINLINE AS PER PLANS
- 8 TWO-WIRE RED TO RED bicODER MOISTURE-RESISTANT CONNECTION (DBRY-6 OR EQ.)
- 9 TWO-WIRE BLACK TO bicODER BLACK MOISTURE-RESISTANT CONNECTION (DBRY-6 OR EQ.)
- 10 BASELINE BL-5404 VALVE bicODER - ATTACH TO VALVE BOX WITH THE OR METAL SCREW
- 11 MOISTURE-RESISTANT CONNECTION TO VALVE #2 (DBRY-6 OR EQ.)
- 12 MOISTURE-RESISTANT CONNECTION TO VALVE #1 (DBRY-6 OR EQ.)
- 13 MOISTURE-RESISTANT CONNECTION FOR COMMON WIRES (DBRY-6 OR EQ.)
- 14 COMMON WIRES FOR VALVE #1 & #2
- 15 CORNER VALVE BOX SUPPORT TYPICAL OF EBRTM

BASELINE BL-5315B SOIL MOISTURE SENSOR DRIP PLACEMENT

NTS

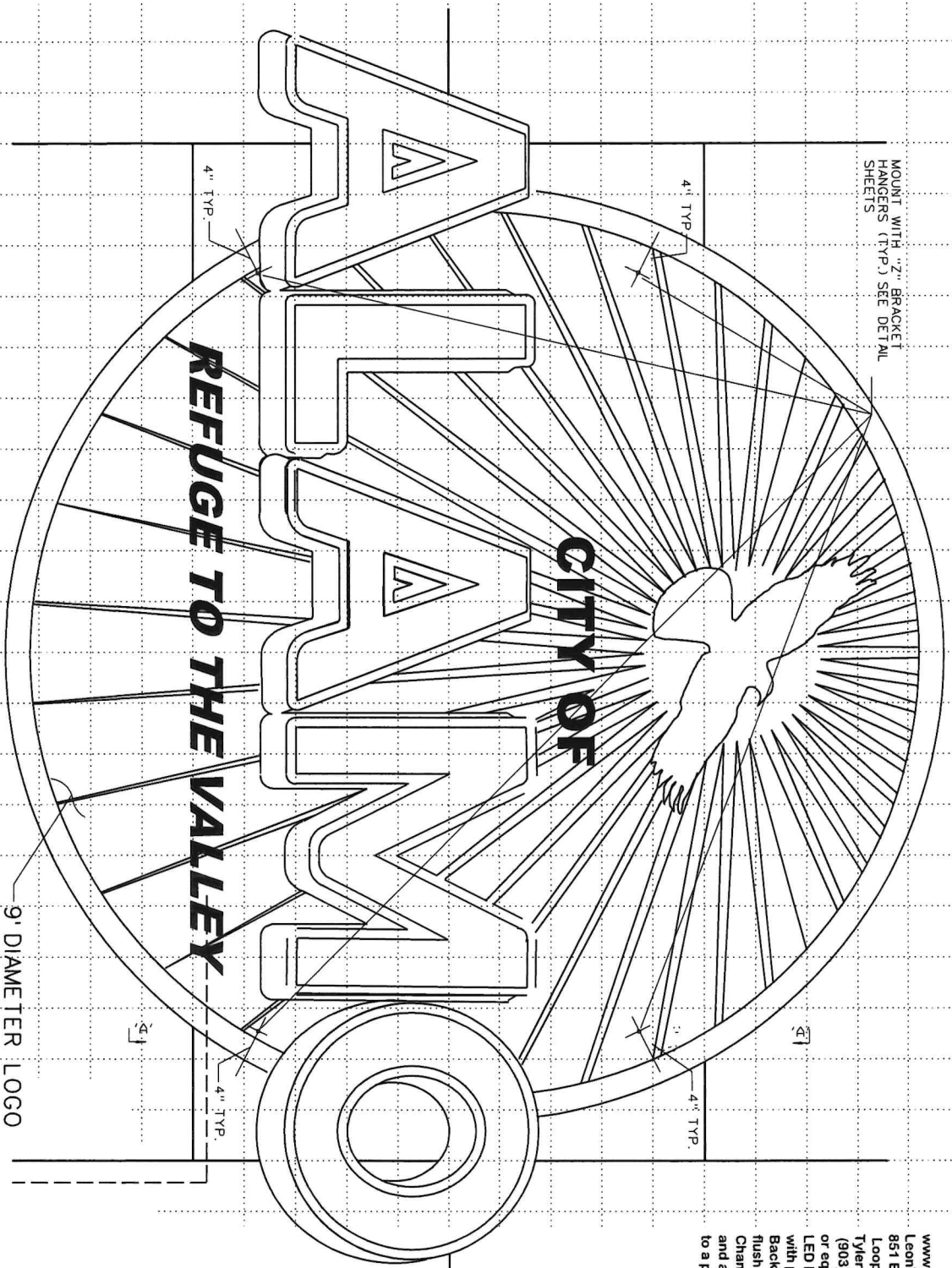


STEPHEN P. BAKER
 LICENSE NO. 1774
 EXPIRES 21 OCT 2024

LANDSCAPE IRRIGATION DETAILS

| | | | |
|-------------------|--------------------|--------------|---------------|
| STATE PROJECT NO. | C-39-17-159 | SHEET | 1 OF 1 SHEETS |
| CITY | EL PASO | COUNTY | EL PASO |
| DATE | 03/23/21 | SCALE | AS SHOWN |
| DESIGNER | EL PASO IRRIGATION | CONTRACT NO. | 1774 |
| CLIENT | EL PASO IRRIGATION | PROJECT NO. | 1774 |

| LEVELS DISPLAYED | |
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MOUNT WITH 1/2" BRACKET HANGERS (TYP) SEE DETAIL SHEETS

4" TYP.

4" TYP.

6" X 6" GRID

SCALE 1" = 1'

9' DIAMETER LOGO

4" TYP.

4" TYP.

www.leonssignsinc.com
 Leon's Signs Inc
 851 E Northeast
 Loop 323,
 Tyler, TX 75708
 (903) 597-7731
 or equal
 LED Face-It/Valo-It aluminum-frame cabinets with polycarbonate faces with vinyl copy applied. Backer-mounted face-It channel letters attach flush to polycarbonate-face cabinets. Channel letters constructed with aluminum cans and acrylic faces with vinyl copy applied, attached to a painted aluminum backer.

SHEET 2 OF 3

RETAINING WALL
 CITY LOGO DETAIL SHEET

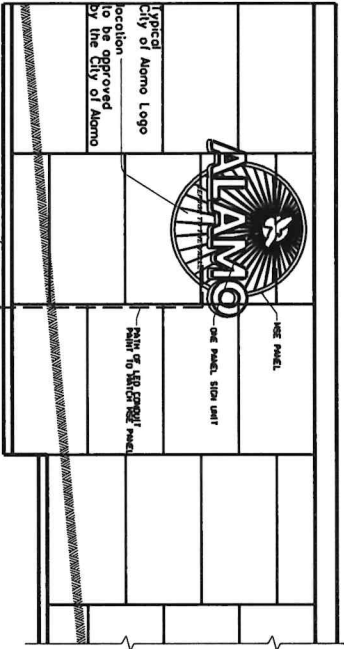
© 2024



Stephen P. Walker
 THE GREAT SEAL OF ARCHITECTURE, 7104, 2024
 P.O. BOX 24571, AUSTIN, TEXAS 78791-2457
 STATE OF TEXAS
 OVER 100 YEARS OF SERVICE TO THE PROFESSION
 PRACTICES OF PERSONS REGISTERED AS LANDSCAPE ARCHITECTS IN TEXAS

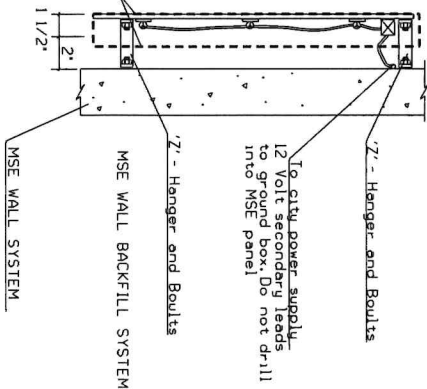
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TWO LOCATIONS REQUIRED
 Location 'A' North East corner of IH 2 and FM 907
 Location 'B' South West corner of IH 2 and FM 907

9'x12' SIGN WITH VINYL PRINT FACE
 WITH INTERNAL LIGHTING
 SEE GENERAL NOTES



TYPICAL SECTION OF SIGN PANEL

SECTION 'A' - 'A'

ITEM CITY SIGN & LOGO AT MSE PANEL

2 PANELS

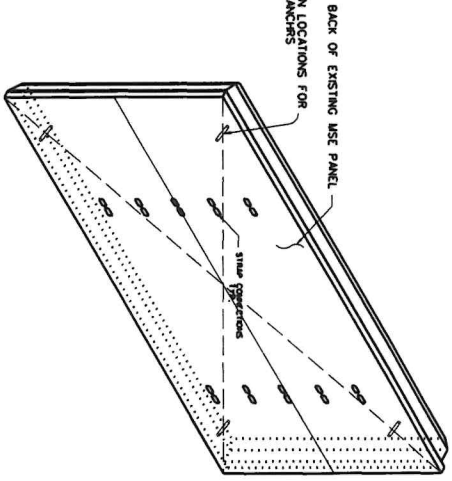
NO SCALE



Stephen Walker
 21 Oct 2024
 REGISTERED LANDSCAPE ARCHITECT
 STATE OF TEXAS
 17774
 P.O. BOX 6317 AUSTIN, TEXAS 78769-2317
 TELEPHONE (512) 928-2000 FAX (512) 928-2001
 ARCHITECTS IN TEXAS

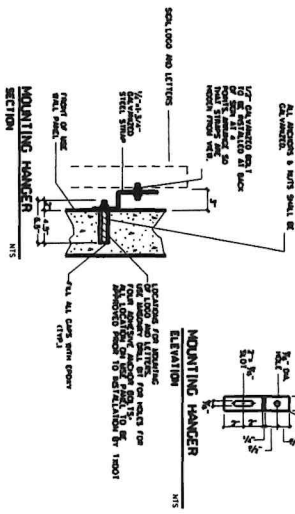
© 2024
**RETAINING WALL
 CITY LOGO AND LETTERS
 DETAIL SHEET**

| | | | | | |
|----------|-----|----|-----|-----|---------------------------|
| DATE | REV | BY | CHK | NO. | DESCRIPTION |
| 06/21/24 | 1 | SW | SW | 1 | ISSUE FOR PERMIT |
| 06/21/24 | 2 | SW | SW | 2 | REVISED PER CITY COMMENTS |
| 06/21/24 | 3 | SW | SW | 3 | REVISED PER CITY COMMENTS |
| 06/21/24 | 4 | SW | SW | 4 | REVISED PER CITY COMMENTS |
| 06/21/24 | 5 | SW | SW | 5 | REVISED PER CITY COMMENTS |
| 06/21/24 | 6 | SW | SW | 6 | REVISED PER CITY COMMENTS |
| 06/21/24 | 7 | SW | SW | 7 | REVISED PER CITY COMMENTS |
| 06/21/24 | 8 | SW | SW | 8 | REVISED PER CITY COMMENTS |
| 06/21/24 | 9 | SW | SW | 9 | REVISED PER CITY COMMENTS |
| 06/21/24 | 10 | SW | SW | 10 | REVISED PER CITY COMMENTS |
| 06/21/24 | 11 | SW | SW | 11 | REVISED PER CITY COMMENTS |
| 06/21/24 | 12 | SW | SW | 12 | REVISED PER CITY COMMENTS |
| 06/21/24 | 13 | SW | SW | 13 | REVISED PER CITY COMMENTS |
| 06/21/24 | 14 | SW | SW | 14 | REVISED PER CITY COMMENTS |
| 06/21/24 | 15 | SW | SW | 15 | REVISED PER CITY COMMENTS |
| 06/21/24 | 16 | SW | SW | 16 | REVISED PER CITY COMMENTS |
| 06/21/24 | 17 | SW | SW | 17 | REVISED PER CITY COMMENTS |
| 06/21/24 | 18 | SW | SW | 18 | REVISED PER CITY COMMENTS |
| 06/21/24 | 19 | SW | SW | 19 | REVISED PER CITY COMMENTS |
| 06/21/24 | 20 | SW | SW | 20 | REVISED PER CITY COMMENTS |
| 06/21/24 | 21 | SW | SW | 21 | REVISED PER CITY COMMENTS |
| 06/21/24 | 22 | SW | SW | 22 | REVISED PER CITY COMMENTS |
| 06/21/24 | 23 | SW | SW | 23 | REVISED PER CITY COMMENTS |
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| 06/21/24 | 25 | SW | SW | 25 | REVISED PER CITY COMMENTS |
| 06/21/24 | 26 | SW | SW | 26 | REVISED PER CITY COMMENTS |
| 06/21/24 | 27 | SW | SW | 27 | REVISED PER CITY COMMENTS |
| 06/21/24 | 28 | SW | SW | 28 | REVISED PER CITY COMMENTS |
| 06/21/24 | 29 | SW | SW | 29 | REVISED PER CITY COMMENTS |
| 06/21/24 | 30 | SW | SW | 30 | REVISED PER CITY COMMENTS |

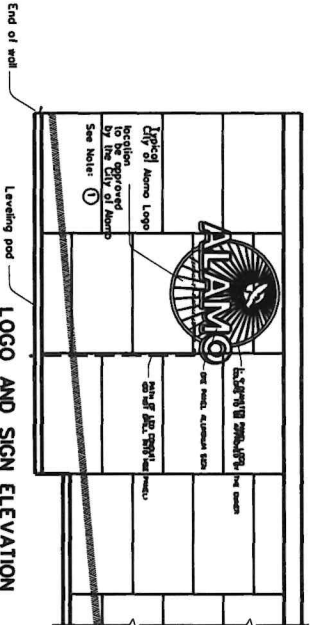
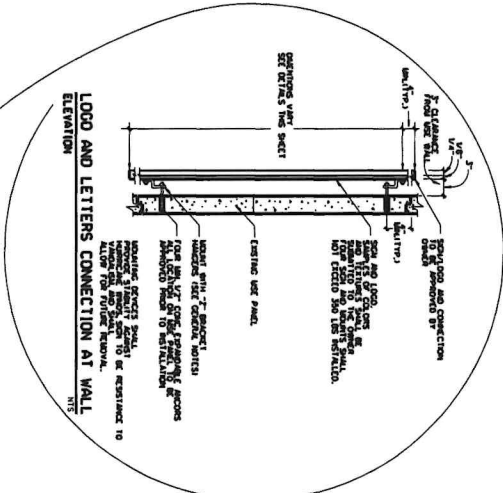


REVERSE OF RECTANGULAR MSE PANEL
 TYPICAL CONNECTION LOCATIONS No Scale
 3 FOOT X 10 FOOT PANEL

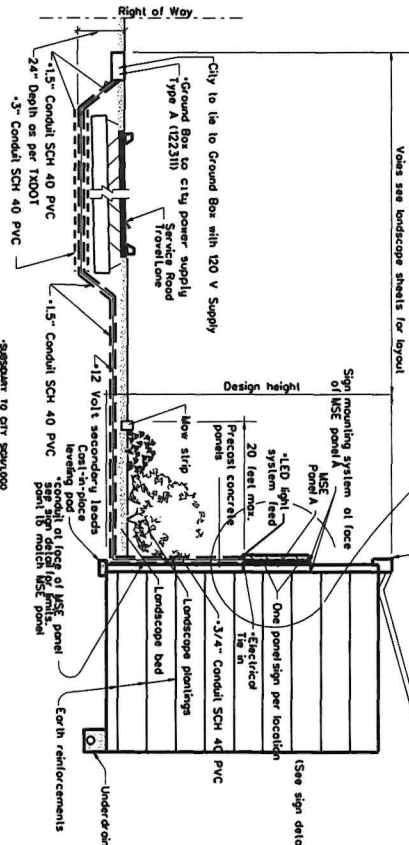
ART HANGERS ("Z" HANGER)
 AT MSE PANELS No Scale



LOGO AND LETTERS CONNECTION AT WALL
 ELEVATION No Scale



TYPICAL SECTION POWER SUPPLY
 TWO LOCATIONS No Scale

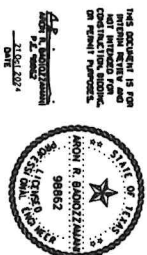


NOTE: The contractor shall provide shop drawings of the details of the sign and logo attachment to the City of Austin prior to installation. Details of the letters and logo shall provide adequate clearance to avoid interference with mounting bolts and LED lights.

All threaded inserts and attachment bolts shall be hot dip galvanized.

Sign and Logo and LED system mounting hardware, labor and incidentals shall be considered subsidiary to the item Sign and Logo. Final location to be approved by the owner.

| LEVELS DISPLAYED | |
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RETAINING WALL
 CITY LOGO ATTACHMENT
 DETAIL SHEET

SHEET 1 OF 3

| | | | |
|---------|----------|----|----|
| DATE | 10/01 | BY | JS |
| REV. | | | |
| CHECKED | 10/01 | BY | JS |
| DATE | 10/01 | BY | JS |
| SCALE | AS SHOWN | | |

| | | | |
|----------|--|----------|-----------|
| PROJECT | NO. 15001 | DISTRICT | NO. 15001 |
| STATE | Texas | COUNTY | Harris |
| LOCALITY | | | |
| TITLE | RETAINING WALL CITY LOGO ATTACHMENT DETAIL SHEET | DATE | 10/01 |

DATE:
FILE:

Barricade and Construction (BC) Standard Sheets General Notes:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
 2. The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
 3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
 4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
 5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets", the TxDOT "Roadway Design Manual" or engineering judgment.
 6. When projects but, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
 7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
 8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
 9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
 10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
 11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
 12. The Engineer has the final decision on the location of all traffic control devices.
 13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.
- Worker Safety Apparel/Notes:**
1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

Only pre-qualified products shall use the "Compliant Work Zone Traffic Control Devices List" (CWZTD) describes pre-qualified products and their sources and may be found on the at the web address given below or by contacting Texas Department of Transportation Traffic Operations Division - IT
Phone (512) 418-3134

- WEB ADDRESS FOR RETRIEVED DOCUMENTS
- Compliant Work Zone Traffic Control Devices List (CWZTD)
<http://www.tdot.gov/pubs/collections/wzf/cwztd.htm>
 - Texas Manual on Uniform Traffic Control Devices (TMUTCD)
<http://www.tdot.gov/pubs/collections/wzf/tmutcd.htm>
 - Standard Highway Sign Designs for Texas (S26D)
<http://www.tdot.gov/pubs/collections/wzf/s26d.htm>
 - Traffic Engineering Standard Sheets
<http://www.tdot.gov/pubs/collections/wzf/tes.htm>
 - Material Producer List
<http://www.tdot.gov/pubs/collections/wzf/materialproducer.htm>
 - Other materials and specifications (OMIS)
<http://www.tdot.gov/pubs/collections/wzf/othermaterialsandspecifications.htm>
 - Flagging Design Manual
<http://www.tdot.gov/pubs/collections/wzf/flaggingdesignmanual.htm>

Texas Department of Transportation
Traffic Operations Division

**BARRICADE AND CONSTRUCTION
GENERAL NOTES
AND REQUIREMENTS**

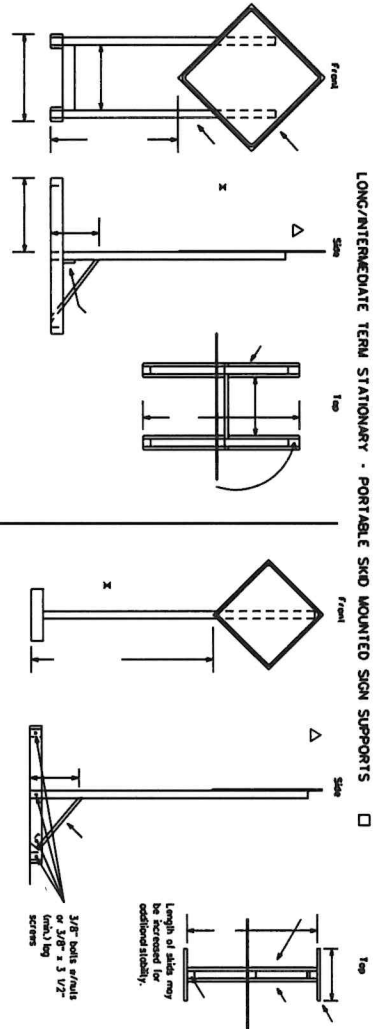
1 of 12

BC(1)13

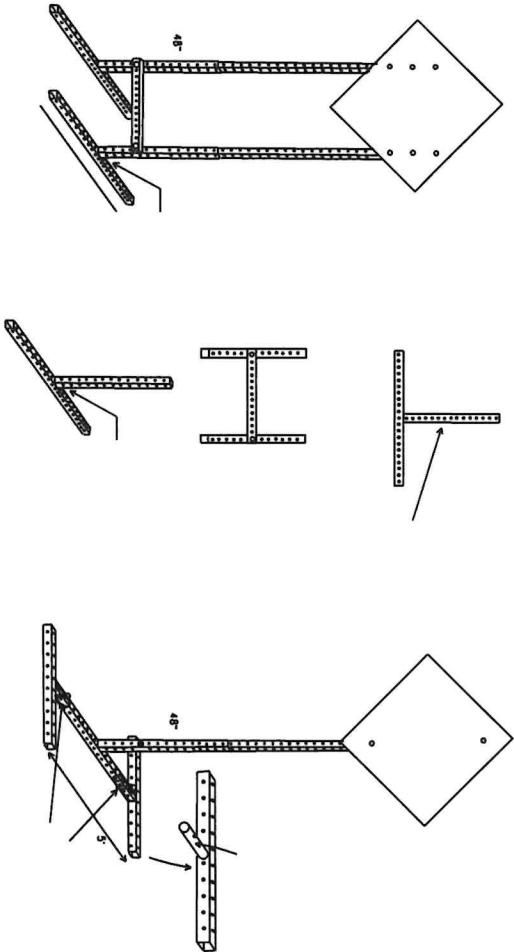
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| ① 1.001 11-4-02 | REV | DATE | BY |
| 4-03 | 0039 | 03 | 03 |
| 9-07 | 0039 | 03 | 03 |
| 101 | 0039 | 03 | 03 |

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

SKID MOUNTED WOOD SIGN SUPPORTS



SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS



WEDGE ANCHORS

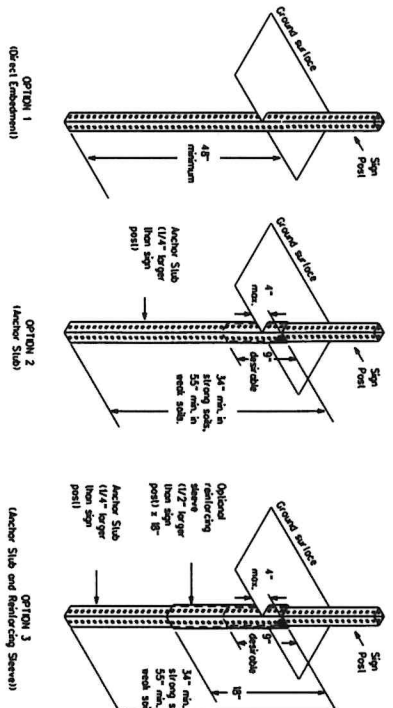
Both standard plastic Wedge Anchor Systems or aluminum on the 3030 Standard Sheets may be used on temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in slabs of steel approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BCI10).

DATE: _____
FILE: _____

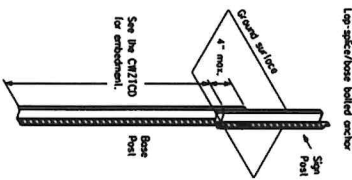
GROUND MOUNTED SIGN SUPPORTS

Refer to the CRZTCO and the manufacturer's installation procedure for each type sign support. The maximum sign square footage procedure to the manufacturer's recommendation. The post installations can be used for larger signs.

PERFORATED SQUARE METAL TUBING



WING CHANNEL



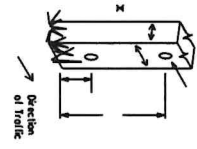
GENERAL NOTES

1. Nuts may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every post for final connection.
2. Use details of approved Long/Intermediate and Short Term supports can be found on the CRZTCO BCI. See BCI10 for vehicle location.
3. No more than 2 sign posts shall be placed within a CRZTCO lot.
4. These projects completed sign supports are subject to the CRZTCO approval of the site. The table consider of standard 1 to Item 500.

- See BCI41 for definition of "Post Direction."
- Round sign posts MUST be one piece. Splicing and NOT be allowed. Posts should be painted white.
- See the CRZTCO for the type of sign substrate that can be used for each approved sign support.

WOOD POST SYSTEM FOR GROUND MOUNTED SIGN SUPPORTS

| Handled | Welded | Aluminum | Other |
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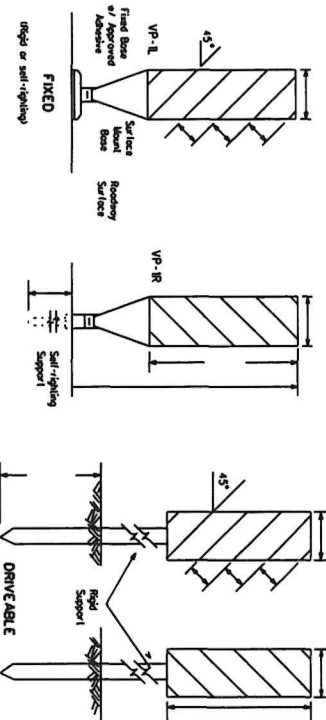



Texas Department of Transportation
 Traffic Operations Division
BARICADE AND CONSTRUCTION
TYPICAL SIGN SUPPORT
STANDARD
BC(5)-13
5 of 12

| | | | | | | | | | | | | | |
|---------|----------|-----------------|----|----------|-----|---------|-----|----------|-----|-----------|----|--------------|----|
| 9-97 | | © TxDOT 11-4-02 | | REV | | DATE | | BY | | CHK | | APP | |
| 9-97 | REVISED | 02/03 | 03 | XXK | XXK | M 2 | | | | | | | |
| PROJECT | NO. 0039 | DATE | 03 | DESIGNER | XXK | CHECKER | XXK | APPROVED | M 2 | SHEET NO. | 13 | TOTAL SHEETS | 22 |

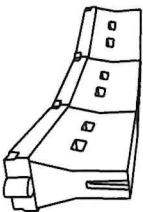
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VERTICAL PANELS (VPs) CHANNELIZING DEVICES



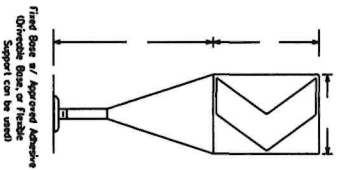
- Verticals (VPs) are normally used to connect lanes and/or to delineate or separate lanes.
- VPs may be used in drainage or sightline situations. They may be used at the edge of shoulder drop-offs and other areas such as low friction areas where positive drainage and sightline delineation is required. The panel should be used in areas where positive drainage is required. Treatment of pavement drop-offs in work zones for additional guidelines on the use of VPs for drop-offs.
- VPs should be mounted back to back if used at the edge of a shoulder drop-off. The panel should be placed so that the reflective orange and reflective white end should slope downward toward the travel lane.
- VPs used on easements and freeways or other high speed roadways require a reflective white end. See "Component Work Zone Traffic Control Devices List" (CWZTD). The VPs shall reflect retroreflective Type C (CWZTD). The VPs shall reflect retroreflective Type C (CWZTD).
- Self-righting supports are available with portable bases. See "Component Work Zone Traffic Control Devices List" (CWZTD).
- Standard reflective white end retroreflective Type C (CWZTD) material specification DMS-3300, unless noted otherwise.
- Where the height of reflective material on the vertical panel is greater than 35 inches, a percentage of 6 inches shall be used.

HOLLOW OR WATER BALASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS



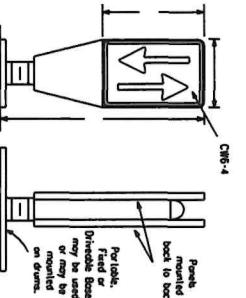
- LONGITUDINAL CHANNELIZING DEVICES**
- Longitudinal channelizing devices are commonly, lightweight, deformable devices that are highly visible, have good impact resistance, and are easy to install and remove.
 - Longitudinal channelizing devices may be placed in a line or in a curve, and may be used to delineate or separate lanes on the device, and used only when shown on the CWZTD list.
 - Longitudinal channelizing devices should not be used to provide positive protection for obstacles, pedestrians or workers.
 - Channelizing devices shall be retroreflective, or supplemented with retroreflective delineation as required for temporary barriers on 8071-01.
- WATER BALASTED SYSTEMS USED AS BARRIERS**
- Water ballasted systems used on barriers should not be used solely to channelize road users, but also to protect the barrier from impact. The water ballasted system should be used only when shown on the CWZTD list.
 - Water ballasted systems used to channelize vehicle traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
 - Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTD list.
 - Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTD list.
 - Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTD list.
 - When used on a taper in a bar speed urban area, the taper shall be delineated and the taper length shall be designed to optimize road user operations considering the available geometric conditions.
 - When water ballasted systems used as barriers have been exposed to traffic, they should be delineated as per manufacturer recommendations or listed to point outside the clear zone.
 - When used on a taper in a bar speed urban area, the taper shall be delineated and the taper length shall be designed to optimize road user operations considering the available geometric conditions.
 - When used on a taper in a bar speed urban area, the taper shall be delineated and the taper length shall be designed to optimize road user operations considering the available geometric conditions.
- If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems, shall have a continuous delineated bottom for areas of long curves and the top of the wall shall not less than 37 inches in height.

CHEVRONS



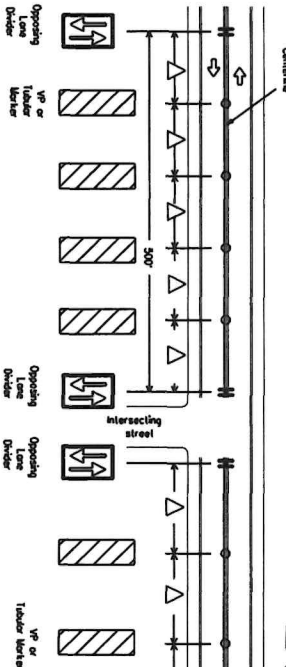
- The chevron shall be a vertical rectangle with a 45-degree top edge.
- Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators who report to objects in the roadway.
- Chevrons shall be used only on the left side of a sharp curve or turn, or on the left side of an intersection. They shall be in line with and at right angles to opposing traffic.
- Spacing shall be such that the individual chevrons shall be visible to the driver's eye at a distance of 500 feet.
- Chevrons shall be spaced with a 30-degree angle between adjacent chevrons.
- Chevrons shall be retroreflective Type C (CWZTD) material specification DMS-3300, unless noted otherwise. The sign shall be black vinyl-reflective sheet.
- When used on freeways and other high speed roadways, chevrons may be used to supplement self-righting chevron or to replace plastic drums. For other devices, refer to the CWZTD.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



- Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a non-conforming roadway section to two-way traffic. They are used to separate opposing traffic on the left side of the divider. The divider shall be retroreflective Type C (CWZTD) material specification DMS-3300, unless noted otherwise. The sign shall be black vinyl-reflective sheet.
- The OTLD may be used in combination with single lane markers or VPs.
- Spacing between the OTLD shall not exceed 500 feet.
- When used on freeways and other high speed roadways, OTLDs shall be retroreflective Type C (CWZTD) material specification DMS-3300, unless noted otherwise. The sign shall be black vinyl-reflective sheet.

VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS SEPARATING TWO-WAY TRAFFIC (Typical application)



- Spacing between the VPs or tubular markers shall not exceed 500 feet. On roadways with space less than 45 VPs, spacing between the tubular markers or VPs shall be shown on the roadway spacing less than 500 feet based on the spacing between the tubular markers or VPs. Every fifth channelizing device shall be an OTLD except when the OTLD must be spaced closer to accommodate an intersection. Spacing between the OTLD shall not exceed 500 feet.

GENERAL NOTES

- Work Zone channelizing devices fabricated on the steel may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Expert/Inspector shall ensure that spacing and placement of devices comply with the Texas Standard on Uniform Traffic Control Devices (MUTCD).
- Channelizing devices shown on the steel may have a drivable, fixed or portable base. The requirement for self-righting channelizing devices shall be specified in the General Notes or other plan sheets, and it shall meet the requirements of the Texas Standard on Uniform Traffic Control Devices (MUTCD) for reflective sheeting and reflective material. The requirement for reflective sheeting and reflective material shall be specified in the General Notes or other plan sheets, and it shall meet the requirements of the Texas Standard on Uniform Traffic Control Devices (MUTCD) for reflective sheeting and reflective material.
- Channelizing devices shall be spaced in accordance with the requirements of the Texas Standard on Uniform Traffic Control Devices (MUTCD) for reflective sheeting and reflective material. The requirement for reflective sheeting and reflective material shall be specified in the General Notes or other plan sheets, and it shall meet the requirements of the Texas Standard on Uniform Traffic Control Devices (MUTCD) for reflective sheeting and reflective material.
- The Contractor shall be responsible for the proper placement and spacing of channelizing devices and shall be responsible for the proper placement and spacing of channelizing devices and shall be responsible for the proper placement and spacing of channelizing devices.
- Portable bases shall be spaced approximately 35 feet, but ensure proper handling between the devices. The fixed and ball bases and the permanent lane markers shall be spaced according to the manufacturer's recommendations.
- The installation and removal of channelizing devices shall not cause delineation effects to the independent surface, including permanent markings or signs. The Contractor shall be responsible for the proper placement and spacing of channelizing devices and shall be responsible for the proper placement and spacing of channelizing devices.
- Examples on this sheet are commonly used channelizing devices in work zones. For other devices, refer to the CWZTD.

| Sheet | Formula | Minimum Spacing | Recommended Maximum Spacing |
|-------|---------|-----------------|-----------------------------|
| 30 | 150' | 185' | 180' |
| 35 | 205' | 225' | 245' |
| 40 | 285' | 295' | 320' |
| 45 | 430' | 495' | 540' |
| 50 | 500' | 570' | 600' |
| 55 | 600' | 680' | 720' |
| 60 | 650' | 730' | 780' |
| 65 | 700' | 770' | 840' |
| 70 | 750' | 825' | 900' |
| 75 | 800' | 880' | 960' |
| 80 | | | |

2. R Taper lengths have been rounded off.

Texas Department of Transportation
Traffic Control Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

9 of 12 BC(91)-13

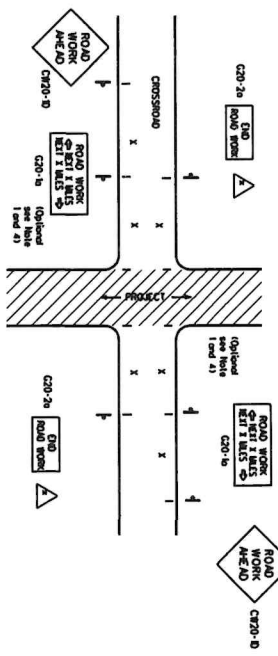
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SHEET NO. 23

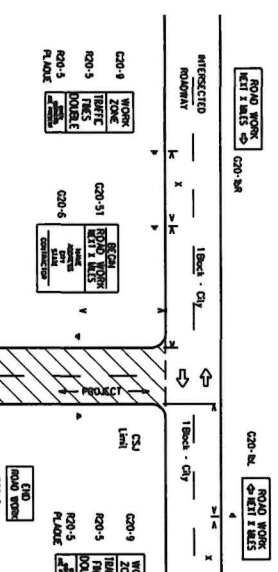
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TYPICAL LOCATION OF CROSSROAD SIGNS



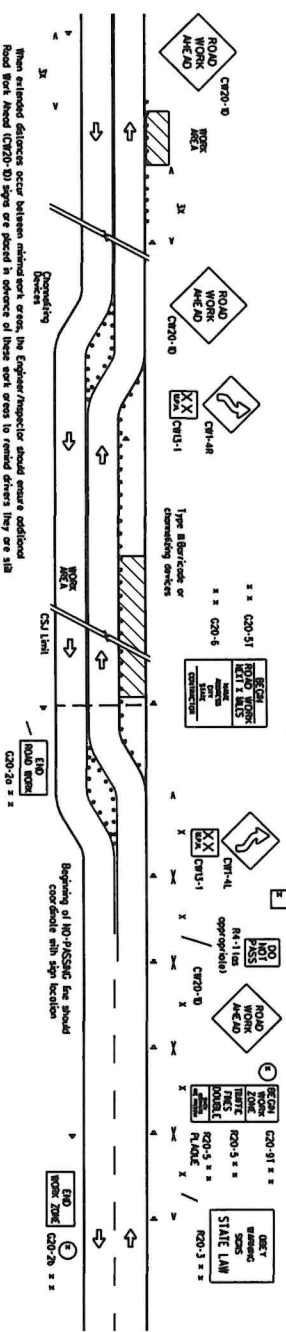
1. The typical sign spacing on a crossroad approach should be a CD-20-B sign with approved engineer. (See note 2 below)
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CD-20-B) sign mounted back to back with the reduced size 36" x 36" ROAD WORK (CD-20-A) sign for the crossroad approach. The signs shall be mounted on both sides of the crossroad. The Engineer shall determine whether a road is low volume. The information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD (CD-20-B) or other approved signs. The Engineer/Inspector shall determine the location and spacing of any sign not shown on the BC sheet. Traffic Control/Plan sheets or the Work Zone Standard Sheet.
4. The CD-20-B sign is not required at high volume crossroads to advise motorists of the length of a construction zone.
5. When work occurs in the intersection area, operator's traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



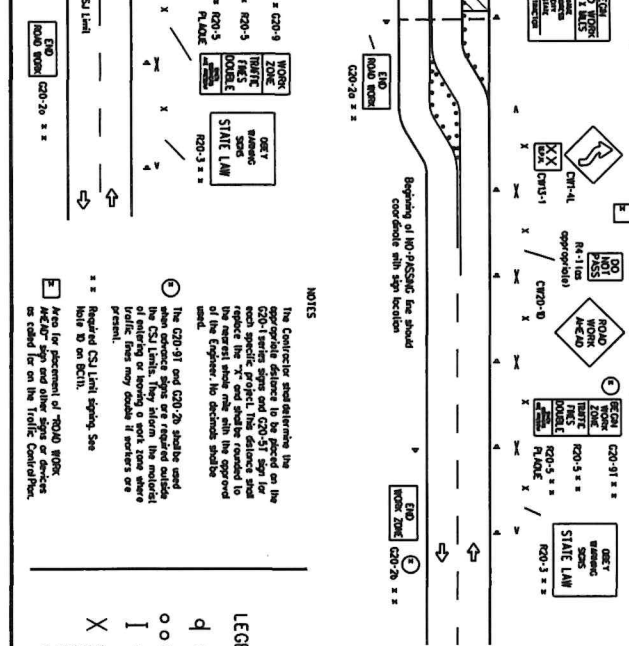
1. The Engineer shall determine the type and location of any additional traffic control devices such as a flagger and accompanying signs, or other signs that should be used when work is being performed at or near an intersection.
2. If construction closes the road of a T-Intersection the Contractor shall place the CD-20-A "Contractor Here" sign behind the Type B/Barricade for the road closure (See BC1210) and CD-20-B "Road Work AHEAD" signs shall be placed by the other signing crew for in the plans.

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



1. When extended distances occur between adjacent work zones, the Engineer/Inspector should ensure additional Road Work Ahead (CD-20-B) signs are placed in advance of these work zones to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and connecting devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGAINING AT THE CSJ LIMITS



1. The Contractor shall determine the appropriate distance to be placed on the road to the work zone. The distance shall be the "x" and shall be rounded to the nearest whole one with the approved Engineer. No decision shall be made by the Engineer.
2. The CD-20-B and CD-20-A signs used in the CSJ limits are for a minimum of 1000 feet. The signs shall be placed in advance of the work zone where traffic flow may be affected by workers or present.
3. The CD-20-B and CD-20-A signs used in the CSJ limits are for a minimum of 1000 feet. The signs shall be placed in advance of the work zone where traffic flow may be affected by workers or present.
4. Also for placement of ROAD WORK AHEAD signs and other signs or devices as called for on the Traffic Control Plan.

NOTES

The Contractor shall determine the appropriate distance to be placed on the road to the work zone. The distance shall be the "x" and shall be rounded to the nearest whole one with the approved Engineer. No decision shall be made by the Engineer.

The CD-20-B and CD-20-A signs used in the CSJ limits are for a minimum of 1000 feet. The signs shall be placed in advance of the work zone where traffic flow may be affected by workers or present.

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Also for placement of ROAD WORK AHEAD signs and other signs or devices as called for on the Traffic Control Plan.

TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

BARRICADE AND CONSTRUCTION PROJECT LIMIT STANDARD

BC1213

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| 2 | 03/11/03 | XXX | XXX | REVISED |
| 3 | 03/11/03 | XXX | XXX | REVISED |



TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING

| Sign Number or Series | Common Road | Expressway/Freeway | SPACING |
|-----------------------|-------------|--------------------|----------------------------|
| | | | Post to Sign Spacing (ft.) |
| CW20 | 48" x 48" | 48" x 48" | 30 |
| CW21 | 48" x 48" | 48" x 48" | 35 |
| CW22 | 48" x 48" | 48" x 48" | 40 |
| CW23 | 48" x 48" | 48" x 48" | 45 |
| CW24 | 48" x 48" | 48" x 48" | 50 |
| CW25 | 48" x 48" | 48" x 48" | 55 |
| CW26 | 48" x 48" | 48" x 48" | 60 |
| CW27 | 48" x 48" | 48" x 48" | 65 |
| CW28 | 48" x 48" | 48" x 48" | 70 |
| CW29 | 48" x 48" | 48" x 48" | 75 |
| CW30 | 48" x 48" | 48" x 48" | 80 |

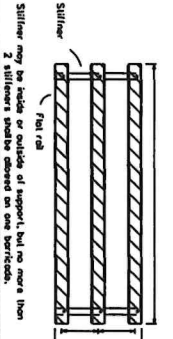
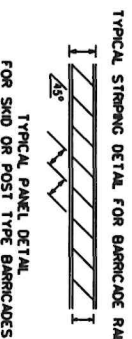
1. For typical sign spacing on closed highway, expressway and freeway, see Part 6 of the Texas Manual on Uniform Traffic Control Devices (TMUD) typical application diagrams.
2. The minimum distance from post to sign is 100 feet. The minimum distance from post to sign is 100 feet. The minimum distance from post to sign is 100 feet.
3. The minimum distance from post to sign is 100 feet. The minimum distance from post to sign is 100 feet. The minimum distance from post to sign is 100 feet.
4. The minimum distance from post to sign is 100 feet. The minimum distance from post to sign is 100 feet. The minimum distance from post to sign is 100 feet.
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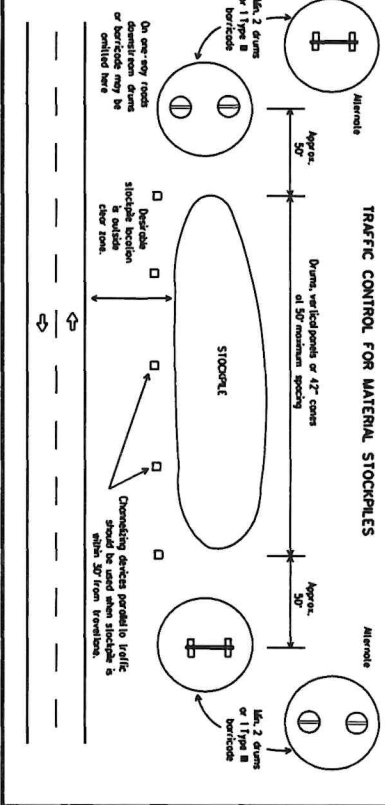
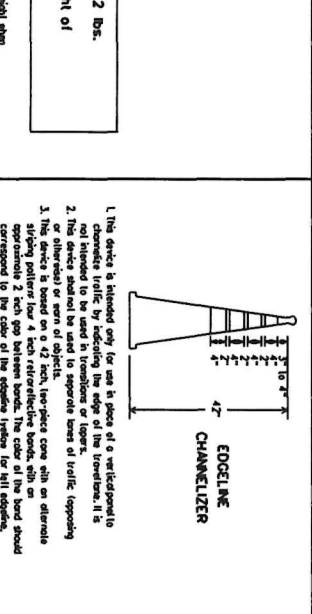
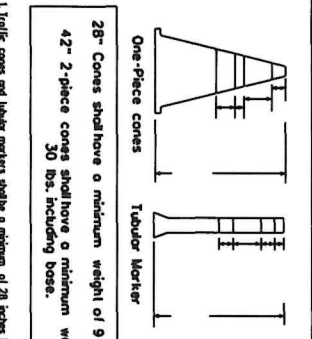
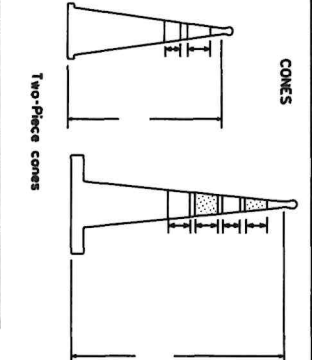
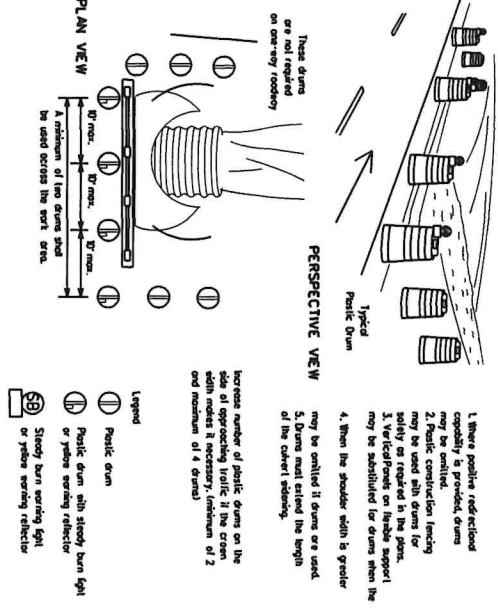
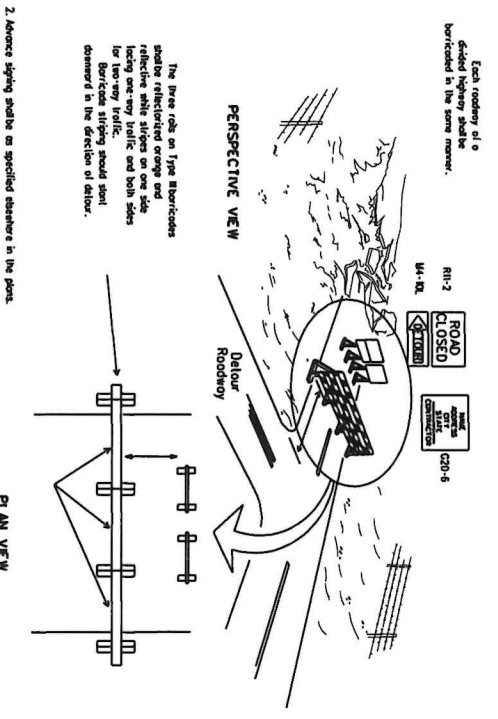
TYPE ■ BARRICADES

1. Refer to the Complete New Zone Traffic Control Devices List (CZTD10) for details of the Type Barricades used in a list of alternatives.
2. Type Barricades shall be used at each end of construction.
3. Barricades extending across a roadway should have stripes that slope down the hill side of the barrier. When both right and left lanes are provided, the stripes sloping down should be on both sides of the barrier. The center of the barrier should be on the center of the roadway.
4. Sloping stripes should be provided on the hill side of the roadway, sloping down the hill side of the barrier.
5. Identification markings may be shown only on the back of the barricade rail. The markings shall be reflective and comply with the following:
 - a. Barricades shall be spaced parallel to traffic, unless an adequate clear zone is provided.
 - b. Barricades shall be spaced on the back of the barricade rail.
 - c. Barricades shall be spaced on the front of the barricade rail.
 - d. Barricades shall be spaced on the top of the barricade rail.
6. Barricades shall be spaced parallel to traffic, unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Barricades shall be spaced on the back of the barricade rail.
9. Barricades shall be spaced on the front of the barricade rail.
10. Barricades shall be spaced on the top of the barricade rail.

Barricades shall NOT be used as a sign support.



TYPE ■ BARRICADE (POST AND SKID) TYPICAL APPLICATION



1. Traffic cones and tubular markers shall be a minimum of 28 inches in height when used either on freeways or at night.
2. Cones or tubular markers shall be predominantly orange, fluorescent red-orange, or fluorescent yellow-orange. They should be kept clean and bright for maximum visibility.
3. Cones used only for daytime operations do not require the reflective/retroreflective material.
4. Cones and tubular markers used for nighttime operations shall be reflective/retroreflective material and shall have a smooth, sealed outer surface that displays the same appropriate color during the day and night. The reflective/retroreflective material shall be Type C (High Specific Intensity) conforming to the appropriate test method specified in the MUTCD.
5. Tubular markers shall be reflective/retroreflective material and shall have a smooth, sealed outer surface that displays the same appropriate color during the day and night. The reflective/retroreflective material shall be Type C (High Specific Intensity) conforming to the appropriate test method specified in the MUTCD.
6. Retroreflective material shall be a minimum of 6 inches between bands.
7. Retroreflective material shall be a minimum of 2 inches below the top band and a minimum of 2 inches from the top with a maximum of 6 inches between bands.
8. One-piece cones or tubular markers are generally suitable for temporary usage up to 6 hours in both urban and rural areas. Care should be taken to ensure they remain in place and upright.
9. One-piece cones or tubular markers shall be a minimum of 30 inches in height when used on freeways or at night.
10. The height may be designed on a bank or other slope, factored from side-slip angle and other factors, and may extend up to a maximum of 8 inches above the top of cone. Length of the bands shall be considered with regard to the overall height of the cone.

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

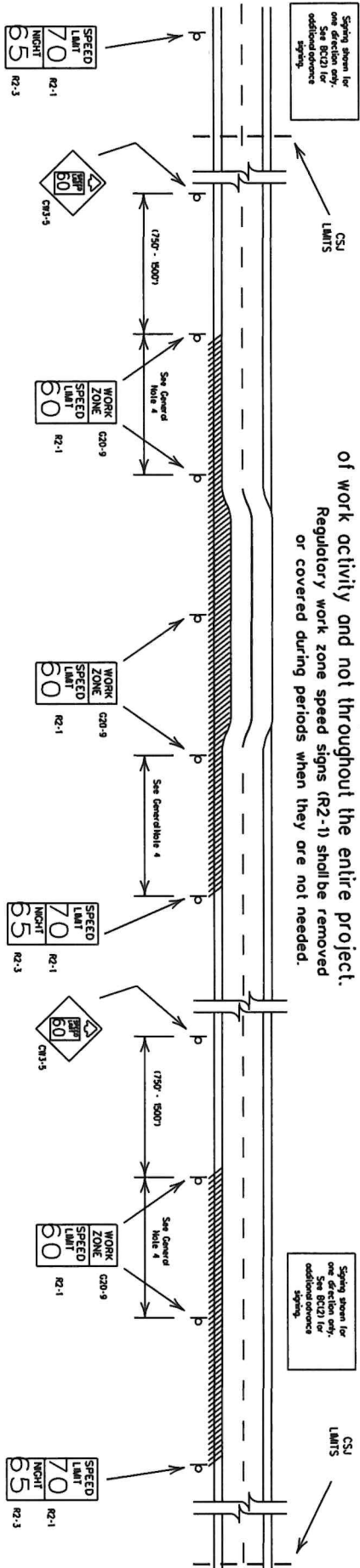
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TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within incorporated City Limits.
 Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.
 Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

- Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:
- rough road or damaged pavement surface
 - substantial alteration of roadway geometrics (diversions)
 - construction detours
 - grade
 - width
- As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when workers or equipment are not behind concrete barriers, when work activity is within 15 feet of pavement edge or actually on the pavement.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
 (See Removing or Covering on BC(4)).

GENERAL NOTES:

- Regulatory work zone speed limits should be used only for sections of construction projects where speed controls of major importance.
- Regulatory work zone speed limit signs shall be placed on supports of a 7 foot minimum mounting height.
- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- Frequency of work zone speed limit signs should be:
 - 40 mph and greater 0.2 to 2 miles
 - 35 mph and less 0.2 to 1 mile
- Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
- Fabrication, erection and maintenance of the CW3-5, sign, C20-9 plaque and the R2-1 and R2-3 signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
- Turning signs from view, laying signs over or down will not be allowed, unless otherwise noted.
- Techniques that may help reduce traffic speeds include but are not limited to:
 - Low enforcement.
 - Flagger stationed next to sign.
 - Portable changeable message sign (PCMS).
 - Low-power (dome) radar transmitter.
 - Speed monitor trailers or signs.
- Speeds shown on details above are for illustration only.
- Work Zone Speed Limits should only be posted as approved for each project.

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Texas Department of Transportation
TxDOT
 Traffic Operations Division

**BARRICADE AND CONSTRUCTION
 WORK ZONE SPEED LIMIT
 STANDARD**

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WORK ZONE PAVEMENT MARKINGS

GENERAL

- The Contractor shall be responsible for maintaining work zone and advance warning signs, cones, barrels, and other traffic control devices and special provisions on all roadways open to traffic within the CSI limits unless otherwise stated in the plans.
- Color, patterns and dimensions shall be in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUDOT).
- Advance warning pavement marking shall be placed in the work zone in accordance with the requirements of the TMUDOT and as shown on the plans.
- When short term markings are required on the plans, short term markings shall conform with the TMUDOT, the plans and details on the plans.
- When on the standard sheet WZS11 is used and the roadway is opened to traffic, DO NOT PASS signs shall be erected to meet the beginning of the section where posting is prohibited and PASS WITH CARE signs at the beginning of sections where posting is permitted.
- When advance warning markings shall be installed in accordance with item 652, "Work Zone Pavement Markings."

BASED PAVEMENT MARKINGS

- Based pavement markings are to be placed according to the patterns shown on the plans.
- Advance warning markings used for work zone markings shall meet the requirements of item 672, "BASED PAVEMENT MARKINGS" and Departmental Specification DMS-4200 or DMS-4300.

PRE-FABRICATED PAVEMENT MARKINGS

- Removable prefabricated pavement markings shall meet the requirements of DMS-4241.
- Non-removable prefabricated pavement markings (lithochips) shall meet the requirements of DMS-4240.

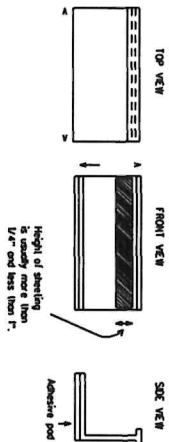
MANUAL MARKINGS - ZONE PAVEMENT MARKINGS

- The Contractor shall be responsible for maintaining work zone pavement markings within the work limits.
- Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control markings as shown on the plans.
- The markings shall provide a white reference for a minimum distance of 200 feet during normal daylight hours and 850 feet when illuminated by automobile beam headlights at night, unless sight distance is restricted by roadway geometry.
- Markings shall be kept in the condition specified in the plans after completion of the project at the expense of the Contractor as per Specification item 652.

REMOVAL OF PAVEMENT MARKINGS

- Pavement markings that are no longer applicable shall be completely removed or drilled out and the surface shall be restored to the condition of the roadway, shall be removed or obliterated before the roadway is opened to traffic.
- The above standard apply to detours in place for less than two weeks, where temporary and/or sufficient detouring devices are used to maintain the roadway open to traffic.
- When markings shall be removed to the extent it is not possible, so as not to have a deteriorate marking, the marking by any method approved by TxDOT Specification item 677 for "Temporary Erection Pavement Markings and Markings" may require resurfacing or sand.
- The removal of pavement markings may require resurfacing or sand.
- Subject to the approval of the Engineer, any method that proves to be successful in a particular type pavement may be used.
- Best cleaning may be used but shall be required unless specified by item 652.
- Over-planting of the markings SHALL NOT be permitted.
- Temporary road pavement markings shall be drilled by the Contractor.
- Removal of existing pavement markings and markers shall be done in accordance with item 677, "TEMPORARILY EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
- When markings are used to close existing existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Rodded Marker Tabs



**STAPLES OR NAILS SHALL NOT BE USED TO SECURE
TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER
TABS TO THE PAVEMENT SURFACE**

- Temporary flexible-reflective rodded marker tabs used as guidemarks shall meet the requirements of DMS-4242.
- Tabs installed on the sheet are to be accepted and accepted by the Engineer or designated representative of the Engineer and testing is required for the following:
 - Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Testing Laboratory for testing.
 - Select five (5) lots of tabs from the finished lot after:
 - lots of 24 tabs selected on an asphalt pavement in a straight line, using a medium size passenger vehicle or pickup, run over the markings with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction, to be installed on the pavement.
 - lots of 24 tabs selected on concrete surfaces that be laid or placed in a small of this lot.
 - Send design specimens may be void between lot manufacturers.
 - See Standard Sheet WZS179a for tab placement on new pavement. See Standard Sheet DM1-3 for tab placement on sealed work.

Retard Pavement Markers used as Guidemarks

- Retard pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
 - Temporary construction retard pavement markers provided on a project shall be of the same manufacturer.
 - Adhesive for guidemarks shall be bituminous material applied or by rubber pad for asphalt, or thermoplastic for concrete surfaces.
- Guidemarks shall be designated as:
 YELLOW - (low amber reflective surfaces with yellow body),
 WHITE - (one amber reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS

| | |
|--|----------|
| PAVEMENT MARKERS (REFLECTIONIZED) | DMS-4200 |
| REFLECTIVE BARRIERS | DMS-4300 |
| EMPAK AND ANCHORS | DMS-5100 |
| BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS | DMS-5100 |
| TEMPORARILY EXISTING PAVEMENT MARKINGS | DMS-5240 |
| PRE-FABRICATED PAVEMENT MARKINGS (REMOVABLE) | DMS-4240 |
| TEMPORARILY FLEXIBLE-REFLECTIVE ROADWAY MARKER | DMS-4242 |

A list of prequalified reflective rodded pavement markers, non-reflective traffic buttons, roadway marker tabs and other materials shall be submitted to the Materials Division, TxDOT, and address shown on 8011.

Texas Department of Transportation
Traffic Operations Division

**BARICADE AND CONSTRUCTION
PAVEMENT MARKINGS
STANDARD**

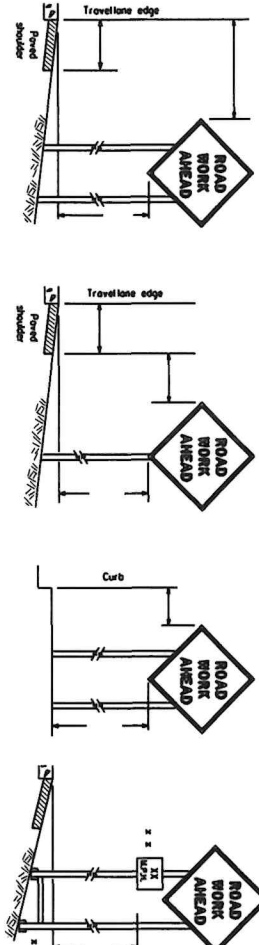
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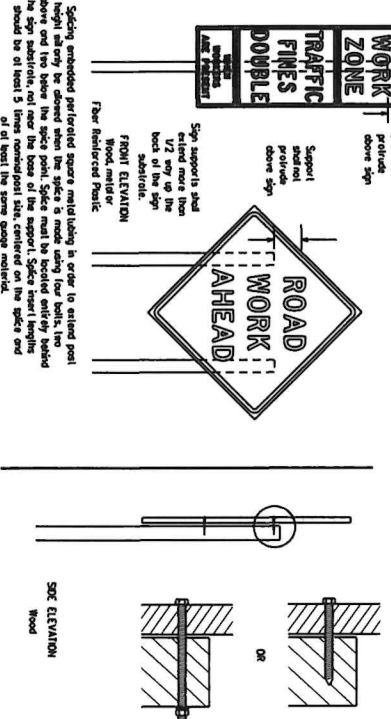
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TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



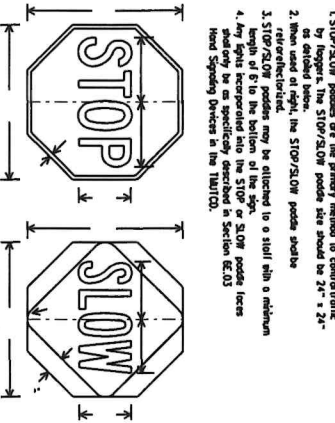
When placing add supports on uneven ground, the top post lengths must be adjusted so the sign appears straight and plumb. Objects should NOT be placed under signs or a means of leveling. Supplemental posts (temporary or distance) should not cover the surface of the post sign.

ATTACHMENT FOR SIGN SUPPORTS



Attachment to wooden supports shall be by bolts and nuts or screws. Use 1/4" or 3/8" diameter bolts and nuts or screws. Manufacturer's recommended procedure for attaching sign substitutes to other types of sign supports shall be followed. Nois will NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

STOP/SLOW PADDELS



1. STOP/SLOW paddles are the primary method to control traffic by night. The STOP/SLOW paddle size should be 24" x 24".
 2. The following methods are used for STOP/SLOW paddles:
 a. reflective material;
 b. reflective sheet;
 c. reflective paint.
 3. STOP/SLOW paddles may be attached to a post with a maximum height of 6' to the bottom of the STOP or SLOW paddle faces.
 4. Any signs incorporated into the STOP or SLOW paddle faces shall be as specified in Section 8C.03.
 5. Sign supports shall be attached to a post with a maximum height of 6' to the bottom of the STOP or SLOW paddle faces.
 6. Any signs incorporated into the STOP or SLOW paddle faces shall be as specified in Section 8C.03.

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, toll rates, and other information. They shall be maintained in a safe condition and shall be replaced as needed.
2. When existing permanent signs are to be removed or replaced due to construction purposes, they shall be maintained and replaced as needed.
3. If existing signs are to be replaced on their original supports, they shall be replaced on the same supports. If the original supports are damaged or destroyed, the Contractor shall provide for the replacement of the original supports. The work shall be done in a timely manner.
4. If existing signs are to be replaced on new supports, the Contractor shall provide for the replacement of the original supports. The work shall be done in a timely manner.
5. If permanent signs are to be removed and replaced using temporary supports, the Contractor shall ensure that the temporary supports are of equal or greater height and width as the original supports. The Contractor shall ensure that the temporary supports are of equal or greater height and width as the original supports.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorist. This shall be advisory to item 502.

GENERAL NOTES FOR ROAD SIGNS

1. Road signs shall be used in accordance with the Texas Department of Transportation (TxDOT) Manual on Uniform Traffic Control Devices (MUTCD).
2. Road sign posts shall be galvanized steel.
3. Signs shall be used in accordance with the Texas Department of Transportation (TxDOT) Manual on Uniform Traffic Control Devices (MUTCD).
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SMALL LETTERS

1. Small letters shall be used in accordance with the Texas Department of Transportation (TxDOT) Manual on Uniform Traffic Control Devices (MUTCD).
2. Small letters shall be used in accordance with the Texas Department of Transportation (TxDOT) Manual on Uniform Traffic Control Devices (MUTCD).
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Texas Department of Transportation

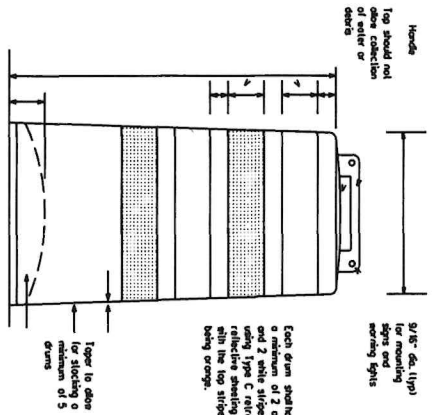
BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES STANDARD

4 of 12
 BC(4)-13

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| DATE | 11-4-02 | BY | 104 |
| REVISED | | BY | |
| DATE | 03/03/03 | BY | 2 |
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Each drum shall have a minimum of 2 orange and 2 white stripes using Type C reflective sheeting. The top stripe with the top stripe being orange.

GENERAL NOTES

1. For long term, stationary work zones on freeways, drums shall be used as the primary delineating device.
2. For intermediate term, stationary work zones on freeways, drums shall be used as the primary delineating device but may be replaced by longitudinal delineating devices, or 42" two-piece cones in tapered sections on a project where they may be used with the approved top tapered cone and they come in proper position and location.
3. For short term, stationary work zones on freeways, drums are the preferred delineating device but may be replaced in lower, transition and tapered sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Overlap of adjacent drums shall comply with the requirements of the current version of the "Texas Uniform Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices" (CWZTCD).
5. Drums, cones, and reflector modules shall exhibit good workmanship and shall be free from surface irregularities or defects that would adversely affect their performance.
6. The Contractor shall have a minimum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN RECOMMENDATIONS

Prequalified plastic drums shall meet the following requirements:

1. Plastic drums shall be a two-piece design: the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The top portion shall be a minimum of 18 inches in height and shall be supported from the base when inspected by a vehicle traveling at a speed of 20 mph or greater but prevents accidental separation due to normal handling and/or turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight, flexible, and deformable materials. The Contractor shall use metal drums or other approved materials.
4. Drums shall be painted a bright, high-visibility color. The height of drum shall be a minimum of 35 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and placement.
6. The exterior of the drum body shall have a minimum of four delineating orange and white reflective circumferential stripes not less than 2 inches wide. The stripes shall be spaced at a minimum of 12 inches in space between any two adjacent stripes shall exceed 2 inches in width.
7. Bases shall have a minimum width of 35 inches, a maximum height of 4 inches, and a minimum of two lockholes of sufficient size to allow bases to be held down when viewed from the drum body from the base.
8. The Contractor shall have a minimum of 24 hours to replace any high-visibility polyethylene (HVE) or other approved material.

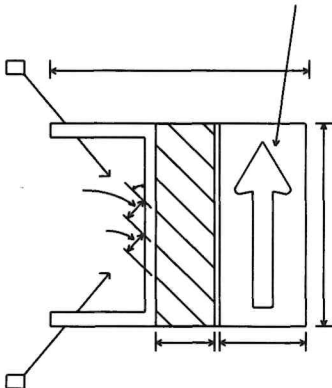
9. Drum body shall have a minimum unobstructed weight of 7.7 lbs. and a maximum unobstructed weight of 11 lbs. The weight of the drum body shall be a minimum of 0.02 inch in thickness. Weight of any drum supplied shall be a minimum of 0.02 inch in thickness. Weight of any drum supplied shall be a minimum of 0.02 inch in thickness. Weight of any drum supplied shall be a minimum of 0.02 inch in thickness.

RETROREFLECTIVE SHEETING

1. The sheeting used on drums shall be manufactured of quality meeting the color and retroreflectivity requirements of Department of Transportation Specification OHS-5200, "Type C Retroreflective Sheetting." High Specific Intensity (Type C) retroreflective sheeting shall be supplied.
2. The sheeting shall be applied in a uniform and consistent manner to the drum surface such that, upon vehicle impact, the sheeting will remain adhered to the drum and shall not delaminate, crack, or tear or retroreflectivity other than that due to erosion of the sheeting surface.

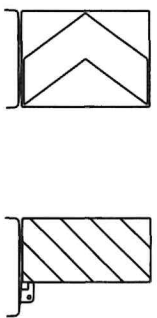
BALLAST

1. Unobstructed drums shall be large enough to hold up to 50 lbs. of sand. The base, when filled with the ballast material, should weigh between 25 to 50 lbs. (minimum) and 50 lbs. (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of drums shall be limited to a maximum height of 10 drums per position.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs.
3. The ballast shall not be heavy objects, water, or any material that could be displaced by wind, rain, or other environmental conditions.
4. When used in regions susceptible to freezing, drums shall have drainage holes in the bottom so that water which collect and freeze becoming a hazard when struck by a vehicle.
5. Ballast shall not be placed on top of drums.
6. Drums may be used to secure bases of drums to pavement.



DIRECTION INDICATOR GUARDRAIL

1. The Direction Indicator Guardrails may be used in tapered, transition, and other areas where specific directional purposes are desired.
2. It is used to direct traffic through the transition and into the tapered transition.
3. The Direction Indicator Guardrails shall be used in tapered, transition, and other areas where specific directional purposes are desired.
4. The Direction Indicator Guardrails shall be used in tapered, transition, and other areas where specific directional purposes are desired.
5. The Direction Indicator Guardrails shall be used in tapered, transition, and other areas where specific directional purposes are desired.



Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using plywood, aluminum, or metal.
2. Chevrone and other work zone signs with an orange background shall be manufactured with Type E (Fluorescent Prismatic) sheeting meeting the color and retroreflectivity requirements of OHS-5200, "Sign Face Material," unless otherwise approved by the Engineer.
3. Vertical panels shall be manufactured with orange and white sheeting meeting the requirements of OHS-5200 Type C (High Specific Intensity). Diagonal stripes on Vertical Panels shall slope down toward the tapered (forward) base.
4. Other sign messages that are approved may be used as follows:
 - a. Signs shall be attached using a 1/2 inch bolt (minimum) and nut, two washers, and one locking washer for each connection.
 - b. Signs shall be attached using a 1/2 inch bolt (minimum) and nut, two washers, and one locking washer for each connection.
 - c. Signs shall be attached using a 1/2 inch bolt (minimum) and nut, two washers, and one locking washer for each connection.
5. Chevrone may be placed on drums on the outside of curves, on merging lanes or on exiting lanes when used in areas more than on every third drum. A minimum of three (3) drums should be used at each location (total for in the plans).
6. R9-5, R9-10, R9-11 and R9-12 Signs shall be placed on drums which are 24 inches less may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

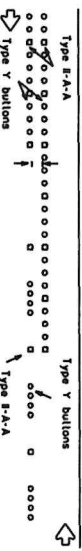
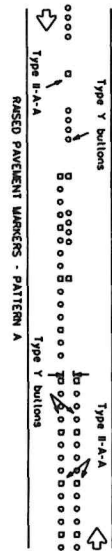
8 of 12 **BC(8)-13**

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| 4-03 | 11-4-02 | 11-4-02 | 11-4-02 |
| REV | DATE | BY | CHK |
| 0039 | 03 | 248 | HR 2 |
| 001 | | | |
| PROJECT | | SHEET NO. | |
| BARRICADE | | 31 | |

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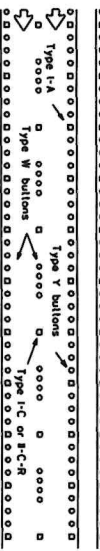
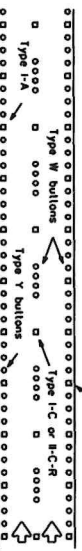
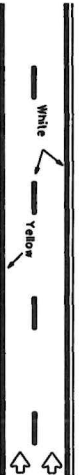
PAVEMENT MARKING PATTERNS

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



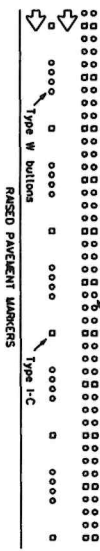
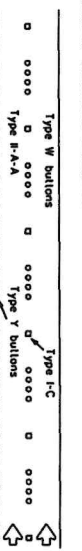
Pattern A is the 18001 Standard Marker Pattern B and may be used if approved by the Engineer. Reflecterized markings may be substituted for reflecterized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



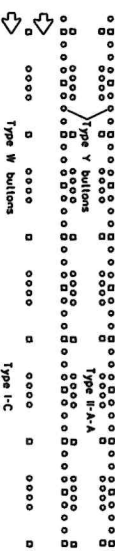
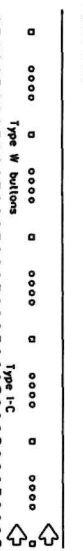
Reflectorized markings may be substituted for reflecterized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



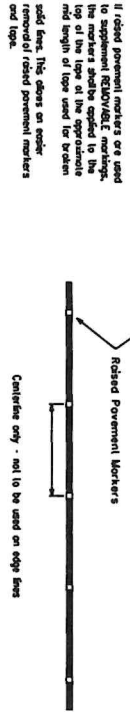
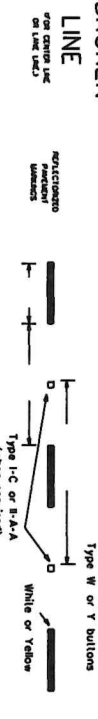
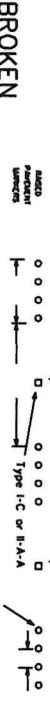
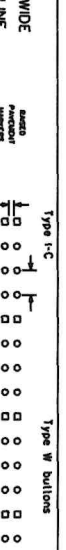
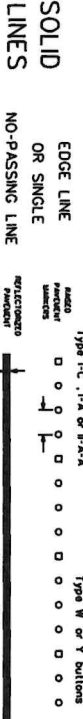
Reflectorized markings may be substituted for reflecterized pavement markings.

TWO-WAY LEFT TURN LANE



Reflectorized markings may be substituted for reflecterized pavement markings.

STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS



Reflectorized pavement markers used on standard pavement markings shall be from the approved list of Type I-C or I-A raised pavement markers.

Centerline only - shall be used on edge lines

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Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS STANDARD

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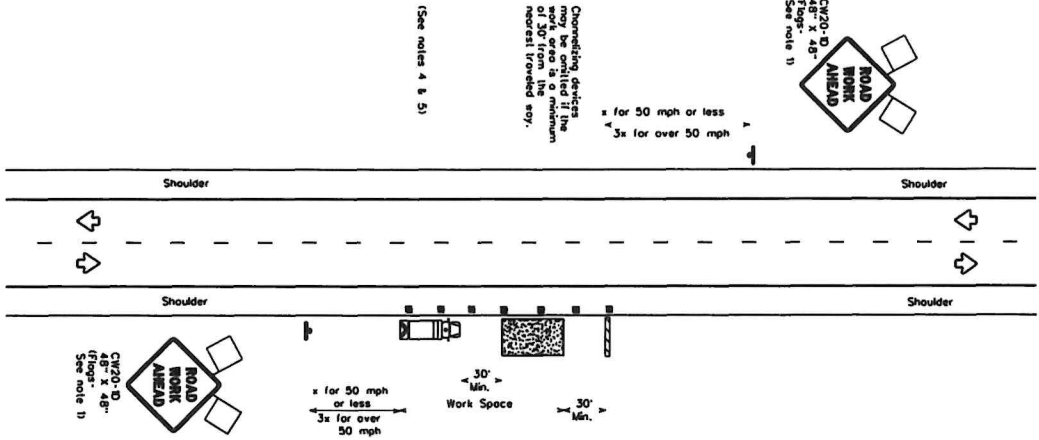
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| 238 | 001 | SECTION | 001 | 238 | 001 | SECTION |
| 0221 | 03 | DATE | 0221 | 03 | DATE | 0221 |
| 21 | 21 | COUNTY | 21 | 21 | COUNTY | 21 |
| 095C | | HOWL CO | | | HOWL CO | |

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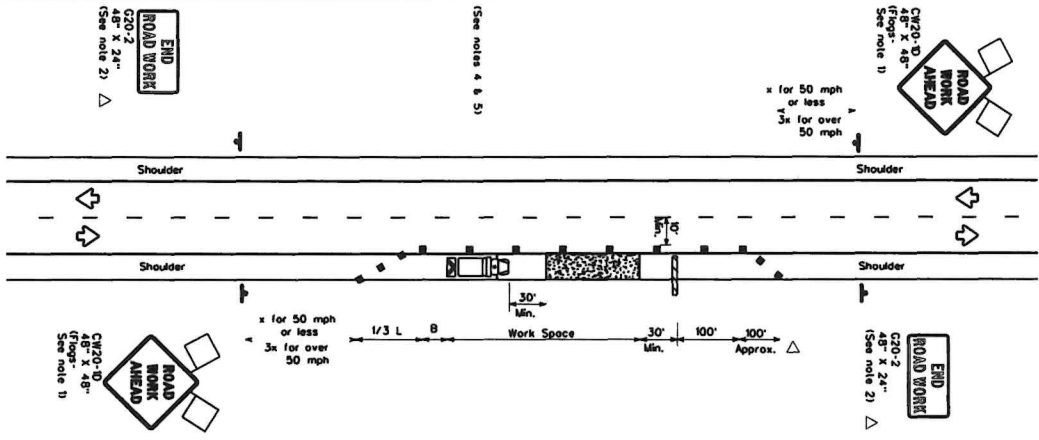
WORK SPACE NEAR SHOULDER
Conventional Roads

TCP (2-10)



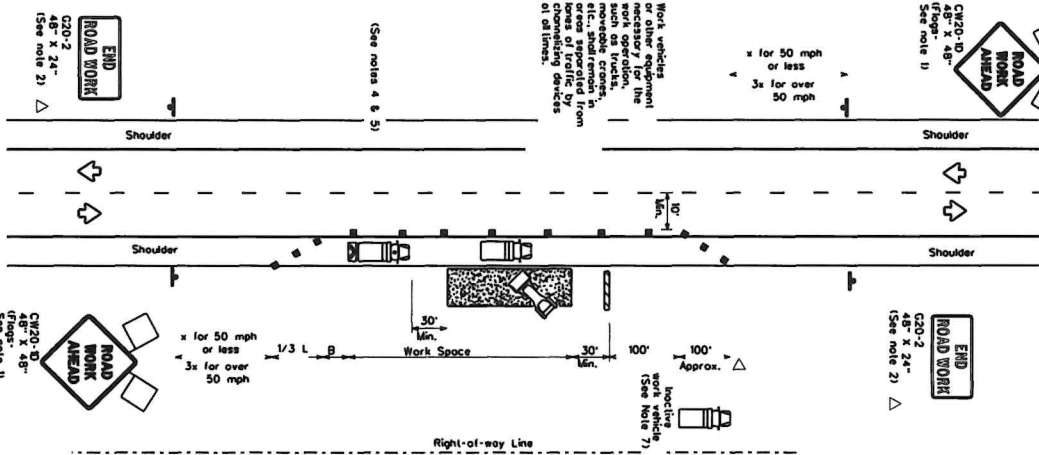
WORK SPACE ON SHOULDER
Conventional Roads

TCP (2-16)



WORK VEHICLES ON SHOULDER
Conventional Roads

TCP (2-1d)



LEGEND

| | | | |
|--|----------------------------------|--|---|
| | Type 3 Barricade | | Connecting Devices |
| | Tractor Mounted Alternator (TMA) | | Portable Chonglobe Messages Sign (PCMS) |
| | Traffic Flow | | Flag |

| Posted Speed | Formula | Minimum | | Suggested | | Minimum | Suggested |
|--------------|---------|--------------|----------------------------------|--------------|----------------------------------|---------|-----------|
| | | Work Vehicle | Tractor Mounted Alternator (TMA) | Work Vehicle | Tractor Mounted Alternator (TMA) | | |
| 30 | 100' | 150' | 180' | 30' | 60' | 120' | 90' |
| 35 | 100' | 165' | 198' | 30' | 60' | 120' | 90' |
| 40 | 100' | 180' | 216' | 35' | 70' | 140' | 105' |
| 45 | 100' | 195' | 234' | 40' | 80' | 160' | 120' |
| 50 | 100' | 210' | 252' | 45' | 90' | 180' | 135' |
| 55 | 100' | 225' | 270' | 50' | 100' | 200' | 150' |
| 60 | 100' | 240' | 288' | 55' | 110' | 220' | 165' |
| 65 | 100' | 255' | 306' | 60' | 120' | 240' | 180' |
| 70 | 100' | 270' | 324' | 65' | 130' | 260' | 195' |
| 75 | 100' | 285' | 342' | 70' | 140' | 280' | 210' |

TYPICAL USAGE

| WORK DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
|---------------|-----------------------|------------------------------|----------------------|
| SHORT | ✓ | ✓ | ✓ |
| MEDIUM | ✓ | ✓ | ✓ |
| LONG | ✓ | ✓ | ✓ |

- GENERAL NOTES**
- Flags attached to sign posts shall, on REQUESTED.
 - As traffic control devices are RETURNED, except those denoted with the triangle symbol, they shall be stored in the plant, or for routine maintenance work, when approved by the Engineer.
 - Stockpiled materials should be placed a minimum of 50 feet from nearest traveled way.
 - Signs, markers, and high intensity rotating beacons, including or trailer lights, a Shoulder Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present on road or work conditions require the traffic control to remain in place, the sign, marker, or beacon should be removed.
 - Additional Shoulder Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
 - See TCP-5-D for shoulder work on divided highways, expressways and Interstates.
 - Shoulder work on divided highways, expressways and Interstates, vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
 - CR215 - SHOULDER MARKER signs may be used in place of CR210-D ROAD WORK AHEAD signs for shoulder work on conventional roads.

For construction or maintenance contracts with specific project requirements for signs and vehicles, specific project GENERAL NOTES for Item 402, Barricades, Signs and Traffic Handling.

Texas Department of Transportation
Traffic Services Division

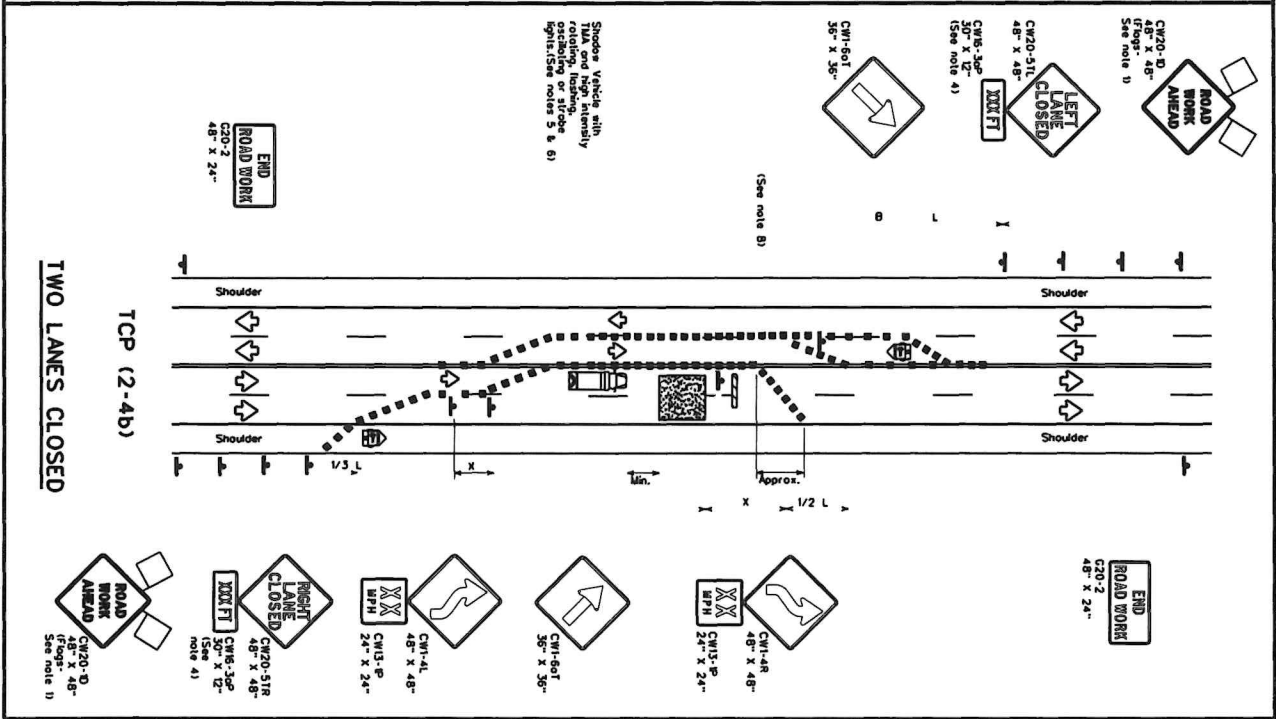
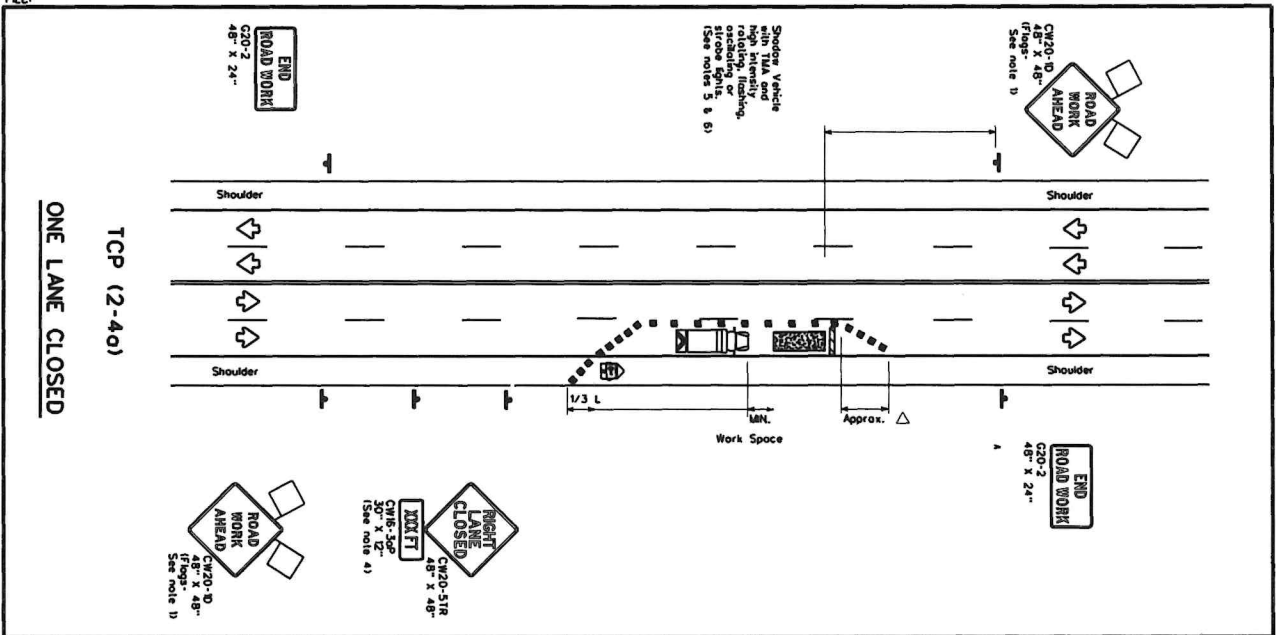
TRAFFIC CONTROL PLAN
CONVENTIONAL ROAD
SHOULDER WORK

TCP (2-1) 12

| | | | |
|---------|------------|----|-----|
| DATE | 02/10/2010 | BY | 101 |
| REVISED | 02/10/2010 | BY | 101 |
| DATE | 02/10/2010 | BY | 101 |
| REVISED | 02/10/2010 | BY | 101 |

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LEGEND

| | | | |
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| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Friction Mounted Warning Arrow Board | | Advance Warning Sign (A5) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
- All traffic control devices installed are REQUIRED, except those denoted with the fringe symbol, may be omitted when staked in place, or for routine maintenance work when operated by the sign operator.
- The length of the sign (L) is the length of the sign face, not the sign length, per sign.
- For short term applications, when post mounted signs are not used, the distance between signs should be 300 feet.
- For long term applications, when post mounted signs are not used, the distance between signs should be 300 feet.
- For short term applications, when post mounted signs are not used, the distance between signs should be 300 feet.
- For long term applications, when post mounted signs are not used, the distance between signs should be 300 feet.

TYPICAL USAGE

| WORK DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
|---------------|-----------------------|------------------------------|----------------------|
| 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 |
| 10 | 10 | 10 | 10 |
| 11 | 11 | 11 | 11 |
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| 35 | 35 | 35 | 35 |
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| 37 | 37 | 37 | 37 |
| 38 | 38 | 38 | 38 |
| 39 | 39 | 39 | 39 |
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| 43 | 43 | 43 | 43 |
| 44 | 44 | 44 | 44 |
| 45 | 45 | 45 | 45 |
| 46 | 46 | 46 | 46 |
| 47 | 47 | 47 | 47 |
| 48 | 48 | 48 | 48 |
| 49 | 49 | 49 | 49 |
| 50 | 50 | 50 | 50 |
| 51 | 51 | 51 | 51 |
| 52 | 52 | 52 | 52 |
| 53 | 53 | 53 | 53 |
| 54 | 54 | 54 | 54 |
| 55 | 55 | 55 | 55 |
| 56 | 56 | 56 | 56 |
| 57 | 57 | 57 | 57 |
| 58 | 58 | 58 | 58 |
| 59 | 59 | 59 | 59 |
| 60 | 60 | 60 | 60 |
| 61 | 61 | 61 | 61 |
| 62 | 62 | 62 | 62 |
| 63 | 63 | 63 | 63 |
| 64 | 64 | 64 | 64 |
| 65 | 65 | 65 | 65 |
| 66 | 66 | 66 | 66 |
| 67 | 67 | 67 | 67 |
| 68 | 68 | 68 | 68 |
| 69 | 69 | 69 | 69 |
| 70 | 70 | 70 | 70 |
| 71 | 71 | 71 | 71 |
| 72 | 72 | 72 | 72 |
| 73 | 73 | 73 | 73 |
| 74 | 74 | 74 | 74 |
| 75 | 75 | 75 | 75 |

Traffic Department of Transportation
Traffic Operations Division

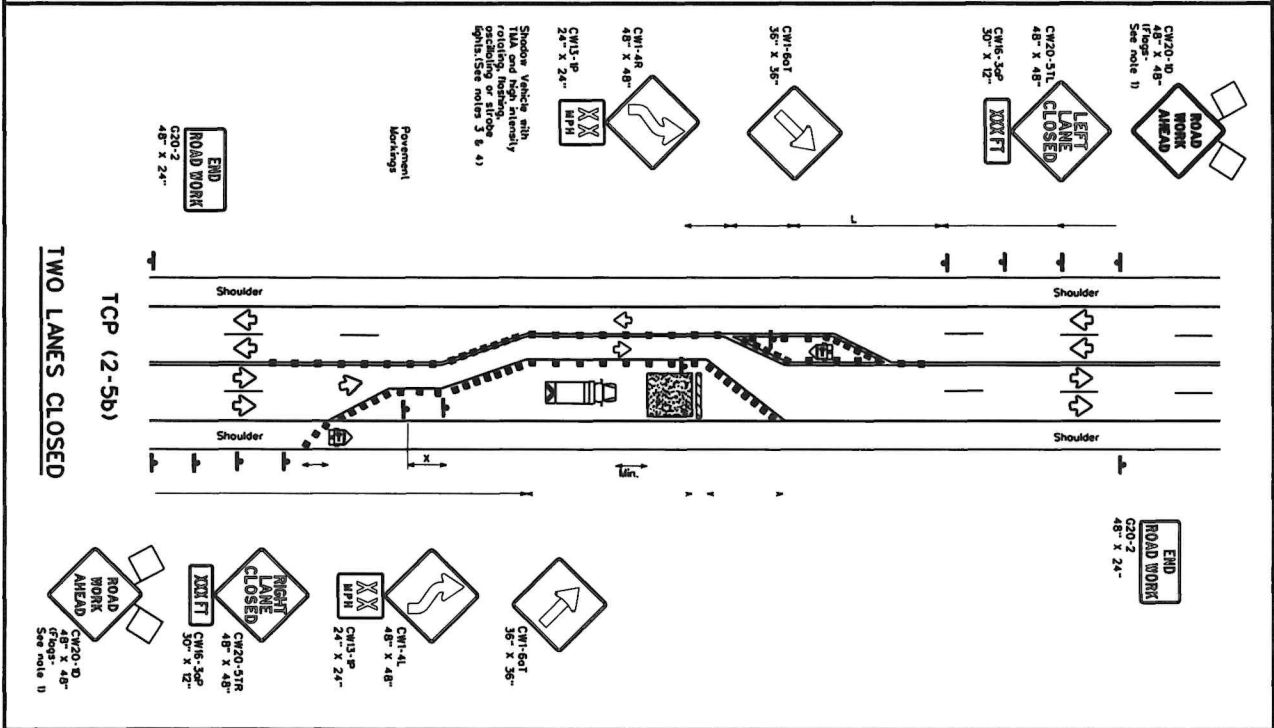
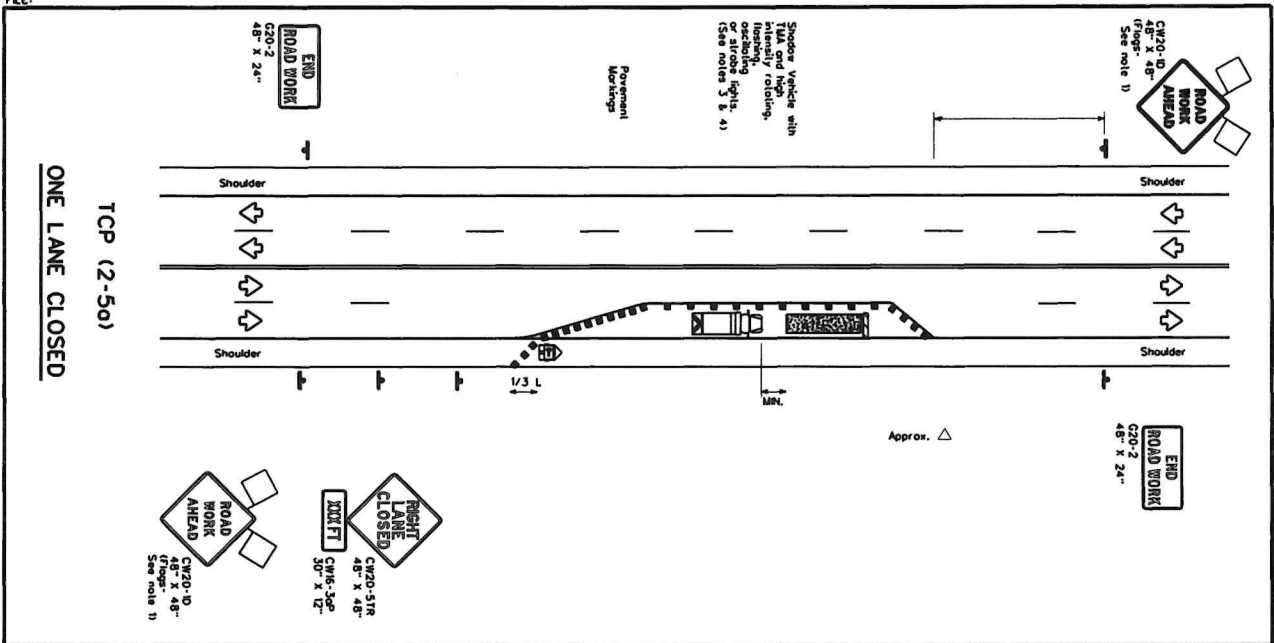
TRAFFIC CONTROL PLAN
LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP (2-4) 12

DATE: _____
PAGE: _____

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DATE: FILE:



LEGEND

| | | | |
|--|--------------------------------------|--|---|
| | Type 3 Barricade | | Connecting Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Fine |
| | Flag | | Flagger |

GENERAL NOTES

- Flags attached to signs where shown, are REQUIRED.
- All traffic control devices installed are REQUIRED, except those indicated with the triangle symbol or are REQUIRED, except those indicated with the square symbol.
- A Shoulder Vehicle with a TMA should be used anytime it can be positioned 30 to 500 feet in advance of the start of work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 barricades or other traffic control devices should be used to maintain the TMA.
- Additional Shoulder Vehicles with TMAs may be installed in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.
- The downstream taper is optional. When used, it should be 100 feet approximately per lane, with connecting devices spaced at 20 feet.

TCP (2-5a)

- If the TCP is used for a left lane closure, CW20-51L, LEFT LANE CLOSED signs should be used and channelizing devices should be placed on the shoulder to protect the work space from opposing traffic, with the board placed in the closed lane near the end of the taper.
- Connecting pavement markings should be removed for long-term projects.

TCP (2-5b)

TYPICAL USAGE

| MOBILE | SHORT STATIONARY | INTERMEDIATE | LONG TERM STATIONARY |
|--------|------------------|--------------|----------------------|
| 30 | 35 | 40 | 45 |
| 50 | 60 | 70 | 80 |
| 65 | 75 | 85 | 90 |
| 75 | 85 | 95 | 100 |
| 85 | 95 | 105 | 110 |
| 95 | 105 | 115 | 120 |
| 105 | 115 | 125 | 130 |
| 115 | 125 | 135 | 140 |
| 125 | 135 | 145 | 150 |
| 135 | 145 | 155 | 160 |
| 145 | 155 | 165 | 170 |
| 155 | 165 | 175 | 180 |
| 165 | 175 | 185 | 190 |
| 175 | 185 | 195 | 200 |
| 185 | 195 | 205 | 210 |
| 195 | 205 | 215 | 220 |
| 205 | 215 | 225 | 230 |
| 215 | 225 | 235 | 240 |
| 225 | 235 | 245 | 250 |
| 235 | 245 | 255 | 260 |
| 245 | 255 | 265 | 270 |
| 255 | 265 | 275 | 280 |
| 265 | 275 | 285 | 290 |
| 275 | 285 | 295 | 300 |
| 285 | 295 | 305 | 310 |
| 295 | 305 | 315 | 320 |
| 305 | 315 | 325 | 330 |
| 315 | 325 | 335 | 340 |
| 325 | 335 | 345 | 350 |
| 335 | 345 | 355 | 360 |
| 345 | 355 | 365 | 370 |
| 355 | 365 | 375 | 380 |
| 365 | 375 | 385 | 390 |
| 375 | 385 | 395 | 400 |
| 385 | 395 | 405 | 410 |
| 395 | 405 | 415 | 420 |
| 405 | 415 | 425 | 430 |
| 415 | 425 | 435 | 440 |
| 425 | 435 | 445 | 450 |
| 435 | 445 | 455 | 460 |
| 445 | 455 | 465 | 470 |
| 455 | 465 | 475 | 480 |
| 465 | 475 | 485 | 490 |
| 475 | 485 | 495 | 500 |
| 485 | 495 | 505 | 510 |
| 495 | 505 | 515 | 520 |
| 505 | 515 | 525 | 530 |
| 515 | 525 | 535 | 540 |
| 525 | 535 | 545 | 550 |
| 535 | 545 | 555 | 560 |
| 545 | 555 | 565 | 570 |
| 555 | 565 | 575 | 580 |
| 565 | 575 | 585 | 590 |
| 575 | 585 | 595 | 600 |
| 585 | 595 | 605 | 610 |
| 595 | 605 | 615 | 620 |
| 605 | 615 | 625 | 630 |
| 615 | 625 | 635 | 640 |
| 625 | 635 | 645 | 650 |
| 635 | 645 | 655 | 660 |
| 645 | 655 | 665 | 670 |
| 655 | 665 | 675 | 680 |
| 665 | 675 | 685 | 690 |
| 675 | 685 | 695 | 700 |
| 685 | 695 | 705 | 710 |
| 695 | 705 | 715 | 720 |
| 705 | 715 | 725 | 730 |
| 715 | 725 | 735 | 740 |
| 725 | 735 | 745 | 750 |
| 735 | 745 | 755 | 760 |
| 745 | 755 | 765 | 770 |
| 755 | 765 | 775 | 780 |
| 765 | 775 | 785 | 790 |
| 775 | 785 | 795 | 800 |
| 785 | 795 | 805 | 810 |
| 795 | 805 | 815 | 820 |
| 805 | 815 | 825 | 830 |
| 815 | 825 | 835 | 840 |
| 825 | 835 | 845 | 850 |
| 835 | 845 | 855 | 860 |
| 845 | 855 | 865 | 870 |
| 855 | 865 | 875 | 880 |
| 865 | 875 | 885 | 890 |
| 875 | 885 | 895 | 900 |
| 885 | 895 | 905 | 910 |
| 895 | 905 | 915 | 920 |
| 905 | 915 | 925 | 930 |
| 915 | 925 | 935 | 940 |
| 925 | 935 | 945 | 950 |
| 935 | 945 | 955 | 960 |
| 945 | 955 | 965 | 970 |
| 955 | 965 | 975 | 980 |
| 965 | 975 | 985 | 990 |
| 975 | 985 | 995 | 1000 |

TCP (2-5) 12

Texas Department of Transportation
Traffic Operations Division

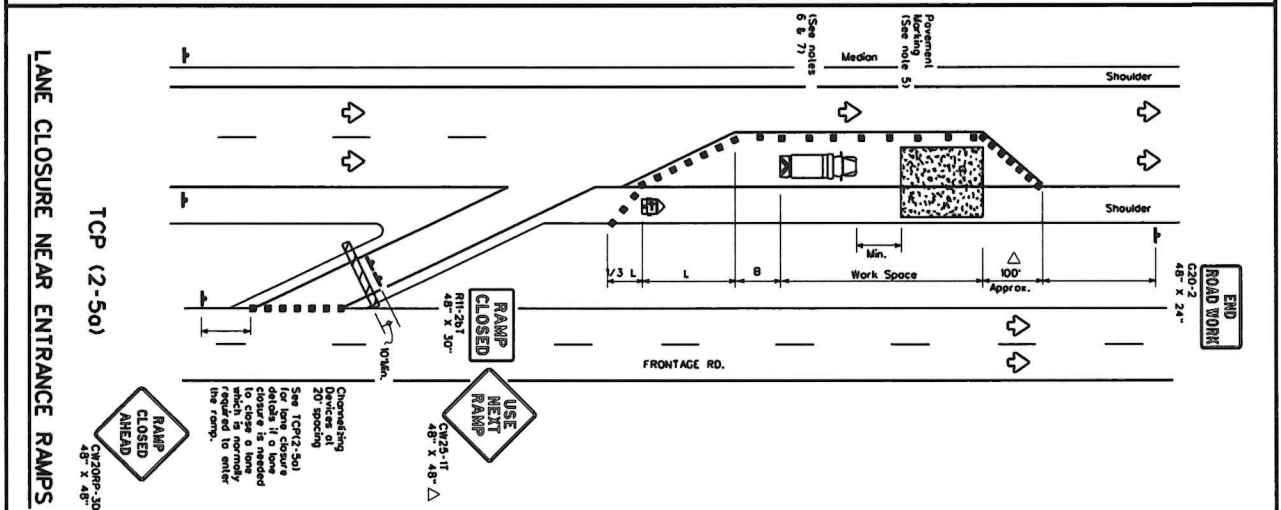
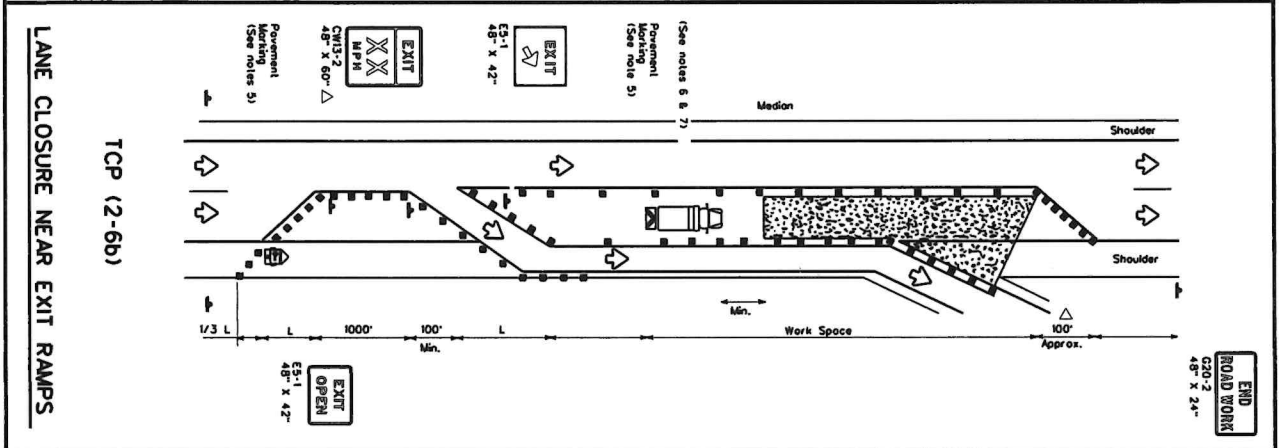
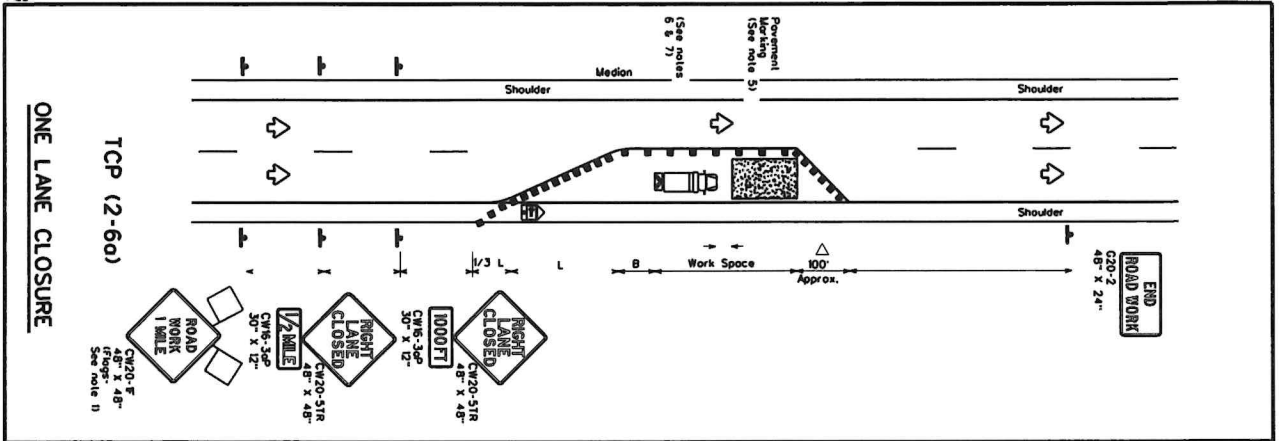
TRAFFIC CONTROL PLAN
LONG TERM LANE CLOSURES
MULTI LANE CONVENTIONAL RDS.

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| | | | | |
|------|-----|-----------|------|-----|
| DATE | BY | CHKD | APPD | REV |
| 1-27 | XXX | 0029 (SI) | | |
| 4-28 | | | | |
| 2-28 | | | | |
| 105 | | | | |

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DATE: _____
FILE: _____



LEGEND

| | | | |
|--|-------------------------------------|--|---|
| | Type 3 Barricade | | Connecting Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Warning Sign (TMWS) | | Portable Changeable Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagger |

| Signlet Formula | Minimum Taper Length | Minimum Spacing of Signs | Minimum Spacing of Signs on a Taper | Minimum Spacing of Signs on a Taper | Suggested Length of Spacing |
|-----------------|----------------------|--------------------------|-------------------------------------|-------------------------------------|-----------------------------|
| 30 | 150' | 60' | 30' | 60' | 120' |
| 35 | 205' | 75' | 35' | 75' | 150' |
| 40 | 265' | 95' | 45' | 95' | 195' |
| 45 | 325' | 120' | 60' | 120' | 240' |
| 50 | 385' | 150' | 90' | 150' | 300' |
| 55 | 445' | 180' | 120' | 180' | 360' |
| 60 | 505' | 210' | 150' | 210' | 420' |
| 65 | 565' | 240' | 180' | 240' | 480' |
| 70 | 625' | 270' | 210' | 270' | 540' |

* x Conventional Roads Only
* x Taper lengths have been rounded off.
* x L-1 Length of Taper (L) W/Width of Opposite (L) S-Posted Speedlimit

GENERAL NOTES

- From allowed to signs where shown, are REQUIRED.
- All traffic control devices (barricade) are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plan, or for routine maintenance work, when approved by the Engineer.
- Connecting devices used to close lanes may be supplemented with flashing lights.
- Devices may be attached to plastic drums on per 8C Standards.
- Connecting devices used along the work space or along tapered sections may be supplemented with vertical panels (VP) placed on every other connecting device; if light line conditions make it difficult to see at least two VP's, the VP's may be placed on each connecting device.
- The minimum taper length is determined by the intermediate term.
- Additional work zones with the approval of the Engineer.
- Shoulder Vehicles with TMA and high intensity rotating, flashing, or strobe lights. Shoulder Vehicle with TMA and high intensity rotating, flashing, or strobe lights. A Shoulder Vehicle with a TMA should be used anytime it can be positioned 50 to 100 feet in advance of the work zone.
- Additional work zones with the approval of the Engineer.
- Conditions require the traffic control to remain in place. Type 3 Barricades or other channelizing devices may be substituted for the Shoulder Vehicle and TMA. Signs may be positioned in each direction of travel to protect the work zone.
- Additional work zones with the approval of the Engineer.

TRAFFIC CONTROL PLAN
LANE CLOSURES ON DIVIDED HIGHWAYS
TCP (2-6) 12

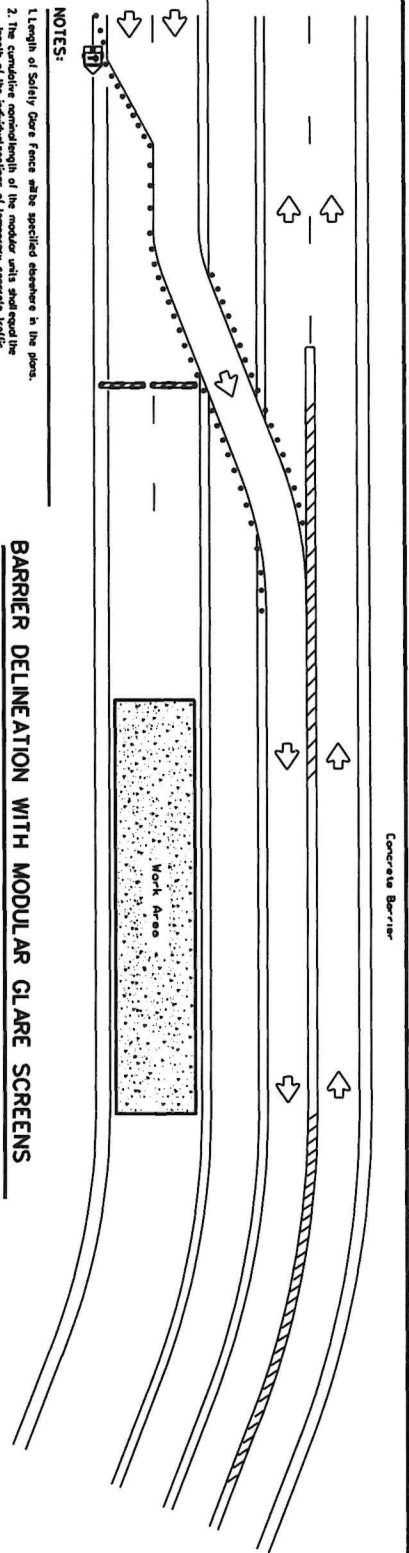
Texas Department of Transportation
Traffic Services Division

For construction or maintenance contract work, specific project requirements for station vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

| MOBILE | SHORT DURATION | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
|--------|----------------|-----------------------|------------------------------|----------------------|
| 304 | 2-18 | 0029 | 03 | 0029 |
| 8-16 | XX | XX | XX | XX |
| 1-14 | | | | |
| 4-18 | | | | |
| 5-5 | | | | |
| 6-10 | | | | |
| 7-15 | | | | |
| 8-20 | | | | |
| 9-25 | | | | |
| 10-30 | | | | |
| 11-35 | | | | |
| 12-40 | | | | |
| 13-45 | | | | |
| 14-50 | | | | |
| 15-55 | | | | |
| 16-60 | | | | |
| 17-65 | | | | |
| 18-70 | | | | |
| 19-75 | | | | |
| 20-80 | | | | |
| 21-85 | | | | |
| 22-90 | | | | |
| 23-95 | | | | |
| 24-100 | | | | |

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DATE: DATE TIME
FILE: DOCUMENT NAME

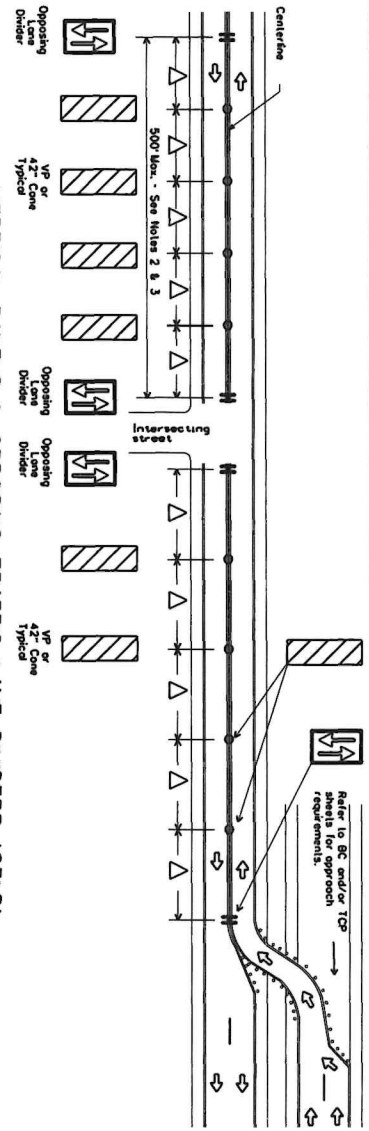


| LEGEND | |
|--------|--------------------------------------|
| | Type 3 Barrier |
| | Channeling Device |
| | Trailer Mounted Flashing Arrow Board |
| | Sign |
| | Safety glare fence |

NOTES:

1. Length of Safety Glare Fence shall be specified elsewhere in the plans.
2. The minimum length of the modular units shall be the length of the individual sections of temporary concrete traffic barrier on which they are installed so the joint between barrier sections shall be spaced by one unit.
3. Power/cables shall be designed such that reflective sheeting conforming with Departmental Material Specification DMS-8300, Sign Face Material, Type B or C Type, minimum size of 2 inches by 12 inches can be attached to the edge of the joint/lobe. The sheeting shall be attached to one power/cable per section of concrete barrier not to exceed a spacing of 500 feet. Power/cables shall be installed in the same trench as the reflective sheeting as described.
4. Proposal for these devices shall be under applicable Special Specification "Modular Glare Screens for Headlight Barrier".
5. The details shall be shown for locations where Glare Screens are not required. See Notes 2 and 3 for other details and be as shown elsewhere in the plans.

BARRIER DELINEATION WITH MODULAR GLARE SCREENS



VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS (OTLD) SEPARATING TWO-WAY TRAFFIC ON NORMALLY DIVIDED HIGHWAYS

NOTES:

1. When two-way, two way traffic confinement on one roadway of a normally divided highway, opposing traffic shall be separated with either temporary traffic barriers, channeling devices, or a temporary raised island throughout the length of the two way operation. The above typical application is intended to show the appropriate operation of channeling devices when they are used for this purpose. It is not a traffic control device and shall not be used for other types of roads or operations. When installed, these devices shall be staked elsewhere in the plans.
2. Spaced devices according to the tangent spacing shown on the Device Spacing table on BC18B but not exceeding 100'.
3. Every fifth device should be an OTLD except when spaced closer to accommodate an intersection. An OTLD should be the first device on each side of intersecting streets or roads.
4. Locations where surface mount signs with reflecting or self-illuminating devices shall be required in order to maintain them in their proper position should be noted elsewhere in the plans.

| DEPARTMENTAL MATERIAL SPECIFICATIONS | |
|---|----------|
| SIGN FACE MATERIALS | DMS-8300 |
| DELINEATORS AND OBJECT MARKERS | DMS-8500 |
| MODULAR GLARE SCREENS FOR HEADLIGHT BARRIER | DMS-8610 |

Only pre-qualified products shall be used. A copy of the "Complete Work Zone Traffic Control/Devices List" (CWZTCD) shall be provided and their sources and may be found at http://www.tdot.gov/tdot_illustrations/publications/tdotconstruction.htm

Texas Department of Transportation

Traffic Division Standard

TRAFFIC CONTROL PLAN

TYPICAL DETAILS

WZ(TD)-13

| | | | | | |
|------|------|------|------|-------|--------|
| REV | DATE | BY | CHKD | APP'D | REASON |
| 1-01 | 1-01 | 1-01 | 1-01 | 1-01 | 1-01 |
| 2-01 | 2-01 | 2-01 | 2-01 | 2-01 | 2-01 |
| 3-01 | 3-01 | 3-01 | 3-01 | 3-01 | 3-01 |
| 4-01 | 4-01 | 4-01 | 4-01 | 4-01 | 4-01 |
| 5-01 | 5-01 | 5-01 | 5-01 | 5-01 | 5-01 |

During the planning phase of project development, the following Environmental Permits, Issues and Commitments have been developed during coordination with resource agencies, local governmental entities and the general public. Any change in orders and/or deviations from the final design must be reported to the Engineer prior to the commencement of construction activities or additional environmental clearances may be required.

L. Clean Water Act, Section 402: Stormwater Pollution Prevention

Action Items Required: No Action Required

1. The contractor must implement the SWMP by installing Best Management Practices (BMPs) as indicated in the construction plans and maintained appropriately throughout construction. BMPs must be in place prior to the start of construction. The SWMP may need to be revised as necessary as construction progresses.
2. For all construction PCL's off the ROW, the contractor must certify compliance with all applicable laws, rules and regulations pertaining to the preservation of cultural resources, natural resources and the environment.
3. Based on the acreage of impact, select the appropriate box below:
 - This project will disturb less than 1 acre of soil and is not part of a larger common plan of development; therefore, a NOI and TPDES Site Notice are not required for this project.
 - This project will disturb equal to or more than 1 acre of soil but less than 5 acres; therefore a NOI is not required, but a TPDES Site Notice is required. The Construction Site Notice (CSN) is required to be posted at the construction site in a publicly accessible location for review by the public, TCEQ, EPA and other inspectors.
 - This project will disturb equal to or more than 5 acres of soil and will require a NOI and TPDES Site Notice. The NOI and Site Notice are required to be posted at the construction site in a publicly accessible location.
4. Need to address MS4 requirements MS4 requirements not needed
(Compton & Hidalgo Counties only)

I. Clean Water Act, Sections 401 and 404: Compliance

Action Items Required: No Action Required

1. Filling, dredging or excavating in any water bodies, rivers, creeks, streams, wetlands or wet areas is prohibited unless specified in the USACE permit and approved by the Engineer. The contractor shall adhere to all requirements, mitigation plans, and BMPs required by the NMP as regulated by the USACE.

The Contractor must adhere to all of the terms and conditions associated with the following permits:

 - No Permit Required
 - Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)
 - Nationwide Permit 14 - PCN Required (1/10th to <1/2 acre, 1/3 in tidal waters)
 - Individual 404 Permit Required
 - Other Nationwide Permit Required: NMP# _____
2. The contractor is responsible for obtaining new or revised Section 404 permit(s) for Contractor initiated changes in construction methods that change impacts to Waters of the U.S., including wetlands. The Contractor will ensure that the water quality of the State will be mentioned and not degraded.
3. Best Management Practices for applicable Section 401 General Conditions:
 - General Condition 12 - Categories I and II BMPs required**
 - Category I (Erosion Control)**
 - Temporary Vegetation
 - Blankets/Matting
 - Mulch
 - Sodding
 - Category II (Sedimentation Control)**
 - Silt Fence
 - Rock Berm
 - Sand Boil Filter
 - Sand Boil Filter

- General Condition 21 - Categories III BMPs required**
- Category III (Best Construction Practices)
- Vegetative Filter Strips
 - Retention/Detention Basin
 - Extended Detention Basin
 - Constructed Wetlands
 - Wet Basins
 - Grassy Swales
 - Vegetation-Lined Ditches
 - Erosion Control/Compost

- Hay (Straw) Boil Dike
- Brush Berms
- Sediment Basins
- Erosion Control/Compost
- Much Filter Berms and/or Socks
- Compost Filter Berms and/or Socks
- Stone Outlet Sediment Troughs
- Much Filter Berms and/or Socks
- Compost Filter Berms and/or Socks
- Sand Filter Systems
- Sedimentation Chambers

L. Clean Water Act, Sections 401 and 404: Compliance - Continue

4. The contractor's designed and unified Contractor Responsible Person Environmental (CRPE) will monitor the project site daily to ensure compliance with SWMP and TPDES General Permit ITR 150000. Daily Monitoring Report's shall be provided to TXDOT within 48 hours, in accordance with Item 506.3.1.

5. Other Project Specific Actions:

1. Appropriate measures would be taken to maintain normal downstream flows and minimize flooding. Temporary fills would consist of materials and be placed in a manner that would not be eroded by expected high flows. Temporary fills would be removed in their entirety and the affected area returned to pre-construction elevations, and revegetated as appropriate.

M. Culture of Resources

Action Items Required: No Action Required

1. Refer to the 2014 TXDOT Standard Specifications for Construction and Maintenance Of Highways, Streets, and Bridges, Item 7.71, in the event of any disputes or proposed actions that may affect cultural resources, such as artifacts, or other cultural resources, such as historic buildings, furnaces, ovens, furnaces, etc. cease work in the immediate area and contact the Engineer immediately.
2. Other Project Specific Actions:
 - 1. N/A
 - 2. N/A

N. Vegetation Resources

Action Items Required: No Action Required

1. In accordance with the 2014 TXDOT Standard Specifications, Item 164 - Seeding For Erosion Control, provide and install temporary or permanent seeding for erosion controls shown on the plans or as directed by the Engineer for all seeding and replanting of right of way where possible. (Required for Urban Settings)
2. In accordance with Executive Order 13112 on invasive species and the Executive Memorandum on Beneficial Landscaping, native species of plants should be used for all seeding and replanting of right of way where possible for rural roadways. (Required for Rural Settings)
3. Preserve vegetation where possible throughout the project and minimize clearing, grubbing and excavation within stream banks, bed and approach sections.
4. Other Project Specific Actions:
 - 1. N/A
 - 2. N/A

near district contact no. 595-302-6100

Revised 02/19/2015

**ENVIRONMENTAL PERMITS,
ISSUES AND COMMITMENTS
(EPIC)**

Project No. _____

Sheet 1 of 2

| | | | |
|-----------------|----------|---------|-----------|
| STATE | DISTRICT | COUNTY | SHEET NO. |
| TEXAS | PHR | HIDALGO | H 2 |
| CONTROL SECTION | | JOB | NO. |
| 0039 | | 03 | 38 |

V. Federal Listed and Proposed Threatened and Endangered Species, Critical Habitat, State Listed Species, Candidate Species, and Migratory Birds

Action Items Required :

- 1. Under the Migratory Bird Treaty Act of 1918 (MBTA), codified at 16 U.S.C. 703-712 and as enforced by the USFWS, the proposed construction work will not remove active nests from bridges, trees, ground and other structures during migratory bird nesting season, (February 15th through October 31st). If the Contractor needs to perform work within right of way during nesting season, a qualified Biologist shall conduct a survey to determine if nests are present. If present, Contractor shall maintain a minimum 25 foot buffer zone of vegetation around the nest until the young have fledged or the nest is not occupied. A MBTA Nest Survey form may be obtained from the Pharr District Office Environmental Section.
 - No Action Required
- 2. There is the potential for the presence of state-listed species & species of concern in the project area and state law prohibits the taking (incidental or otherwise) of state-listed species. Taking is defined as the collection, hooking, hunting, netting, shooting, or snare by any means or devices. If any listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately.
- 3. Other Project Specific Actions:
 - 1. BRD SHRIPS
 - Not disturbing, destroying, or removing active nest, including ground nesting birds, during nesting season.
 - Avoiding the removal of unoccupied, inactive nest, as practical.
 - Preventing the establishment of active nest during the nesting season on TXDOT owned and operated facilities and structures proposed for replacement or repair.
 - Not collected, capturing, relocating, or transporting birds, eggs, young, or active nest without permit.
 - 2. N/A
 - 3. N/A

VI. Hazardous Materials on Contamination Issues

Action Items Required :

- No Action Required
- General (applies to all projects):
 - Comply with the Hazard Communication Act (HCA) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.
 - Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives; Provide protected storage off bare ground and covered, for products which may be hazardous; Maintain product labeling as required by the HCA.
 - Maintain an adequate supply of on-site spill response materials as indicated in the MSDS. In the event of a spill, take immediate action to mitigate the spill as indicated in the MSDS and in accordance with safe work practices. Contact the TXDOT Pharr District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.
 - Contact the Engineer if any of the following are detected:
 - Dead or distressed vegetation identified as not normal
 - Trash piles, drums, containers, barrels, etc.
 - Undesirable smells or odors
 - Evidence of leaching or seepage of contaminant substances
- Any other evidence indicating possible hazardous materials or contamination discovered on site.
- 1. If potentially hazardous material and/or contaminated media (i.e.: soil, groundwater, surface water, sediment, building materials) are unexpectedly encountered during construction, ensure that such materials and contamination are handled according to applicable federal and state regulations, cease work in the immediate area and contact the Engineer immediately.

VII. Hazardous Materials on Contamination Issues - Continue

2. Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

- Yes No
 - If "No", then no further action required.
 - If "Yes", then TXDOT is responsible for completing an asbestos assessment/inspection.
- 3. Are the results of the asbestos inspection positive (asbestos present)?
 - Yes No
- 4. The Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and an Asbestos Consultant in order to minimize construction delays and subsequent claims.
- If "No", then TXDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.
- If "Yes", then TXDOT must retain a Texas Department of State Health Services (DSHS) licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled abatement activities and/or demolition.

VIII. Other Environmental Issues

Action Items Required :

- No Action Required
- 1. Noise
 - Contractor shall make every reasonable effort to minimize construction noise through abatement measures such as work hour controls and proper maintenance of equipment mufflers.
- 2. Air
 - Contractor shall practice common dust control techniques such as surface chemical treatment or watering of improved road surfaces and vehicle speed reduction. Implement measures to minimize and prevent airborne dust during construction.
 - Contractor should minimize NSAT by utilizing measures to encourage use of EPA required cleaner diesel fuels, limits on idling, increase use of cleaner burning diesel engines, and other emission limitation techniques, as appropriate.

Pharr District Contact No. 956-702-8700

Revised 02/19/2015

| List of Abbreviations | |
|--|---|
| BPB: Best Management Practice | MPE: Mitigation Permit |
| CCP: Construction General Permit | NCE: Noise Control Evaluation |
| CFR: Code of Federal Regulations | NSR: National Security Register |
| DEQ: Texas Department of Environmental Quality | OSHA: Occupational Safety and Health |
| EMAP: Environmental Monitoring and Assessment Plan | PM: Particulate Matter |
| ERM: Environmental Remediation Manual | RA: Remedial Action |
| FEMA: Federal Emergency Management Agency | RI/FS: Remedial Investigation/Feasibility Study |
| FLM: Federal Land Management Policy | SDWA: Safe Drinking Water Act |
| GA: General Agency | USFWS: United States Fish and Wildlife Service |
| MA: Municipal Agency | |
| MOA: Memorandum of Agreement | |
| MOU: Memorandum of Understanding | |
| MS: Municipal Separate Stormwater Sewer System | |
| MS4: Municipal Separate Stormwater Sewer System | |
| MSA: Mobile Source Air Toxic | |
| MBTA: Migratory Bird Treaty Act | |
| NDT: Notice of Termination | |

Texas Department of Transportation
PHARR DISTRICT

ENVIRONMENTAL PERMITS,
ISSUES AND COMMITMENTS
(EPIC)

SHEET 2 OF 2

| | | | |
|--------|----------|---------|-----------|
| STATE | DISTRICT | COUNTY | SHEET NO. |
| TEXAS | PHR | HIDALGO | H 2 |
| CONTRD | SECTION | JOB | |
| 0039 | 03 | XXX | 39 |

SITE DESCRIPTION

PROJECT LIMITS: LIMITS AT INTERSECTION OF H 2 AND FM 907 INTERSECTION

CONSTRUCTION OF LANDSCAPE IMPROVEMENTS CONSISTING OF LANDSCAPE AND IRRIGATION WITH 1/2 ENTRY SOCKS.

PROJECT SITE MAPS:

- Project Location Map, Title Sheet 1
- Grading Plan, Grading and Slope Schedule, Erosion Control, Final Grading and Slope Schedule, Final Grading and Slope Schedule, Final Grading and Slope Schedule
- Water Control and Location of Stabilization Practices, SWP
- Project Specific Location To be specified by Project Field Office and located in the Project SWP File
- Surface Water's and Discharge Locations, EROSION AND CHANGE

PROJECT DESCRIPTION: CONSTRUCTION OF LANDSCAPE IMPROVEMENTS CONSISTING OF LANDSCAPE AND IRRIGATION WITH 1/2 ENTRY SOCKS.

MAJOR SOIL DISTURBING ACTIVITIES: LANDSCAPE IMPROVEMENTS PLANTING, IRRIGATION AND SOAKAGE

TOTAL PROJECT AREA: 5 Acres (100%)

TOTAL AREA TO BE DISTURBED: 5 Acres (100%)

WEIGHTED RAINFALL COEFFICIENT: N/A

TYPE OF VEGETATION: N/A

EXISTING CONDITION OF SOIL & VEGETATION: EXISTING GRASS AREAS UNDER AND ADJACENT TO OVERPASS

NAME OF RECEIVING WATERS: N/A

ENGINEERED SERVICES ASSOCIATED CRITICAL HURDLE AND HISTORICAL PROPERTY: Also Environmental Specific, Designated Critical Habitat or Historic Property has been found on this project site.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES: (Sheet 1 - Temporary or P - Permanent, as applicable)

- TEMPORARY SEEDING
- MULCHING (Hay or Straw)
- FLY ASH
- PLANTING
- SEEDING
- SOODOG
- OTHER: (Specify Practice)

RESERVATION OF NATURAL RESOURCES

- PERMEABLE CHANNEL LINER
- SOIL RETENTION BLANKET
- COMPOST MULCH ACTURED COMPOST CONTROL SOCKS
- BOODGRADABLE EROSION CONTROL SOCKS

STRUCTURAL PRACTICES: (Sheet 1 - Temporary or P - Permanent, as applicable)

- SILT FENCES
- BOODGRADABLE EROSION CONTROL SOCKS
- HAY BALES
- ROCK FILTER DAMS
- DIVERSION, INTERCEPTOR, OR PERIMETER DICES
- DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- DIVERSION, PILE AND STAKE COMBINATIONS
- GRADED FILLS
- ROCK BEDDING AT CONSTRUCTION EXIT
- TAPERED MATTING OR EQUAL AT CONSTRUCTION EXIT
- CHANNEL LINERS
- SEDIMENT TRAPS
- STONE NET SEDIMENT TRAP
- STONE LOGS
- DAMS AND GULLTERS
- STONE SEWERS
- VELOCITY CONTROL DEVICES
- OTHER: (Specify Practice)

LANDSCAPE PLANTING OF TREES AND SHRUBS

STORM WATER MANAGEMENT: Storm water drainage is existing and will not be altered. Drainage will be to the existing designated outlet.

STORM WATER MANAGEMENT ACTIVITIES:

The order of activities will be as follows:
1. Installation of down bank concrete water curbs, concrete ditches, drainage, or gravel filtration systems, synthetic grass and vegetation plantings of trees, grasses and shrubs.
2. Installation of silt traps with filtering fabric every 100 feet.

NON-STORM WATER MANAGEMENT DISCHARGES:
Non-storm water discharges shall be controlled or bank in retention basins before being discharged to receiving waters. Non-storm water discharges shall be controlled or bank in retention basins before being discharged to receiving waters. Non-storm water discharges shall be controlled or bank in retention basins before being discharged to receiving waters.

OTHER REQUIREMENTS & PRACTICES

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE: All erosion and sediment controls will be maintained in good working order. If a control is found to be deficient, it shall be repaired or replaced immediately. The contractor shall be responsible for maintaining the erosion and sediment controls throughout the project. The contractor shall be responsible for maintaining the erosion and sediment controls throughout the project.

HAZARDOUS WASTE (INCLUDING SOIL) REPORTING: At a minimum, the contractor shall report any hazardous waste to the appropriate regulatory agency. The contractor shall report any hazardous waste to the appropriate regulatory agency.

WASTE MATERIALS: All waste materials will be collected and stored in a secure, labeled dumpster. All trash and construction debris from the site will be disposed of at the discretion of the contractor. The contractor shall be responsible for maintaining the erosion and sediment controls throughout the project.

SMALLER WASTE: All sanitary waste will be collected from the portable toilets as necessary or as required by local regulations by a licensed sanitary waste management contractor.

OFF-SITE VEHICLE TRACKING: The contractor shall be responsible for cleaning the tires and undercarriage of all vehicles leaving the site. The contractor shall be responsible for cleaning the tires and undercarriage of all vehicles leaving the site.

MANAGEMENT PRACTICES: (Exempt Below - May be used as applicable, unless otherwise specified.)

1. All construction activities shall be planned to avoid the most sensitive areas of the site.
2. Construction activities shall be planned to avoid the most sensitive areas of the site.
3. All construction activities shall be planned to avoid the most sensitive areas of the site.
4. All construction activities shall be planned to avoid the most sensitive areas of the site.
5. All construction activities shall be planned to avoid the most sensitive areas of the site.

OTHER: Contractor shall adhere to the following:

1. Construction Methods List of activities stated on the site to be provided by Contractor.
2. The eroded SWP File shall be located at the project field office or within the Contractor's facility of record of all times, and shall contain the H20, G20, S20, and T20's.
3. Certification/Qualification, Statement of Work, Inspection Report, Request for Proposals, and the T20's.
4. Part II, The File to be prepared to comply with State and Federal Agency upon request.

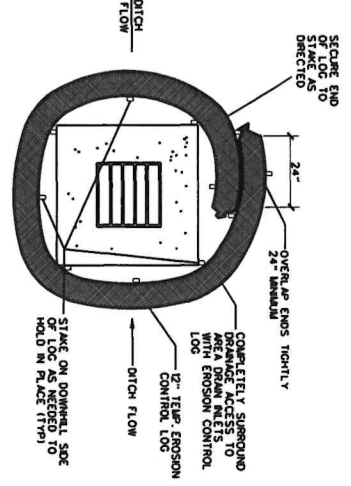
| | | | | | |
|--------------|--|--|--|----------|--|
| REV. 2-20-14 | | | | SW3P.DGN | |
| PROJECT NO. | | | | 40 | |
| COUNTY | | | | HARRIS | |
| CITY | | | | HOUSTON | |
| STATE | | | | TX | |
| DATE | | | | 03/03/14 | |
| DRAWN BY | | | | H2 | |
| CHECKED BY | | | | H2 | |
| SCALE | | | | AS SHOWN | |

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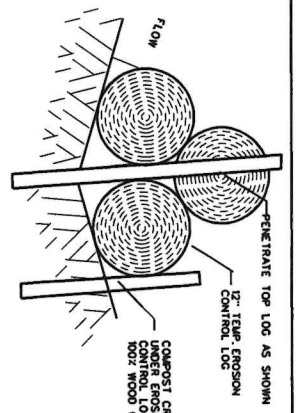
TxDOT STORM WATER POLLUTION PREVENTION PLAN (SW3P)

DISCLAIMER
 The use of this standard is governed by the Texas Engineering Practice Act. The warranty of any kind is made by TSDOT for any purpose whatsoever. TSDOT disclaims no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

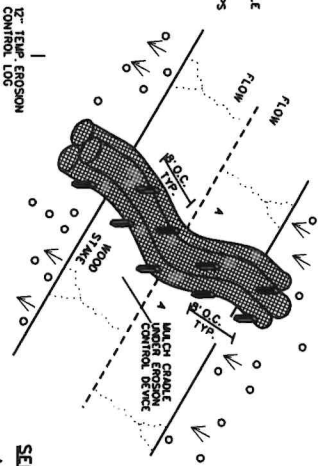
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|------------------|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |



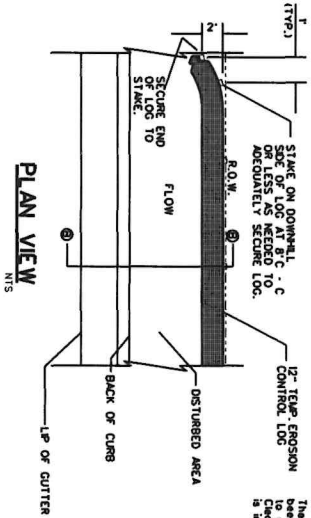
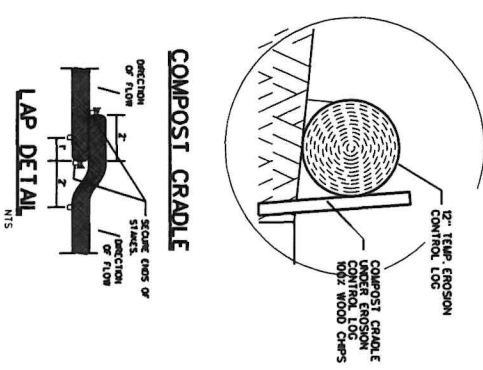
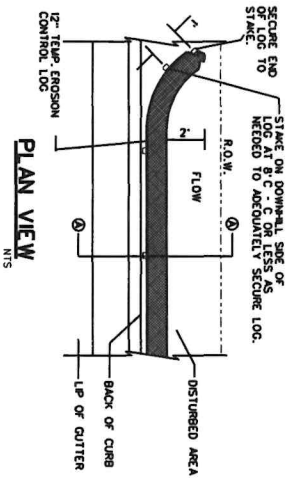
DROP INLET SEDIMENT TRAP
 N15



DITCH LINE SEDIMENT TRAP A-A
 N15

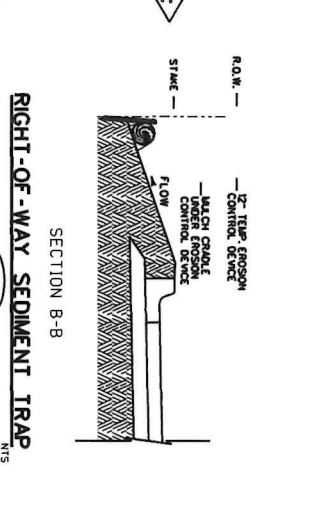
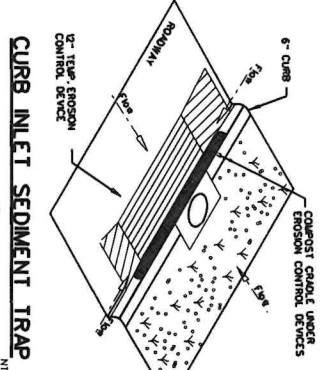
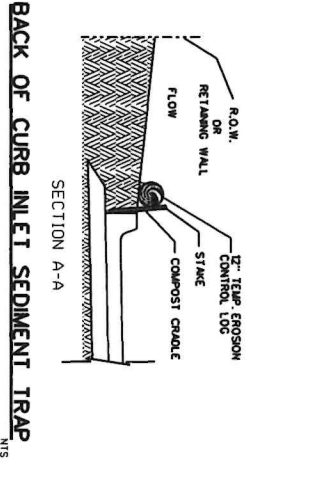


DITCH LINE SEDIMENT TRAP
 N15



GENERAL NOTES

1. EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH UNIFORM ACTOR'S RECOMMENDATIONS AND AS REQUIRED FOR THE PROJECT. LOGS SHALL BE 8\"/>
- 2. UNLESS OTHERWISE DIRECTED, USE ROOT GUARDING OR PHOTOGRAPHERS WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM FOR TEMPORARY INSTALLATIONS.
- 3. SIZE OF LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION.
- 4. STAKES SHOULD BE 4\"/>
- 5. PROTRUDERS ABOVE LOGS IS INCIDENTAL AND WILL NOT BE PAID FOR SEPARATELY.



PHARR DISTRICT STANDARD EROSION CONTROL LOG

| STATE | DISTRICT | COUNTY | HIGHWAY NO. | PROJECT NO. | DATE |
|-------|----------|--------|-------------|-------------|------|
| TEXAS | PHARR | HARRIS | 41 | 0039 | XXX |

- PLANS SHEET LEGEND**
- DL-ST DROP INLET SEDIMENT TRAP
 - DL-ST DITCH LINE SEDIMENT TRAP
 - DL-ST DITCH LINE SEDIMENT TRAP A-A
 - DL-ST DITCH LINE SEDIMENT TRAP
 - DL-ST CURB INLET SEDIMENT TRAP

SEDIMENT BASIN & TRAP USAGE GUIDELINES

- A sediment trap may be used to precipitate sediment out of runoff draining from an undisturbed area.
- Traps:** The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 800 CF/acre (0.5" over the drainage area).
- Sediment traps should be placed in the following locations:
1. Immediately preceding grade transitions, water courses.
 2. Just before the drainage leaves the right of way.
 3. Just before the drainage leaves the construction site.
 4. Just before drainage flows away from the project.
- The trap should be cleaned when the capacity has been reduced by 1/2 or the sediment has accumulated to the top of the trap. Sediment should be removed and scattered sediment deposits in incidental road should be paid for separately.

QUANTITY 2X

11'-4"

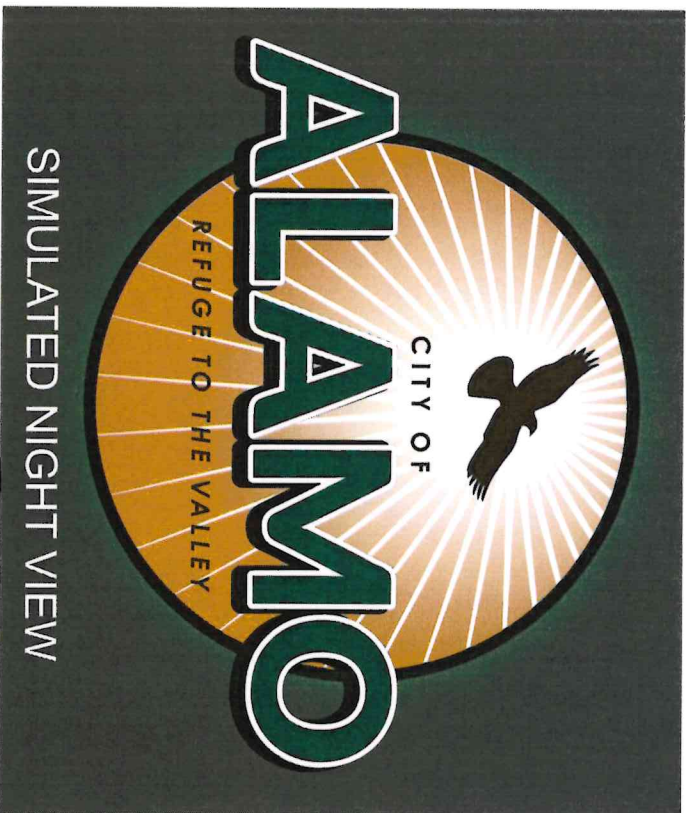
8'-6"



Front View



Side View



SIMULATED NIGHT VIEW

| | | |
|---------------------------------------|--|---------------------------------------|
| Paint Chips: | Vinyl Chips: | Trim Cap Chips: |
| <input type="checkbox"/> TBD - CUSTOM | <input type="checkbox"/> DIGITAL PRINT | <input type="checkbox"/> WHITE |
| <input type="checkbox"/> | <input type="checkbox"/> 360-316 DARK ENAMEL | Return Chips: |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> TBD - CUSTOM |
| <input type="checkbox"/> | <input type="checkbox"/> | LED Chips: |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> GREEN |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Leon's Signs
 QUALITY SINCE 1984
 Full Service Sign Company
 Leon's Signs Inc. com
 831 East Nimitz Loop 323 Tyler, Texas 75708
 903-597-7231
 Texas Electrical Sign Contractor
 License #18080

Accf. Mgr. : Margaret M.
 Drawn By : SMG
 Accf. Mgr. Approval :
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Job # : 240457-02
 SOW / # : Lighted Wall Signs / Scope 2
 Date : 05/14/2024
 Client Approval :
 Approval Date :



851 E NE Loop 323
 Tyler, TX 75708

*** DO NOT APPROVE THIS PROOF UNTIL ARTWORK IS 100% CORRECT ***
 Notes:
 Revisions:
 05/14 5MG
 05/14 5MG
 File Location: \\tesen\DATA\Art & Production\Master Drawings\City of Alamo\240457.dwg

SECTION 32 91 13 Planting Bed Preparation

All shrub beds shall be prepared for installation of plant material in the following manner:

1. Apply round-up @ herbicide 20 days and again 10 days before plant bed preparation in accordance with manufactures label.
2. Apply three inches (3") of mulch material for soil amendments as described in general notes to backfill material.
3. Till beds to a depth of 18 inches.
4. Level and re-grade to bring level with the sidewalks and raked smooth prior to planting.
5. The Owner shall inspect the beds prior to and after back filling.

SECTION 32 90 00

PLANTING

PART 1 - GENERAL

32 93 00 Planting and Establishment

The Contractor shall make an examination of the project site and completely familiarize himself with the nature and extent of the work to be accomplished. No extra compensation will be allowed for any work made necessary by unusual conditions or obstacles encountered during the progress of the work, which are readily apparent upon a visit to the site. If there are any questions in this regard, or discrepancies between the plans and actual site conditions, the Contractor shall notify the owner prior to the submission of bids.

All material and work required for repair and replacement shall meet with the approval of the owner, and will not be paid for directly, but will be subsidiary to this bid item.

The Contractor shall be responsible for contacting, locating, and protecting all underground utilities and structures. The owner may assist the Contractor in locating underground utilities and structures. However, any damage to existing utilities or structures shall be repaired at the Contractor's expense. If in the course of the work, underground utilities or structures are encountered and are in conflict with the work, the Contractor shall contact the owner who will recommend necessary adjustments. Changes of this nature are considered incidental to the work and shall not entitle the Contractor to additional compensation.

If the Contractor needs additional area for employee parking, servicing, storage, and securing of equipment and materials used in the performance of the specified work, the owner will, upon request from the Contractor, designate an area for this purpose. Upon completion of the work, the Contractor shall promptly remove all equipment, structures, and excess materials from the site and restore the area to its original condition, including the reestablishment of surface vegetation. This work shall be accomplished to the satisfaction of the owner and shall be subsidiary to the bid item.

The Contractor shall be responsible for protection of his materials and equipment from theft, vandalism, animals, fire, etc., while said materials and equipment are on the project site, whether stored or installed in place, until the project has been accepted by the owner. In like manner, the Contractor shall protect all earthwork.

Upon completion of the project, the site(s) as defined herein, shall be cleaned of all debris and left in a neat and presentable condition. This shall include but not be limited to, the removal of all noxious weeds and debris from planted areas as specified herein or as specified by the owner. This work shall not be paid for directly, but shall be subsidiary to the bid item.

The Contractor shall be responsible for providing material samples as well as any manufacturer's literature of materials used on this project as required by the owner. Any costs associated with any sampling and testing shall be the responsibility of the Contractor. These costs shall be considered as incidental and the Contractor will not be entitled to any additional compensation.

Any water hauled to the site during the plant installation period, a 90-day maintenance period shall be paid for by the Contractor.

The Contractor shall be required to verify and adhere to the requirements and codes of the controlling utility authorities in the event any materials or installation of any utilities shown on the plans are not adequate to meet the requirements or codes of the controlling utility authorities. Any changes that may be necessary shall be considered incidental and the Contractor shall not be entitled to any additional compensation.

Pre-construction conference

Prior to beginning work on the project and soon after the award of the contract, a conference will be held between the representatives of the owner, the Contractor, and any sub-Contractors that will be involved in the work. At this time the Contractor shall submit charts or briefs, outlining the manner of execution of the work that is intended in order to complete the specified work within the allotted time. This conference will more completely establish the sequence of work to be followed and establish the estimated progress schedule for completion of the various tasks.

In addition, at this conference, the Contractor shall be responsible for furnishing the owner with all of the following, as specified herein or as directed by the owner:

1. Samples of all materials, except plants, to be used on the project with identification as to product name, name, location, phone number (including area code), and mailing address of product source and manufacturer, if different from source, content of product, amount of each ingredient in the product, and manufacturer's directions as to use and application of the product, if applicable.
2. Manufacturer's literature of all materials and equipment installed on the project.
3. Any and all State and Federal certifications stating that the plant materials are free from disease and insect infestation.
4. All nursery locations, names, phone numbers (including area codes), and mailing addresses where the Contractor intends to procure plant material for the project so that critical plants may be inspected at the source, if necessary. Also, indicate which materials shall be used from each nursery.

5. A plan for transporting plant materials.
6. The source of water and the means of distribution on the project (this may be irrigation system or by other means as required by the project).

All of the requirements listed under the "pre-construction conference" will be subject to review, testing, and approval by the owner. If Items fail to meet approval, the Contractor shall correct the deficiencies and resubmit for approval as directed by the owner prior to beginning work on the project. If these Items fail a second approval, the owner will determine the course of action for the Contractor to follow. Any approval given, as stated above, shall not relieve the Contractor from providing quality materials, products, and equipment during construction. The owner has the option to review, test, approve, or disapprove any phase of the construction or maintenance as the work progresses. It is understood that some materials for the project will require mixing. Therefore, these materials after mixing may be reviewed, tested, and approved as Stated within these general notes.

Mulch materials

1. Mulch material for soil amendment required in the backfill mix shall be 100% organic composted material, factory blended to contain non-defoliated (arsenic acid free) weed free, and containing an approximate non-leachable N-P-K analysis of 2.0-2.0-2.0 with trace elements.

Example: Sweet soil, soil amendment

Manufactured by:

Organic Compost Inc.
Box 1637
Edinburg, Texas 78504
(956) 383-1121
(or approved equal)

2. All mulch for surface application shall be shredded pine bark. The texture shall correspond to the Type I, Class B classification of the Federal Specification Q-P-166E, with particles ranging between the size from 3/8 inch to about 1 inch, with a minimum (not over 25% by volume) of finer particles and dust. Mulch of this type and class shall be free of sticks, stones, clay, or other foreign matter.
3. One cubic foot (1 CF) samples of each type of ingredient along with a label from the manufacturer's packages shall be submitted to the owner for approval. If bulk materials are used, typical samples of each type of material shall be provided to the Architect for approval prior to the preparation of the planting mix. These samples, if approved by the owner, shall be

used as the standard by which other materials shall be judged. Any material that, in the judgment of the owner, is below the quality of these samples may be tested in accordance with the specifications set forth herein. Any rejected material shall be immediately removed from the site at the Contractor's expense. Payment for any testing required under this section shall be the responsibility of the Contractor.

Planting soil mix

Backfilling of all plant pits shall be done with a planting soil mix as specified herein. Native soil removed from the planting pits and beds shall be used to form the watering basins. Excess soil shall be removed from the site or distributed and leveled on the site by the Contractor as directed by the owner. Watering basin shall be formed using the soil mix and raked smooth.

Planting soil mix used for backfilling planting pits shall be prepared in the following proportions by volume:

- 60% sandy loam topsoil (pH 7.0-7.8). Soil shall be typical of the area with no noxious weeds, grasses, sticks, roots, or stones present and shall be consistent in texture. (maximum lump size is 1").
- 40% mulch as listed above.

The owner may require the Contractor to mix all ingredients of the planting soil mix in the presence of the owner.

All ingredients shall be thoroughly blended to provide a homogeneous mixture. Mixing shall be in one cubic yard or greater batches using mechanical mixing on-site or it may be accomplished off-site if approved by the owner and the finished material transported to the site.

Samples of at least one cubic foot (1 CF) for each ten cubic yards (10 CY) of planting soil mix used on the site shall be submitted to the owner for approval. In the event deficiencies are found in the planting mix they shall be corrected immediately. If the material is rejected on the project site by the owner for any reason, all of the rejected material shall be immediately removed from the site and disposed of by the Contractor at his expense. If any of the rejected material has been used in the planting operations, the owner, at his discretion, may require the Contractor to remove and replace the soil mix with an approved mixture. Any testing required by the owner shall be the responsibility of the Contractor and shall be considered subsidiary to the work and no additional compensation shall be awarded.

Fertilizer application at planting

All plants shall be fertilized with an approved slow release tablet applied at the rate shown on the plans, or at a comparable rate for an approved substitute. The Contractor shall submit complete Manufacturer's literature and analysis data for approval of the owner prior to beginning work on the project.

Application shall be as follows:

- (1) gallon material - one (1) tablets
- (5) gallon material - two (2) tablets
- (10)gallon material - two (2) tablets
- (15)gallon material - three (3) tablets
- Palms - eight (8) tablets each
- Trees - one (1) tablet per ½ inch caliper

Placement of tablets are as designated on the plans.

Staking and guying shall be considered subsidiary to landscape plantings and the Contractor shall not be entitled any additional compensation.

Staking of plant material locations

All trees and palms shall be staked in the field by the Contractor and approved by the owner prior to any excavation of plant pits. Stakes shall be color coded to denote tree locations at the time when tree locations have been staked, the owner shall have the right to make adjustments to the plant locations to meet field conditions. These changes shall be considered incidental and the Contractor shall not be entitled to any additional compensation.

Staking and guying

The Contractor shall install and maintain the guying material as detailed on the plans or as directed by the owner.

Water and watering

Water for all planting and a 90 day maintenance operations shall be the responsibility of the Contractor. Water shall be clean, clear, and free of industrial wastes or other substances harmful to plants. The Contractor shall provide all required facilities, to make connections and convey the water to the places where it will be used and to increase the water pressure if required. At the Pre-construction Conference, the Contractor should be prepared to identify the source of water and the means for delivery and distribution of water on the site.

During the planting operations, the Contractor shall provide a quantity and frequency of water application to keep the ground and backfill material moist to a depth of at least twelve inches (12") below the root ball and for the duration of the 90-day maintenance period as a part of this contract. The Contractor shall be required to meet the minimum watering requirement stated above by a method approved by the owner or, if applicable, in the event the irrigation system fails.

Pruning

Any necessary pruning shall be done at the time of planting as directed by the owner and in accordance with approved horticultural methods. All pruning shall be accomplished with clean sharp tools specifically designed for these purposes. Pruning and selective thinning equal to Class I, "Fine Pruning" shall be accomplished as needed during the contract period. The removal of sucker growth shall be required to keep the plant material free of sucker growth.

Plant basin maintenance

During the installation and 90 day maintenance period all plant basins and planting beds shall be maintained weed free. Nylon string trimmers shall not be used within the plant basins or planting beds. A two inch (2") layer of pine bark mulch or shredded cypress mulch, fine grade and free of debris, shall be established and maintained at all times within the basins and beds. Existing mulch shall be worked as to eliminate mulch compaction.

Watering basins shall be maintained as per details. Back fill material listed above, free of weed seed or other undesirable debris, shall be used to build basins and shall be compacted to adequately reduce erosion during watering or excessive rainfall.

Tree bracing and wrapping

Tree bracing will be required under this contract, as detailed on the plans.

Tree wrapping will not be required for this contract.

Plant wrapping

Plant wrapping will not be required under this contract.

Plant material

As directed by the Architect, the Contractor shall be required to furnish and install the following plants within the project limits as needed. The quantity of each plant type listed within the estimate summary sheet and within the project proposal may be increased or decreased as necessary. The Contractor shall

be paid for the actual number of plants installed based on the unit price bid for each type. Replacement plant material shall meet or exceed the following specifications:

Plant installation shall include all back fill, mulch, fertilizer, staking and guying, water, labor etc. to install and establish plant material, complete and in place.

Plants shall be subject to inspection and approval by the owner at the place of growth and upon delivery to the project site for conformity to the specifications. Such approval shall not impair the right of

inspection and rejection during progress of the work. The owner reserves the right to refuse inspection at any time if in his judgment a sufficient quantity of plants is not available for inspection.

All plants inspected at the place of growth by the owner shall be tagged with serialized self-locking tags. Plants delivered to the site without these tags or with broken tags may be sufficient reason for rejection. Tags shall be furnished by the Contractor and approved by the owner.

The Contractor shall submit for approval a plan to the owner for transplanting plant material from the place of growth to the site. Such a plan shall include: date of pick-up, place of growth, nursery or place of storage, type of vehicle used for shipping, method of protecting plants during transit, date of delivery to site, projected date of installation, a means of storage and care. Watering and shading used between delivery and planting which shall be subject to review by the owner. Do not store plant materials on hard surfaces and immediately untie material upon delivery.

The following considerations for product handling by the Contractor shall be evaluated during hot weather and when practical:

- 1) The Contractor may be required to transport plant materials between sunset and sunrise if transported in an open trailer or un-refrigerated van.
- 2) Dug material shall be maintained and watered as required at the nursery to guarantee their vitality and health until installation.
- 3) Protect trunks, stems, branches, and root balls from all damage during digging, handling, typing, wrapping, loading, unloading, and untying operations.
- 4) Load containers onto transport vehicle and secure in a manner that protects the structural integrity of the root balls and branches.
- 5) The Contractor shall be solely responsible for the safe transportation of plants to the site and their condition upon arrival.

- 6) Plants damaged, dehydrated or abused during transit and storage will be rejected.
- 7) Plant materials shall not be stored on concrete or left exposed to the sun.
- 8) Protect the root balls and water regularly until planting.
- 9) If plants are left in storage over the weekend or holiday a means of periodically watering and inspecting root ball moisture shall be provided.

The owner may inspect any phase of product handling and may reject any plant material improperly handled during any point of this operation.

Where specified to be nursery-grown, either in containers or in the field, such plants shall be nursery-grown in accordance with horticultural practices under climatic conditions similar to those of the project for at least twelve (12) months, unless specifically otherwise authorized by the owner in writing. Unless specifically noted otherwise, all plants shall be heavy, symmetrical, tightly knit, so trained or favored in development and appearance as to be superior in form, number of branches, compactness and symmetry.

Plants shall be sound, healthy and vigorous, well branched and densely foliated, when in leaf. They shall be free of disease, insect infestation, eggs, or larvae, and shall have healthy, well-developed root systems. They shall be free from physical damage or adverse conditions that would prevent thriving growth.

Plants that meet the measurements specified but do not possess a normal balance between height and spread shall be rejected.

All plants specified in containers shall be provided in structurally sound, nursery plant containers with the minimum size as specified. Container dimensions shall be as recommended by the "American Standard for Nursery Stock", (current edition). If a container is not listed in the "American Standard for Nursery Stock", then the owner will have final approval of container dimensions.

Samples must prove no root bound conditions exist. No container plants that have cracked or broken balls of earth when taken from container shall be planted. Container stock shall not be pruned before delivery. Field grown plants recently transplanted into containers will not be accepted.

The Contractor shall neither work subsoil for planting operations when moisture content is so great that excessive compaction will not occur nor when it is so dry that the clods will not break readily. Water shall be applied, if necessary.

Canned stock shall be removed carefully after cans have been cut on two or three sides with an approved tool. Do not use spade to cut cans. Do not lift or handle container plant by tops, stems, or trunks at any time.

Do not bind or handle any plant with wire or rope at any time so as to damage bark or break branches. Lift and handle plants only from bottom of ball.

The Contractor shall follow these steps for the installation of pit planted materials:

- 1) Scarify the walls and bottom of all plant pits immediately prior to the placement of plant and backfill mix to insure the removal of all glazing caused by an auger or mechanical hole digger.
- 2) Fill plant pits with backfill mix to compact depth to receive root ball, so that the top of the root ball is two inches (2") above finished grade.
- 3) For boxed material, break vertical bands and remove top and bottom of container. Carefully lower plant into pit with backhoe or approved method and adjust elevation, cut horizontal bands and remove sides.
- 4) Prune away girdled roots and tease root hair masses. Carefully fill pit with backfill mix and compact by watering in to support root ball.
- 5) Smooth planted areas to conform to specified grades after full settlement has occurred. Create watering basins as shown on the plans. Water all plants immediately after planting.
- 6) Spread mulch in required areas to the compacted depth of three inches (3") or as specified in the details or by the owner.
- 7) Trees should be staked for support during the same day as planting. Plants shall stand plumb after staking. The Contractor shall be responsible for material remaining plumb and straight for all given conditions throughout the contract period. Free support shall be done as outlined in the details.

Replacement of Material

If at any time during the contract period and a 90-day maintenance period, a plant is found to be dead, it shall be replaced to the satisfaction of the owner, and within the period specified in the formal written notification from the owner. Failure to accomplish replacement of plant materials during the specified time period will be considered non-performance of the guarantee and maintenance requirements included in this contract and the owner may withhold payment until the required replacement has been accomplished.

Planting Requirement for Plant Replacement

The Contractor shall utilize the same process for replacement of planting or materials as used in the original installation process.

SECTION 32 84 23 Underground Irrigation System

This project includes an irrigation system with electric controllers and valves. It shall be the Contractor's responsibility to program and maintain the system so that the minimum watering requirements are met. In the event the irrigation system fails, the Contractor shall meet the watering requirements by a method approved by the owner. The cost of water used by the automated irrigation system for this Item shall be paid for by the owner.

The drawings are generally diagrammatic and indicative of the work to be installed. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, and sleeves, which may be required. The Contractor shall carefully investigate the site conditions affecting all work and shall plan his work accordingly, furnishing such offsets, fittings, and sleeves as may be required to meet site conditions.

The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been known the owner. Such obstructions or differences should be brought to the attention the owner who will recommend necessary changes. This work shall be considered incidental to the project. In the event this notification is not performed, the Contractor shall assume full responsibility for any revisions necessary.

The Contractor shall field verify dimensions and minimum 55 PSI static water pressure at each meter before trenching, if discrepancies exist, notify the owner before proceeding. If the Contractor fails to verify pressures, he assumes full responsibility and costs for any system alterations.

A copy of the complete project and all additional project information shall be with the irrigation Contractor at all times. The Contractor must coordinate his installation activities and the site needs with the general Contractor.

All necessary boring for electrical work and water sleeves shall be subsidiary to this item.

Sleeving material to be installed by the Contractor.

Use of sleeves for all roadway crossings shall be required.

Materials:

All irrigation system utility meters, for billing purposes only, shall be applied for by the Contractor in the name of the owner. The Contractor shall be responsible for paying the cost of all meters, taps, installation, and any fees or other costs associated with the utility meters. The owner will be responsible only for the cost of the water and electricity used on this project to operate the irrigation system.

Any water hauled to the site during the installation of a ninety (90)-day maintenance period shall be paid by the Contractor.

Above ground pipe. All aboveground pipe and buried risers and swing-joint components shall be schedule 40 PVC pipe rated for direct sunlight exposure.

1. Underground pipe. All underground pipe shall be domestic extruded pipe manufactured from PVC 1120, Type I, grade I, PVC compound. The pipe shall be SDR 13.5, 315, for all 1/2", pipe and SDR 21, Class 200 for all other sizes, pressure rated with twin gasket couplings and fittings or slip type solvent welded joints. All fittings incorporated into the system shall be of the same type and class material as the pipe. All fittings shall be regularly manufactured parts (reducers, bushings, and other appurtenances), intended for use with the aforementioned materials. All pipe and fittings shall conform to ASTM D-1784 and shall be marked in accordance with ASTM D-2241.
2. Remote control valves. All remote control valves shall be as indicated in the plans or approved equal in the sizes indicated on the plans. The Contractor shall furnish valve data to the owner for approval prior to beginning the work.
3. Water meter. Water meter shall as specified in the plans.
4. Valve boxes. All gate valves, remote control valves, and quick coupling valves shall be mounted below grade in Ametek or approved equal valve boxes. Minimum size of any box shall be ten (10) inches and shall be installed with the top flush with finished grade. No more than one (1) valve is to occupy the same box to allow easy access for maintenance operations as determined by the owner.
5. Rotary and pop up heads and spray heads: irrigation heads on this system shall as shown in the plans, or approved equal. The Contractor shall furnish head data to the owner for approval prior to beginning the work.
6. Miscellaneous Fittings. The Contractor shall furnish all other fittings and appurtenances necessary to complete the system.
7. Irrigation Controller. The contractor shall as specified in the plans.
8. Control wire. All low voltage control wire shall be 14 ga. Color coded and specifically manufactured for direct burial. All wire connections and splices shall be made with waterproof compression clamps covered with scotch fill and coated with Scotch Kote, or an approved equal.
13. Backflow prevention devices. Backflow shall as specified in the plans.

Example: FEBCO PVB (2") or an approved equal

11. Solvent cement. Solvent cement shall be the type recommended by the pipe manufacturer.

Installation method

1. Excavation and backfilling. The Contractor shall do all necessary excavating and backfilling required for the proper installation of the pipe and other irrigation equipment. Excavation depth and pipe location shall be in strict accordance with the dimensions and notes on the plans. Deviations in the piping as shown on the plans shall not be permitted without approval, in writing, from owner. Minor adjustments to the layout that may be necessary to avoid unforeseen underground obstructions may be made by the Contractor so long as they are recorded on the field drawings and incorporated into the "as-built drawings" described hereinafter.

- (a) Trench excavation. Trench excavation shall follow, as much as possible, the layout indicated on the drawings. Dig trenches straight and support pipe continuously on bottom of trench. Lay pipe to an even grade. Trench shall be clean and smooth with all organic debris and sharp objects removed. Trench depths shall be as shown on the plans.

Pipe shall be snaked in the trench, with scheduling facing up for clear inspection by the owner and in order to allow for expansion and contraction. Solvent weld pipe shall not be installed when air temperature is below forty (40) degrees Fahrenheit. Plastic pipe shall be cut with a handsaw, hacksaw, or other cutter, in a manner that will insure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained. Plastic to plastic joints shall be made following manufacturer's recommendations.

All main and lateral lines are to be pressure tested and inspected by the owner prior to any backfilling.

- (b) Depth of Cover. Irrigation mains shall have a minimum of eighteen (18) inches of cover, and lateral lines shall have a minimum cover of twelve (12) inches of soil.
- (c) Backfill. All backfill material shall be free of sharp rock, large stones, or other materials that could damage the pipe during the backfilling operation.

Backfilling shall not be done in freezing weather except with written approval of the owner. The site of the work shall be continuously cleared of excess and/or waste materials as the backfilling progresses, and shall be left in a workmanlike condition to the satisfaction of the owner. In order to prevent accidental injury, any open trenches shall be covered or clearly flagged to the owner's satisfaction.

- (d) **Compaction of Backfill.** All trenches shall be backfilled in lifts of no more than twelve (12) inches and then compacted by an approved method. Compaction of the pipe trenches must be sufficient to limit short term settling of the backfill to no more than

one-tenth (0.10) of a vertical foot. The Contractor shall be responsible for correcting any settling greater than this without additional compensation.

2. **Installation of Spray Heads.** All spray heads shall be installed in accordance with the details in the drawings. All heads shall only be installed on the risers after the system has been thoroughly flushed to remove all soil and trash that may have accumulated in the lines during the installation.
3. **Installation of Valves.** All valves, remote, electric, or manual, shall be installed in accordance with the details in the drawings and in an approved valve box which shall reach to at least two (2) inches below the bottom of the valve. A minimum of eighteen (18) inches of extra control wire shall be coiled below the valve in the valve box.
4. **Installation of Control Wire.** All low voltage control wire shall be laid in the pipe trenches below the pipe. Any wire that cannot be installed directly in a pipe trench shall be placed in a minimum two (2) inch conduit over its entire run. All wire runs shall be continuous lengths. No splices shall be made in the trench. Any wire splices that are required shall be made at the valves using waterproof materials specified herein.
5. **Installation of controllers.** Controllers shall be installed in accordance with the drawings and details. The location of the controllers shall be as shown on the plans. Adjustment of the location may be necessary to meet unforeseen site conditions. Should relocation be necessary the Contractor shall contact the owner immediately and the owner will work with the Contractor to establish the final location. Such a relocation shall be considered an incidental change, and there will be no additional compensation.
6. **Installation of water meters and backflow preventers.** If required, Water meters and backflow preventers shall be installed in accordance with the drawings and details. The location of water meters and backflow preventers shall be as shown on the plans. Adjustment of the location may be necessary to meet unforeseen site conditions. Should relocation be necessary the Contractor

shall contact the owner immediately and the owner will work with the Contractor to establish the final location. Such a relocation shall be considered an incidental change and there will be no additional compensation.

10. Project supervision. The Contractor shall continuously maintain a competent superintendent, licensed by the State of Texas as an irrigator and satisfactory to the owner, on the site during all construction operations. The superintendent shall be able to make decisions and direct the work as the representative of the Contractor. It shall be the responsibility of the superintendent to notify the owner of work accomplished at least forty-eight (48) hours in advance of required onsite inspections and to maintain a set of plans on the site at all times on which all field adjustments or deviations from the drawings are to be recorded for the preparation of the as-built drawings. The field plans shall at all times be available for the inspection of the owner.

Guarantee and acceptance

1. Maintenance Period. The irrigation system shall be inspected concurrently with, and subject to the same 180-day maintenance period required by the owner. During the 180-day maintenance period, the Contractor shall perform the following maintenance activities as a minimum and to the satisfaction of the owner:
 - (a) Install and maintain the controller program to insure the proper distribution of water.
 - (b) Inspect, repair, and/or replace any equipment that is found to be defective or that may be damaged by other maintenance activities.
 - (c) Make any adjustments that may become necessary to insure the proper delivery of water to the plant material.
2. As-built Drawings. Upon completion of the 90-day maintenance period, the owner will make an inspection of the project at this time. The Contractor shall furnish the owner a set of as built drawings on reproducible film base sheets prepared by a qualified draftsman. The owner will check these base sheets to be sure they are a true reflection of the project conditions and will direct the Contractor to correct any errors that are found. The drawings shall show all valve locations by triangulation from a fixed object and any change to sprinkler head location and rerouting of main and lateral lines. Any changes of this nature shall be approved by the owner prior to installation.

3. Operating and maintenance data. The Contractor shall provide instructions covering full operation, care and maintenance of the equipment, including a schedule showing length of time each valve is to be open to provide determined amount of water and instruct the owner's designated personnel in proper operation of the system.
4. Test. Testing of the system for leakage shall be in accordance with the local plumbing codes. The Contractor shall also test and assure the proper electrical working order of the system to the satisfaction of the owner. The Contractor shall set the valve sequence as directed by the owner to ensure grass establishment.

SECTION 32 91 00 Furnishing and Placing Topsoil

Topsoil required for this item to be from a pre-approved contractor obtained source. Topsoil shall be easily cultivated, fertile loam (pH 6.8-7.6), typical of the area, with no noxious weeds, grasses, sticks, or stones present and shall be consistent maximum lump size of 1". The contractor shall provide soil test prior to placement for approval by the engineer by a certified soil-testing laboratory.

Texas Plant & Soil Lab, Inc. (or equivalent)
5115 West Monte Cristo Road
Edinburg, Texas
(956)-383-0730

Soil test shall provide a standard soil analysis, micro-nutrient soil determination and interpretation with recommendations.

Topsoil shall have a soil texture rating of '3' (loam) or less (sandy loam) in accordance with standard soils testing. Soil source shall also test for sodium levels of 180 or less.

Before soil placement the contractor shall prepare all areas by applying an approved postemergent herbicide in accordance with the product label and as required by the Texas Commission on Environmental Quality.

Fusilade II turf and ornamental herbicide (or equivalent)
Syngenta Crop Protection, Inc.
P.O. Box 18300, Greensboro, NC 27419

Upon approval of the topsoil source the contractor shall apply an activated charcoal (humane) at a rate of 250 lbs. per acre on the site(s) specified. Topsoil then to be placed and tilled till into the existing soil to a depth of 6 inches by approved mechanical methods. The contractor shall then bring topsoil mix to grade as provided in the plans and specifications then raked to a smooth even finish. Contractor to finish work by watering and rolling with a light roller or other suitable equipment.

Earthwise Organics (or equivalent)
Composted Products
P.O. Box 533816
Harlingen, Texas 78553

In the event that irrigation systems exist at the project site(s) the contractor shall locate and protect all irrigation valves, irrigation heads and controllers. The contractor shall contact and determine wiring and piping depth for verification of possible conflicts in the work. A licensed irrigator shall provide repair to any damage to existing irrigation systems. Irrigation protection or repairs shall be considered subsidiary to the various bid items and shall not be paid for separately.

SECTION 02900

32 92 13 FIBER MULCH SEEDING

Cellulose fiber mulch seeding shall be applied in areas designated on the plans or as directed by the Engineer. This work shall not be performed until all construction and planting activities have been completed. Prior to seeding, the areas designated shall be finished to a smooth surface for a uniform application of seed.

Seeding shall be accomplished by the Hydromulch Method in two applications as shown below:

- 1st application -
 - Grass seed and Fertilizer
- 2nd application -
 - Cellulose fiber mulch Minimum pure live seed required 85%.

Fertilizer shall be applied at the rate of 100 pounds of nitrogen per acre. Fertilizer shall be homogenized.

Cellulose Fiber Mulch shall be applied a rate of 2000 lbs. per acre.

Re-seeding

Areas requiring re-seeding due to the non-establishment of sufficient vegetative cover, shall be re-seeded within a 90-day time frame. The cost for re-seeding shall be paid for by the owner provided that the Contractor has followed the seeding and watering requirements as specified.

Seed mixture

Seed mixture shall be as specified

Bermudagrass 'cynodon dactylon' a rate of 65 lbs. Pure live seed per acre.

Fertilizer:

Fertilizer rate is based on a rate of 100 lbs. of Nitrogen per acre. The Nitrogen-Phosphorous-Potassium (NPK) ratio shall include a minimum of 19 percent Nitrogen-19 percent Phosphorous and 19 percent Potassium.

Areas to receive fertilizer are same as shown for Item, "Cellulose Fiber Mulch Seeding".

Note: All areas to be irrigated shall be seeded as noted in this contract.

See plan sheets for areas to be seeded.

INSURANCE

Proposer shall at all times during the Contract maintain in full force and effect Employer's Liability, Worker's compensation (or equivalent), Public Liability, and Property Damage insurance.

Should there be any changes regarding such insurance, the City shall be notified, in writing, within ten (10) working days of such changes.

Before commencement of work hereunder, Proposer agrees to furnish to the City a certificate of insurance to the effect that such insurance has been procured and is in full force. The auto liability and commercial general liability policies shall include a Notice of Cancellation endorsement stating that the City will be provided 30 days' notice of any cancellation of material change in such policies.

Proposer shall carry the following types of insurance in at least the limits specified below:

| Coverage: | Limits of Liability: |
|--|---|
| Worker's Compensation | Statutory Limit |
| Employer's Liability | \$500,000.00 |
| Bodily Injury Liability Except Automobile | \$500,000.00 each occurrence \$1,000,000.00 aggregate |
| Property Damage Liability Except Automobile | \$500,000.00 each occurrence \$1,000,000.00 aggregate |
| Automobile Bodily Injury Liability | \$500,000.00 each occurrence \$1,000,000.00 Automobile |
| Property Damage Liability | \$500,000.00 each occurrence |
| Excess Umbrella Liability | \$500,000.00 each occurrence |

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of vendor who has a business relationship with local governmental entity.

2 **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 Name of local government officer about whom the information is being disclosed.

Name of Officer

4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

Yes No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

Yes No

5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.

6 Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Signature of vendor doing business with the governmental entity

Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
- (B) that the vendor has given one or more gifts described by Subsection (a); or
- (C) of a family relationship with a local government officer.