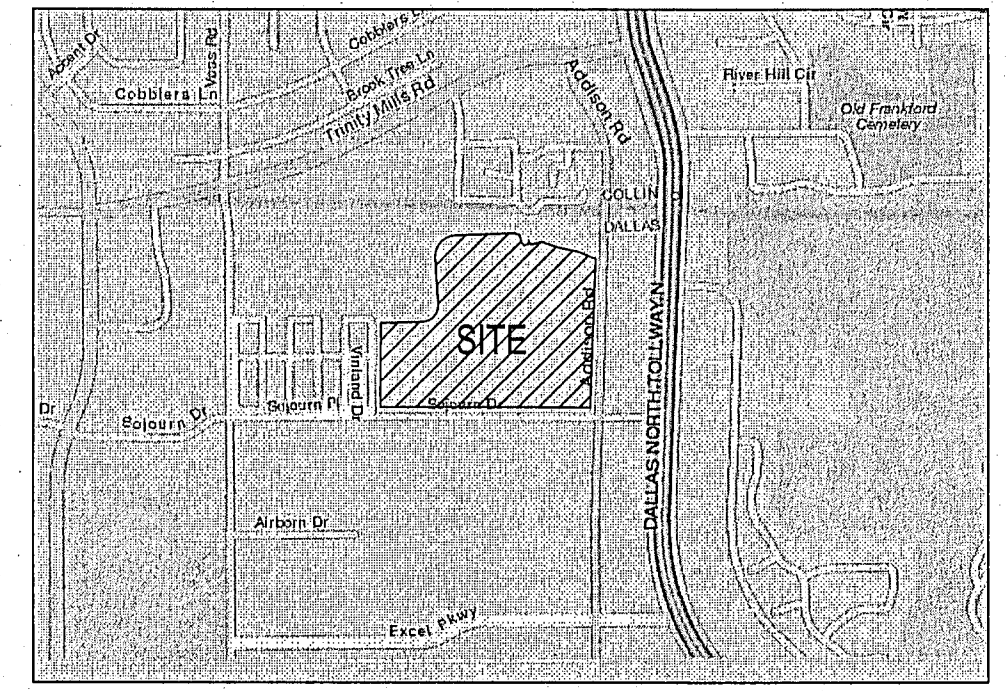


TCA
PARKING
2/15

CONSTRUCTION PLANS FOR TRINITY CHRISTIAN ACADEMY PARKING ADDITIONS

17001 ADDISON ROAD
TOWN OF ADDISON, TEXAS
PW #2006-13

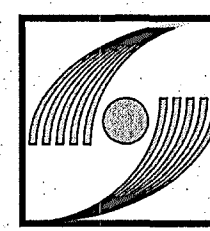
GENERAL NOTE:
CONTRACTOR TO UTILIZE CITY APPROVED CONSTRUCTION PLANS FOR CONSTRUCTION OF ALL CIVIL RELATED FACILITIES. CONTRACTOR TO NOTIFY ARCHITECT/ENGINEER IMMEDIATELY OF ANY COST DISCREPANCIES BETWEEN THE CITY APPROVED SET AND BID SET WITH LATEST ADDENDUMS.



LOCATION MAP
NTS

INDEX TO DRAWINGS

SHEET NO	TITLE
1	COVER SHEET
2	OVERALL SITE PLAN
3	SITE & UTILITY PLAN
4	DEMOLITION PLAN
5	GRADING & DRAINAGE PLAN
6	SWPP PLAN
7	SWPPP DETAILS
8	SWPPP DETAILS
9	DRAINAGE AREA MAP
10	PAVING PLAN
11	SITE DETAILS
11A	SITE DETAILS
12	TXDOT BFR DETAILS - SHEET 1
13	TXDOT BFR DETAILS - SHEET 2

ENGINEER:
 **GLENN ENGINEERING**
TEXAS REGISTRATION NUMBER: F-303
PHONE 972-717-5151 FAX 972-717-2176
105 DECKER COURT, SUITE 910 IRVING, TEXAS 75062

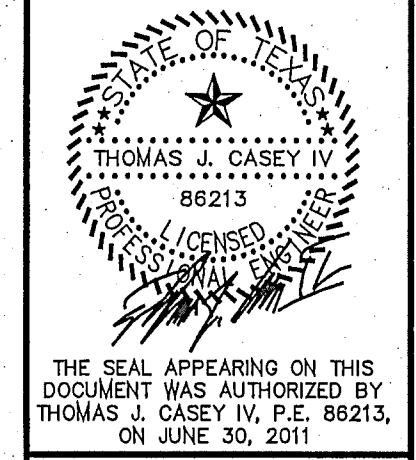
OWNER:
Trinity Christian Academy
17001 Addison Road
Addison, Texas 75001-5096
Phone: (972) 931-8325

JUNE 2011

GLENN ENGINEERING
T.E.P.E. FIRM # F-303
PHONE 972-717-5151 FAX 972-717-2176
105 DECKER COURT-SUITE 910 IRVING, TEXAS 75062

TRINITY CHRISTIAN ACADEMY
PARKING ADDITIONS

COVER SHEET



Issue Dates:
Review: Bid March 7, 2011
1 Revised Grading & HC Parking May 2, 2011
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4 Town Comments #2, Removed Loop Road June 30, 2011

Construction:

Scale: AS NOTED

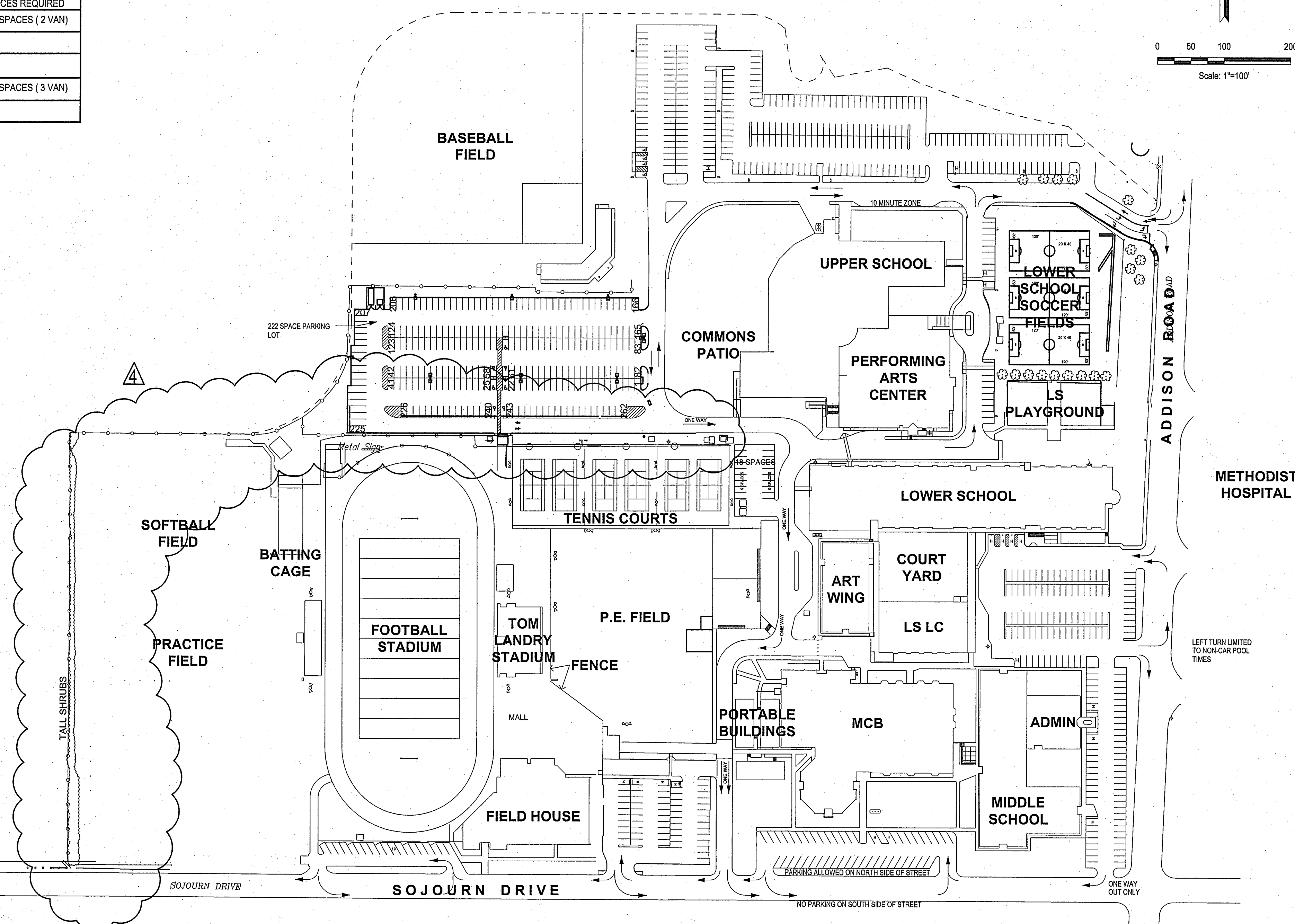
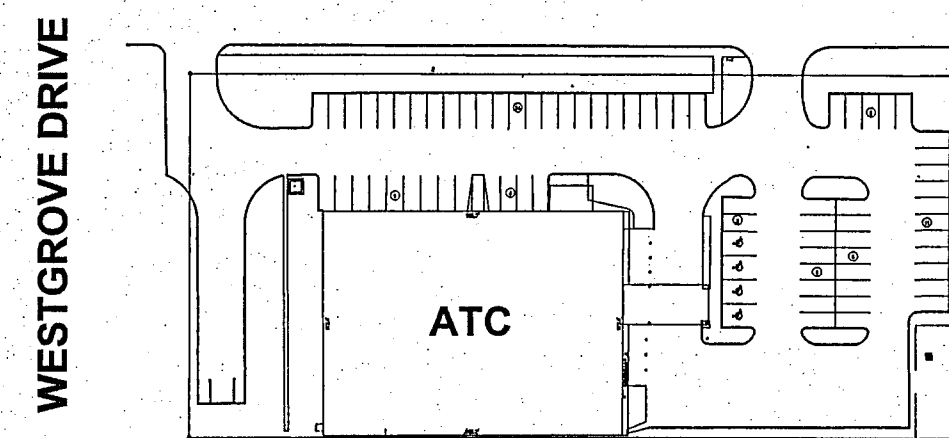
Drawn By: TJC

Checked By: CMA

Project No.: 10 - 599.150

Sheet 1
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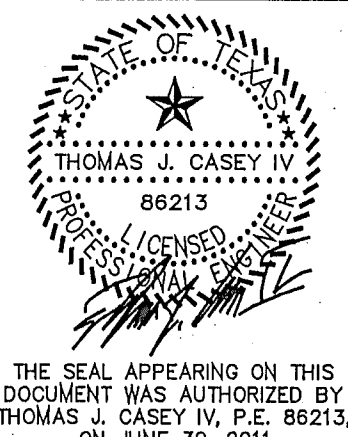
ADA PARKING SUMMARY			
	REGULAR SPACES	ADA HC ACCESSIBLE	ADA HC ACCESSIBLE SPACES REQUIRED
EXISTING SPACES ON CAMPUS	550 SPACES	18 SPACES (4 VAN)	11 SPACES (2 VAN)
TOTAL = 568 SPACES			
PROPOSED SPACES ON CAMPUS (262 NEW PARKING SPACES)	805 SPACES	25 SPACES (10 VAN)	17 SPACES (3 VAN)
TOTAL = 830 SPACES			



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TRINITY CHRISTIAN ACADEMY
 PARKING ADDITIONS

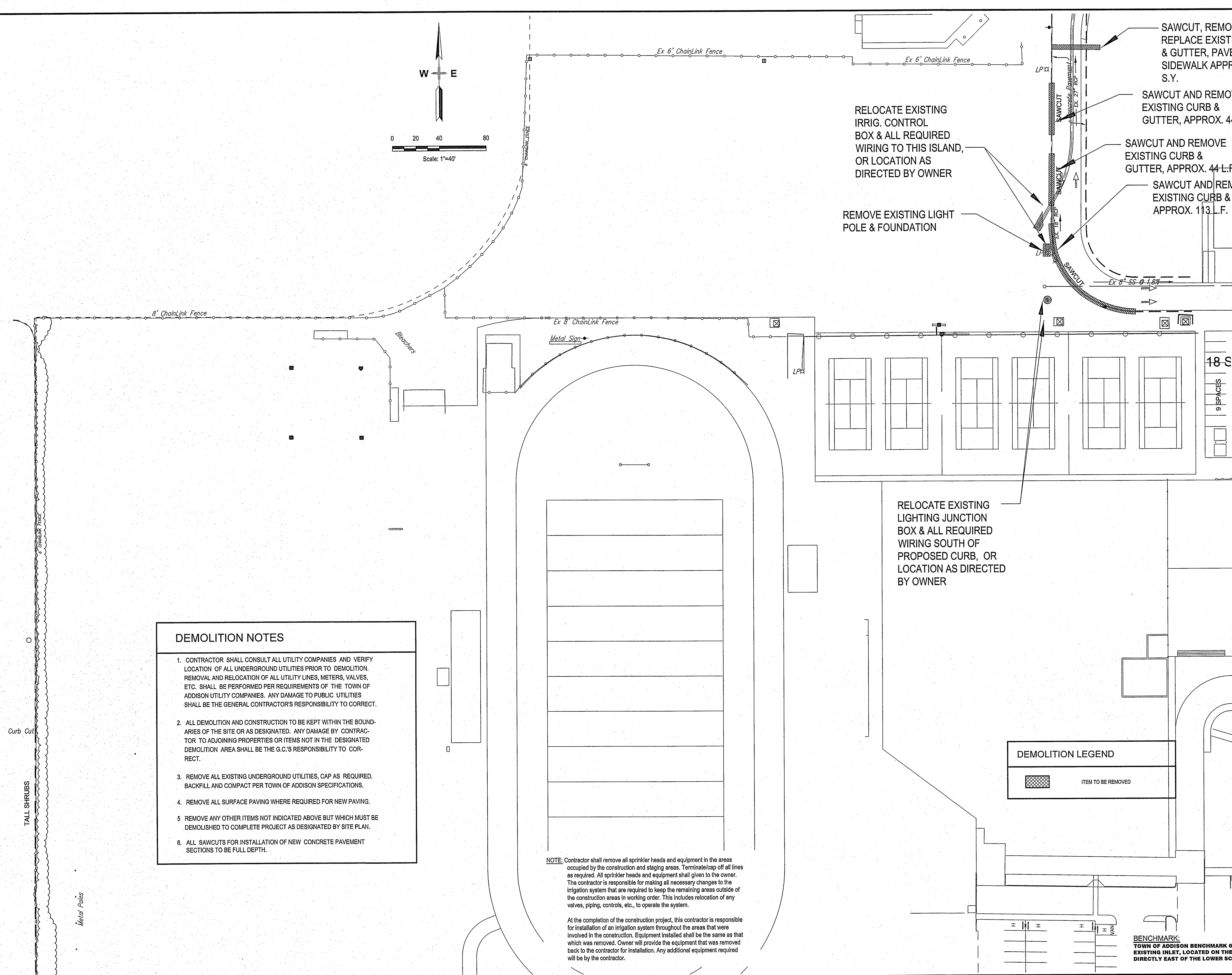
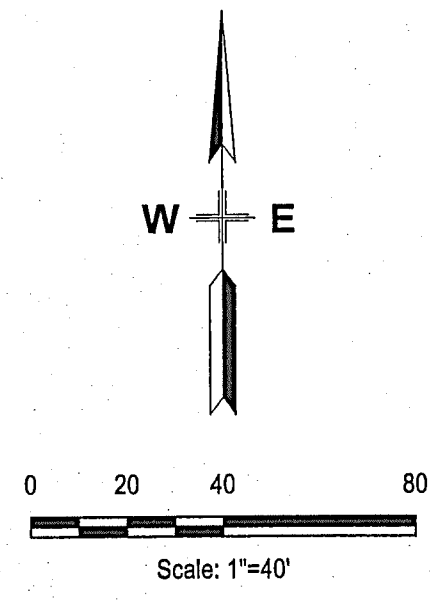
OVERALL SITE PLAN



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 of 13



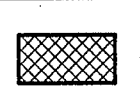
DEMOLITION NOTES

1. CONTRACTOR SHALL CONSULT ALL UTILITY COMPANIES AND VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DEMOLITION. REMOVAL AND RELOCATION OF ALL UTILITY LINES, METERS, VALVES, ETC. SHALL BE PERFORMED PER REQUIREMENTS OF THE TOWN OF ADDISON UTILITY COMPANIES. ANY DAMAGE TO PUBLIC UTILITIES SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CORRECT.
2. ALL DEMOLITION AND CONSTRUCTION TO BE KEPT WITHIN THE BOUNDARIES OF THE SITE OR AS DESIGNATED. ANY DAMAGE BY CONTRACTOR TO ADJOINING PROPERTIES OR ITEMS NOT IN THE DESIGNATED DEMOLITION AREA SHALL BE THE G.C.'S RESPONSIBILITY TO CORRECT.
3. REMOVE ALL EXISTING UNDERGROUND UTILITIES, CAP AS REQUIRED. BACKFILL AND COMPACT PER TOWN OF ADDISON SPECIFICATIONS.
4. REMOVE ALL SURFACE PAVING WHERE REQUIRED FOR NEW PAVING.
5. REMOVE ANY OTHER ITEMS NOT INDICATED ABOVE BUT WHICH MUST BE DEMOLISHED TO COMPLETE PROJECT AS DESIGNATED BY SITE PLAN.
6. ALL SAWCUTS FOR INSTALLATION OF NEW CONCRETE PAVEMENT SECTIONS TO BE FULL DEPTH.

NOTE: Contractor shall remove all sprinkler heads and equipment in the areas occupied by the construction and staging areas. Terminate/cap off all lines as required. All sprinkler heads and equipment shall be given to the owner. The contractor is responsible for making all necessary changes to the irrigation system that are required to keep the remaining areas outside of the construction areas in working order. This includes relocation of any valves, piping, controls, etc., to operate the system.

At the completion of the construction project, this contractor is responsible for installation of an irrigation system throughout the areas that were involved in the construction. Equipment installed shall be the same as that which was removed. Owner will provide the equipment that was removed back to the contractor for installation. Any additional equipment required will be by the contractor.

DEMOLITION LEGEND

 ITEM TO BE REMOVED

BENCHMARK:
TOWN OF ADDISON BENCHMARK 6, BRASS DISC SETON TOP OF EXISTING INLET, LOCATED ON THE EAST SIDE OF ADDISON ROAD, DIRECTLY EAST OF THE LOWER SCHOOL PLAYGROUNDS.

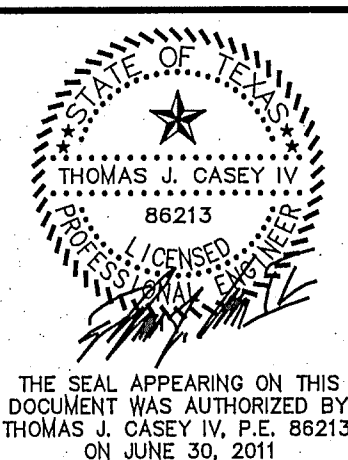
GLENN ENGINEERING

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F - 303

PHONE 972-717-5151
FAX 972-717-2176
105 DECKER COURT-SUITE 910
IRVING, TEXAS 75062

TRINITY CHRISTIAN ACADEMY
PARKING ADDITIONS

DEMOLITION PLAN



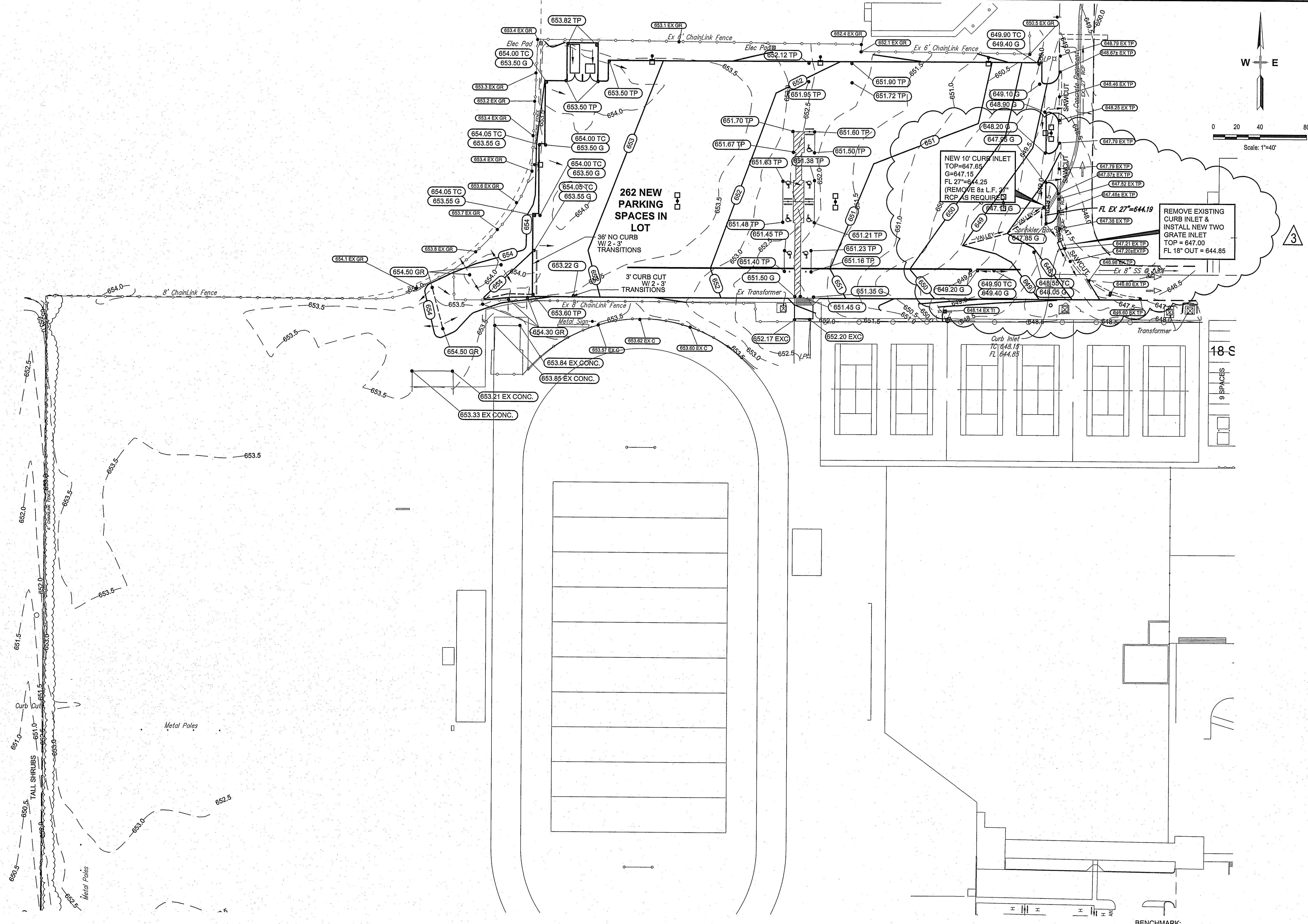
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Construction:

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Drawn By: TJC
Checked By: CMA
Project No.: 10 - 599.150

Sheet **4** of 13



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T.B.P.E. FIRM
F. -303

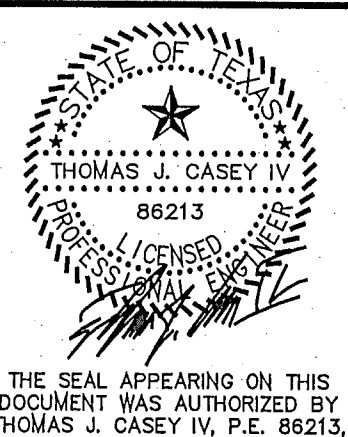
PHONE 972-717-5151
105 DECKER COURT SUITE 910
IRVING, TEXAS 75062

FAX 972-717-2176

TRINITY CHRISTIAN ACADEMY

PARKING ADDITIONS

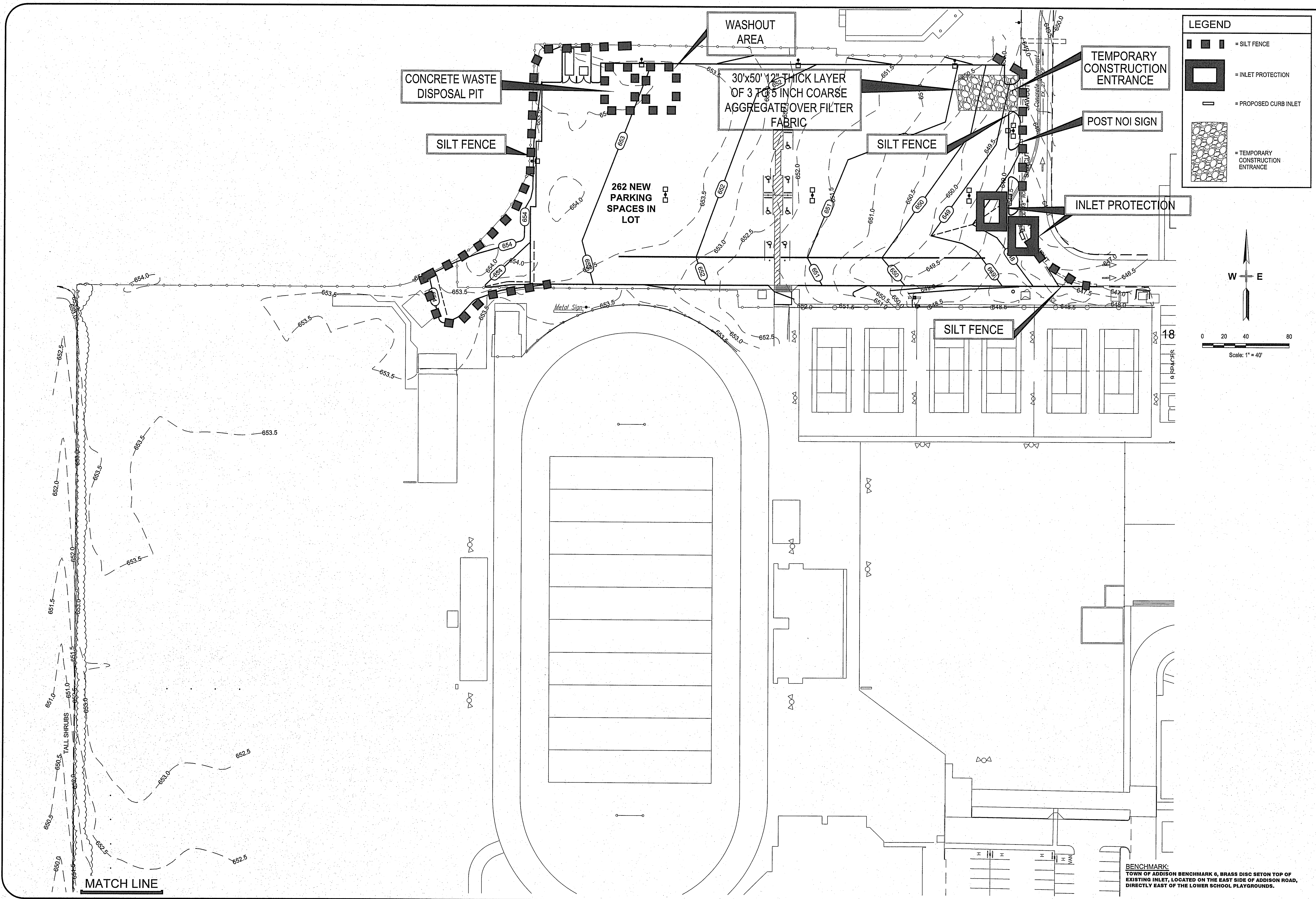
GRADING & DRAINAGE PLAN



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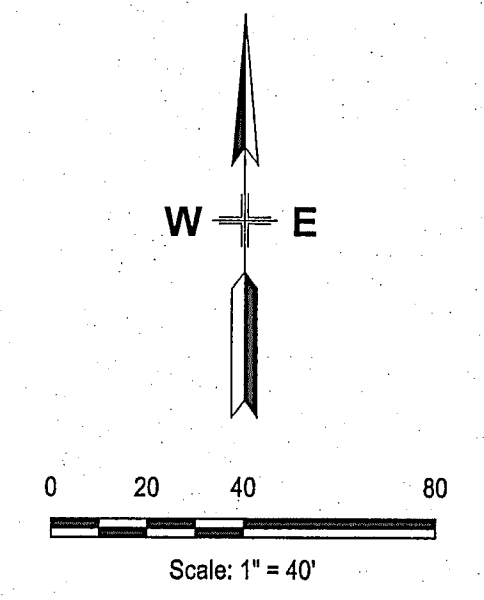
Construction: AS NOTED
 Scale: AS NOTED
 Drawn By: TJC
 Checked By: CMA
 Project No.: 10 - 599.150

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LEGEND

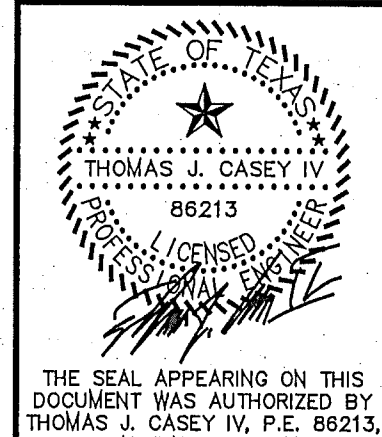
- = SILT FENCE
- = INLET PROTECTION
- = PROPOSED CURB INLET
- = TEMPORARY CONSTRUCTION ENTRANCE



GLENN ENGINEERING
 T.B.P.E. FIRM
 # F. - 303
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TRINITY CHRISTIAN ACADEMY
 PARKING ADDITIONS

EROSION CONTROL PLAN



Issue Dates:
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Construction:
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 Drawn By: TJC
 Checked By: CMA
 Project No.: 10 - 599.150

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BENCHMARK:
 TOWN OF ADDISON BENCHMARK 6, BRASS DISC SETON TOP OF EXISTING INLET, LOCATED ON THE EAST SIDE OF ADDISON ROAD, DIRECTLY EAST OF THE LOWER SCHOOL PLAYGROUNDS.

SITE DESCRIPTION

PROJECT NAME & LOCATION: TRINITY CHRISTIAN ACADEMY
ADDISON, TEXAS

OWNER NAME & ADDRESS: TRINITY CHRISTIAN ACADEMY
17001 ADDISON ROAD
ADDISTON, TEXAS 75001

PROJECT DESCRIPTION: PARKING ADDITIONS

SEQUENCE OF MAJOR ACTIVITIES: PLACEMENT OF EROSION CONTROL DEVICES
DENUDE SITE
INSTALLATION OF UTILITY LINES
PLACEMENT OF CONCRETE PAVEMENT
PLACEMENT OF GRASS
REMOVAL OF EROSION CONTROL DEVICES

MAJOR SOIL DISTURBING ACTIVITIES: DENUDE SITE
INSTALLATION OF UTILITY LINES
PLACEMENT OF GRASS

PRE-DEVELOPMENT RUNOFF COEFFICIENT: 0.54

FINAL RUNOFF COEFFICIENT AFTER CONSTRUCTION: 0.83

TOTAL PROJECT AREA: 2.6 ACRES

TOTAL AREA TO BE DISTURBED: 2.6 ACRES

DESCRIPTION OF EXISTING SOIL: CLAY SOILS

DESCRIPTION OF STABILIZATION OF EXISTING DRAINAGE WAYS:

DESCRIPTION OF STABILIZATION OF EXISTING DRAINAGE WAYS:
SILT FENCE
INLET PROTECTION

DESCRIPTION OF EXISTING QUALITY OF STORM WATER DISCHARGE FOR SITE (IF AVAILABLE):

NAME OF RECEIVING WATERS:
TOWN OF ADDISON STORM SEWER

ADDITIONAL COMMENTS:

ESTIMATED PROJECT START DATE: JULY 2011

ESTIMATED PROJECT END DATE: AUGUST 2011

SEQUENCE AND TIMING OF INDICATED EROSION CONTROL PRACTICES AND/OR FEATURES

PRIOR TO STARTING CONSTRUCTION:
PLACEMENT OF SILT FENCES
INSTALLATION OF INLET PROTECTION FOR STREET INLETS

DURING CONSTRUCTION:
INSPECTION AND MAINTENANCE OF SILT FENCES
INSTALLATION OF INLET PROTECTION FOR ON-SITE PAVING
PLACEMENT ROCK FILTER DAM

COMPLETION OF SITE:
INSTALLATION OF GRASS
REMOVAL OF EROSION CONTROL DEVICES

LATITUDE & LONGITUDE
LATITUDE: 32° 59' 7" N
LONGITUDE: 96° 50' 3" W

SITE RATING FACTOR UTILIZING INDICATED EROSION CONTROL & MEASURES = 0.70 (MUST BE 0.70 OR LARGER)

EROSION AND SEDIMENT CONTROLS

STABILIZATION PRACTICES:
DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME WITHIN 21 DAYS.

TEMPORARY	PERMANENT	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	SEED OR SOD
<input type="checkbox"/>	<input type="checkbox"/>	VEGETATION OTHER THAN SEED OR SOD
<input type="checkbox"/>	<input checked="" type="checkbox"/>	EROSION CONTROL MATS
<input type="checkbox"/>	<input type="checkbox"/>	PRESERVATION OF NATURAL VEGETATION
<input type="checkbox"/>	<input type="checkbox"/>	OTHER (DESCRIBE)

ADDITIONAL COMMENTS:

STRUCTURAL PRACTICES:

TEMPORARY	PERMANENT	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	SILT FENCE
<input type="checkbox"/>	<input type="checkbox"/>	HAY BALES
<input type="checkbox"/>	<input type="checkbox"/>	ROCK BERMS
<input type="checkbox"/>	<input type="checkbox"/>	DIVERSION, INTERCEPTOR OR PERIMETER DIKS
<input type="checkbox"/>	<input type="checkbox"/>	DIVERSION, INTERCEPTOR OR PERIMETER SWALES
<input type="checkbox"/>	<input type="checkbox"/>	PIPE SLOPE DRAIN
<input type="checkbox"/>	<input type="checkbox"/>	TRIANGULAR SEDIMENT FILTER DIKE
<input checked="" type="checkbox"/>	<input type="checkbox"/>	INLET PROTECTION
<input type="checkbox"/>	<input type="checkbox"/>	STONE OUTLET SEDIMENT TRAP
<input type="checkbox"/>	<input type="checkbox"/>	SEDIMENT BASIN (REQUIRED FOR 10 ACRES OR LARGER WHERE ATTAINABLE)
<input type="checkbox"/>	<input type="checkbox"/>	CHECK DAM
<input type="checkbox"/>	<input type="checkbox"/>	TEMPORARY SEDIMENT TANK
<input checked="" type="checkbox"/>	<input type="checkbox"/>	STABILIZED CONSTRUCTION ENTRANCE
<input type="checkbox"/>	<input type="checkbox"/>	SANDBAG BERM
<input type="checkbox"/>	<input type="checkbox"/>	OTHER (DESCRIBE)

ADDITIONAL COMMENTS:

OTHER ADDITIONAL STORM WATER MANAGEMENT FEATURES:

PERMANENT	
<input checked="" type="checkbox"/>	CURB & GUTTER
<input checked="" type="checkbox"/>	STORM SEWER INLETS
<input checked="" type="checkbox"/>	STORM SEWER
<input type="checkbox"/>	CULVERTS
<input type="checkbox"/>	STORM WATER DETENTION POND
<input type="checkbox"/>	VELOCITY DISSIPATION DEVICES
<input type="checkbox"/>	OTHER (DESCRIBE)

ADDITIONAL COMMENTS:

EROSION AND SEDIMENT CONTROLS

MAINTENANCE/INSPECTION PROCEDURES

1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A RAIN GAUGE UTILIZING MIN. 0.1 INCH INCREMENTS AT THE PROJECT SITE.
2. CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF ANY STORM EVENT OF 0.5 INCH OR GREATER. IF A REPAIR IS NECESSARY IT WILL BE DONE AT THE EARLIEST PRACTICABLE DATE.
3. INSPECTION WILL BE PERFORMED BY THE OWNERS REPRESENTATIVE AT LEAST ONCE A WEEK AS WELL AS AFTER EVERY 0.5 INCH OF RAIN OR GREATER. AN INSPECTION AND MAINTENANCE REPORT WILL BE MADE FOR EACH INSPECTION AND KEPT AT THE PROJECT SITE. THE INSPECTION SHOULD USE THE OPERATOR INSPECTION FORM IN THE NCTCOG CONSTRUCTION BMP MANUAL OR OTHER FORM APPROVED BY THE CITY.
4. THE CONTRACTOR SHALL KEEP RECORDS OF THE CONSTRUCTION ACTIVITY ON THE SITE.

OTHER (DESCRIBE)

OTHER BEST MANAGEMENT (HOUSEKEEPING) PRACTICES:
THE FOLLOWING INDICATED PRACTICES SHALL BE FOLLOWED:

LIME STABILIZATION:
 ATTACHED BMP S-11 FROM NCTCOG CONSTRUCTION BMP MANUAL
 OTHER (DESCRIBE):

SOLID WASTE MANAGEMENT:
 ATTACHED BMP W-1 FROM NCTCOG CONSTRUCTION BMP MANUAL
 OTHER (DESCRIBE):

CONTRACTOR TO HAVE A TRASH RECEPTABLE ON SITE TO COLLECT SOLID WASTE TO PREVENT AIRBORNE DEBRIS.

HAZARDOUS WASTE MANAGEMENT:
 ATTACHED BMP W-2 FROM NCTCOG CONSTRUCTION BMP MANUAL
 STORAGE AREAS (DESCRIBE):
 OTHER (DESCRIBE):

CONCRETE WASTE MANAGEMENT:
 ATTACHED BMP W-3 FROM NCTCOG CONSTRUCTION BMP MANUAL
 OTHER (DESCRIBE):

SANDBLASTING WASTE MANAGEMENT:
 ATTACHED BMP W-4 FROM NCTCOG CONSTRUCTION BMP MANUAL
 OTHER (DESCRIBE):

DUST REDUCTION MEASURES:
 DISTURBED AREAS DAMPENED PERIODICALLY FOR DUST CONTROL
 EXCESS DIRT ON ADJACENT ROADS REMOVED DAILY
 OTHER (DESCRIBE):

SIGNATORY REQUIREMENTS

THE CITY HAS ADOPTED THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG) CONSTRUCTION BMP MANUAL. THESE OUTLINES WERE DEVELOPED AS AN AID FOR THOSE PREPARING STORM WATER POLLUTION PREVENTION PLANS (SW3P'S) FOR VARIOUS CONSTRUCTION ACTIVITIES IN THE CITY. THEIR USE DOES NOT RELIEVE THE DESIGN ENGINEER OR OPERATOR(S) FROM COMPLYING WITH THE NCTCOG BMP MANUAL OR THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGE FROM CONSTRUCTION SITES.

THE SW3P SHALL BE SEALED BY A TEXAS REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED BY THE OWNER THAT THE INFORMATION IS TRUE AND THAT THEY ASSUME RESPONSIBILITY FOR THE PLAN. ADDITIONALLY, THEY SHALL CERTIFY THAT THE PLAN MEETS STATE AND LOCAL REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL AND STORM WATER QUALITY. IN ALL CASES, A DULY AUTHORIZED REPRESENTATIVE AS INDICATED IN THE GENERAL PERMIT MAY CERTIFY THIS PLAN.

PRIOR TO THE COMMENCEMENT OF WORK, THE OWNER AND GENERAL CONTRACTOR MUST SUBMIT NOTICES OF INTENT (NOI) AS CO-PERMITTEES TO DISCHARGE STORM WATER FROM A CONSTRUCTION SITE UNDER THE NPDES PERMIT. ADDITIONALLY, ALL CONTRACTORS AND SUBCONTRACTORS (INCLUDING FRANCHISE UTILITIES) WHOSE ACTIVITIES IMPACT THE SW3P MUST SIGN AN APPROVED CERTIFICATION THAT THEY UNDERSTAND THEIR RESPONSIBILITIES UNDER THE PLAN. NO WORK WILL BE ALLOWED UNTIL COPIES OF ALL APPROPRIATE NOI'S AND CERTIFICATIONS ARE RECEIVED BY THE CITY.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE: _____ DATE: _____

TITLE: _____

I CERTIFY THAT THE STORM WATER POLLUTION PREVENTION PLAN REFLECTS THE TOWN OF ADDISON REQUIREMENTS FOR STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL AS ESTABLISHED IN THE NCTCOG BMP MANUAL.

SIGNATURE: _____ DATE: _____

TITLE: _____

ALLOWABLE NON-STORM WATER DISCHARGES

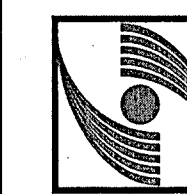
- DISCHARGES FROM FIRE FIGHTING ACTIVITIES.
- FIRE HYDRANT FLUSHINGS. *
- WATER USED TO WASH VEHICLES OR CONTROL DUST.
- POTABLE WATER SOURCES (INCLUDING WATERLINE FLUSHINGS CONTAINING LESS THAN 1000 GALLONS). *
- UNCONTAMINATED GROUND WATER (INCLUDING DEWATERING GROUNDWATER INFILTRATION).
- FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS.
- SPRINGS, RIPARIAN HABITATS, WETLANDS AND UNCONTAMINATED GROUNDWATER.
- IRRIGATION WATER.
- EXTERIOR BUILDING WASH DOWN WITHOUT DETERGENTS.
- PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILL MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED.
- AIR CONDITIONING CONDENSATE.

* HEAVILY CHLORINATED WATER (3.5 MG/L OR GREATER FREE CHLORINE) RESULTING FROM WATER LINE STERILIZATION SHALL BE DIRECTED UNDER PERMIT TO THE SANITARY SEWER UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL APPLY TO THE ENGINEERING DEPARTMENT FOR A SANITARY SEWER DISCHARGE PERMIT AFTER THE MANDATORY CHLORINE RETENTION TIME (USUALLY 24 HOURS). THE HEAVILY CHLORINATED WATER MAY BE DISCHARGED TO THE SANITARY SEWER, BEGINNING TWO WORKING DAYS AFTER PERMIT APPLICATION.

SWPPP DETAILS

SCALE: AS SHOWN

GLENN ENGINEERING

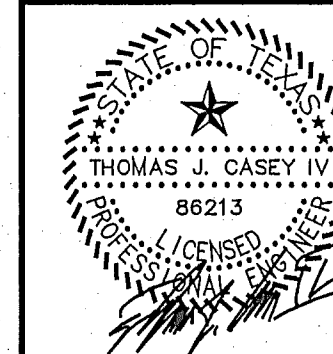


PHONE 972-717-5151
FAX 972-717-2176
105 DECKNER COURT-SUITE 910
IRVING, TEXAS 75062
T.B.P.E. FIRM # F - 303

TRINITY CHRISTIAN ACADEMY

PARKING ADDITIONS

SWPPP DETAILS SHEET 2



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY THOMAS J. CASEY IV, P.E. 86213, ON JUNE 30, 2011

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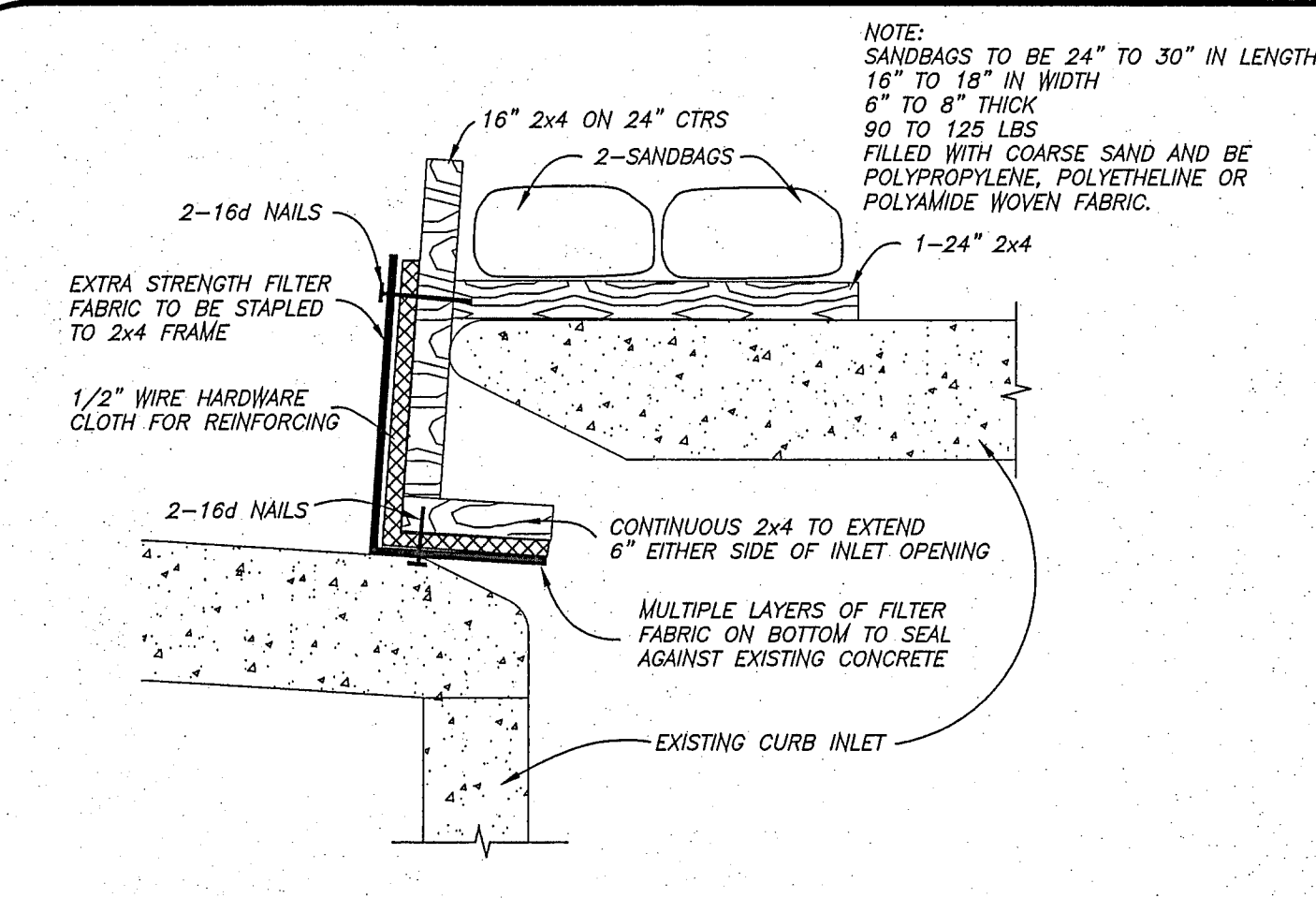
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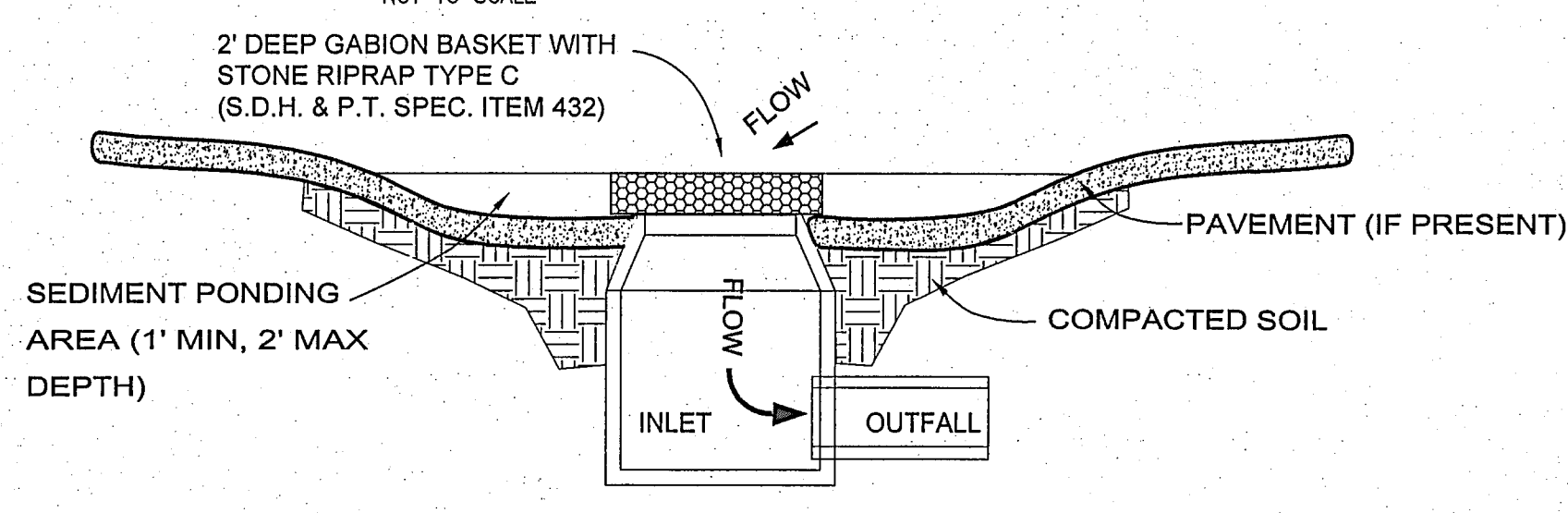
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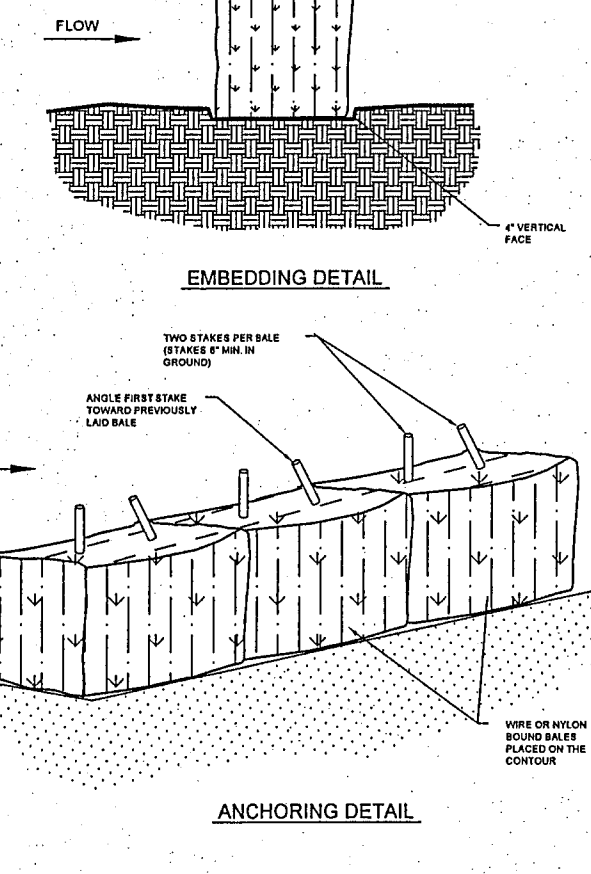
Sheet 7
of 13



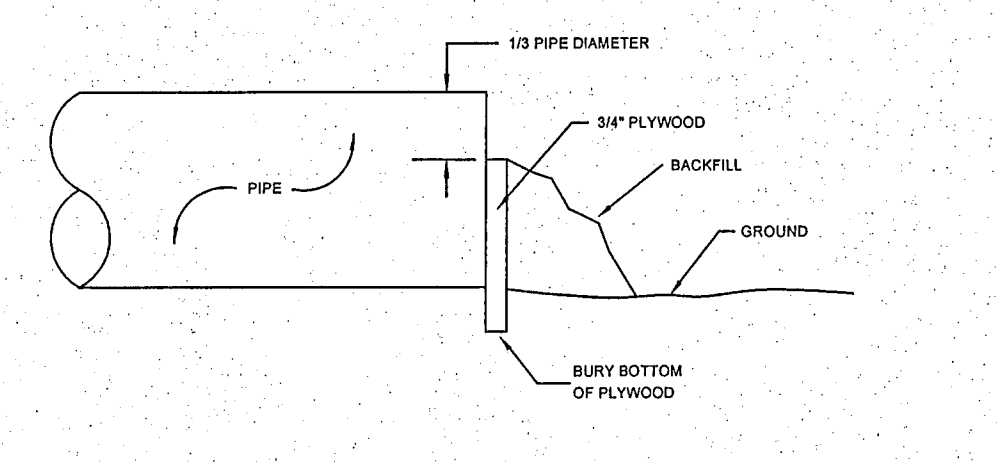
CURB INLET PROTECTION ON GRADE
NOT TO SCALE



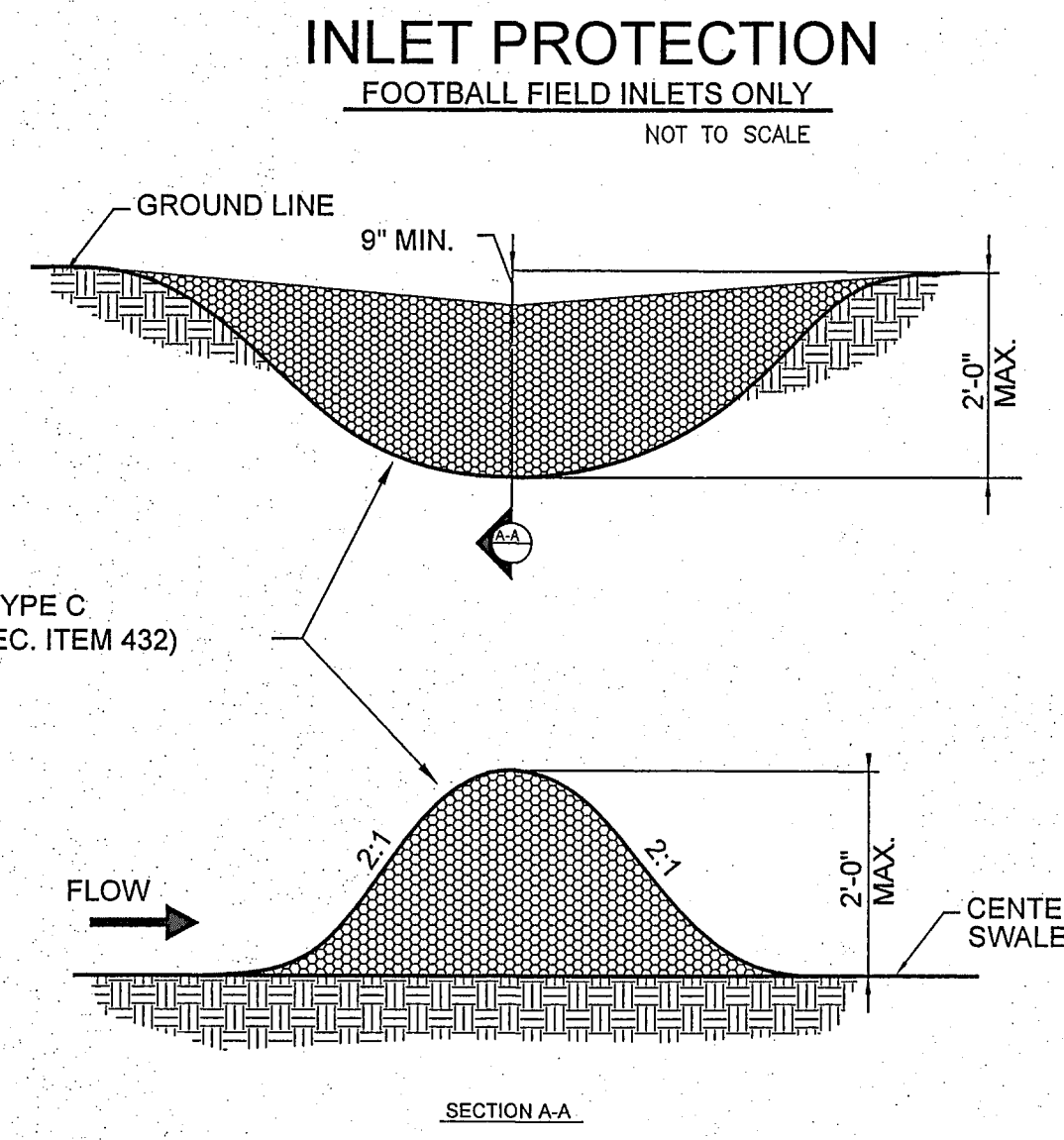
SEDIMENT POND @ CURB INLETS & AREA DRAINS
NOT TO SCALE



HAY BALE DETAIL
NOT TO SCALE



PLYWOOD PROTECTION AT PIPE
NOT TO SCALE



ROCK CHECK DAM DETAIL
NOT TO SCALE

NOTE: SANDBAGS TO BE 34\"/>

NOTE: DUE TO ANY STOPPAGE IN CONSTRUCTION OR AT COMPLETION OF LINE, CONTRACTOR SHALL INSTALL 3/4\"/>

NOTE: SEDIMENT FROM ENTERING PIPE

NOTE: SEDIMENT FROM ENTERING PIPE

NOTE: SEDIMENT FROM ENTERING PIPE

NOTE: SEDIMENT FROM ENTERING PIPE

NOTE: SEDIMENT FROM ENTERING PIPE

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Solid Waste Management

DESCRIPTION
Large volumes of solid waste are often generated at construction sites including: packaging, pallets, wood waste, concrete waste, soil, electrical wiring, cuttings, and a variety of other materials. The solid waste management practices listed herein are to minimize the potential of storm water contamination from solid waste through appropriate storage and disposal practices.

PRIMARY USE
These practices should be a part of all construction practices. By limiting the trash and debris on site, storm water quality is improved along with reduced clean up requirements at the completion of the project.

APPLICATIONS
The solid waste management practices for construction sites is based on proper storage and disposal practices by construction workers and supervisors. Key elements of the program are education and modification of improper disposal habits. Cooperation and vigilance is required on the part of supervisors and workers to ensure that the recommendations and procedures are followed. Following are lists describing the targeted materials and recommended procedures:

Targeted Solid Waste Materials

- Paper and cardboard containers
- Plastic packaging
- Styrofoam packing and forms
- Insulation materials (non-hazardous)
- Wood pallets
- Wood cuttings
- Pipe and electrical cuttings
- Concrete, brick, and mortar waste
- Single cuttings and waste
- Roofing tar
- Steel (cuttings, nails, rust residue)
- Gypsum board cuttings and waste
- Sheathing cuttings and waste
- Miscellaneous cuttings and waste
- Food waste
- Demolition waste

Storage Procedures

- Whenever possible, minimize production of solid waste materials.
- Designate a foreman or supervisor to oversee and enforce proper solid waste procedures.
- Instruct construction workers in proper solid waste procedures.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Keep solid waste materials under cover in either a closed dumpster or other enclosed trash container that limits contact with rain and runoff.
- Store waste materials away from drainage ditches, swales and catch basins.
- Do not allow trash containers to overflow.
- Do not allow waste materials to accumulate on the ground.
- Prohibit littering by workers and visitors.
- Police area daily for litter and debris.
- Enforce solid waste handling and storage procedures.

Disposal Procedures

- If feasible, segregate recyclable wastes from non-recyclable waste materials and dispose of properly.
- Generate construction debris may be hauled to a licensed construction debris landfill (typically less expensive than a sanitary landfill).
- Use waste facilities approved by local jurisdiction.
- Runoff which comes into contact with unprotected waste shall be directed into structural or detritment such as silt fence to remove debris.

Education

- Educate all workers on solid waste storage and disposal procedures.
- Instruct workers in identification of solid waste and hazardous waste.
- Have regular meetings to discuss and reinforce disposal procedures (incorporate in regular safety seminars).
- Clearly mark on all solid waste containers which materials are acceptable.

Quality Control

- Foreman and/or construction supervisor shall monitor on-site solid waste storage and disposal procedures.
- Discipline workers who repeatedly violate procedures.

Requirements for

- Job-site waste handling and disposal education and awareness program.
- Commitment by management to implement and enforce Solid Waste Management Program.
- Compliance by workers.
- Sufficient and appropriate waste storage containers.
- Timely removal of stored solid waste materials.
- Possible modest cost impact for additional waste storage containers.
- Minimal overall cost impact.

LIMITATIONS
Only addresses non-hazardous solid waste. One part of a comprehensive construction site management program.

Applications

- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Wastes

Implementation Requirements

- Capital Costs
- Maintenance
- Training
- Subsidiary for Slopes > 5%

Legend

- Significant Impact
- Medium Impact
- Low Impact
- Unknown or Questionable Impact

Fe=0.75
S=1

Inlet Protection

DESCRIPTION
Inlet protection consists of a variety of methods of intercepting sediment at low point inlets through the use of stones, filter fabric and other materials. This is normally located at the inlet providing either detention or filtration to reduce sediment and floatable materials in storm water.

PRIMARY USE
Inlet protection is normally used as a secondary defense in site erosion control due to the limited effectiveness and applicability of the techniques. It is normally used in new developments that include new inlets or roads with new curb inlets or during major repairs to existing roadways. Inlet protection has limited use in developed areas due to the potential for flooding, traffic safety and pedestrian safety and maintenance problems. Inlet protection can reduce sediment in storm sewer system by serving as a back up system to on-site controls or by reducing sediment loads from controls with limited effectiveness such as straw bale dikes.

APPLICATIONS
Different variations are used for different conditions as follows:

- Filter barrier protection (similar to a silt fence barrier around the inlet) is appropriate when the drainage area is less than five (5) acres. This type of protection is not applicable in paved areas. (See details, Section 5)
- Block and gravel (covered stone, recycled concrete) is also appropriate protection is used when flows exceed 6.5 cfs and it is necessary to allow for overtopping to prevent flooding (See details at top of fact sheet).
- Wire mesh and gravel protection (covered stone, recycled concrete) is also appropriate) is used when flows exceed 10.5 cfs and construction traffic may be present over the inlet. This form of protection may be used with both curb and drop inlets (See details Section 5).
- Enclosed impoundment protection around a drop inlet may be used for protection against sediment entering a storm drain system. With this method, it is necessary to install weep holes to allow the impoundment to drain completely. The impoundment shall be sized such that the volume of excavation shall be equal to 100 to 200 cubic feet per acre of contributing drainage area entering the inlet for full effectiveness. Smaller volumes can be used for reduced effectiveness (See details Section 5).

LIMITATIONS
Inlet protection is only viable at low point inlets. Inlets which are on a slope cannot be effectively protected because storm water will bypass the inlet and continue downstream, causing an overflow condition at the inlet beyond.

MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large (0.5 inches) storm events. When all filter is used and the fabric becomes clogged, it should be cleaned or if necessary, replaced. Also, sediment should be removed from the inlet. If a sump is used, sediment should be removed when the volume of the basin is reduced by 50%.

For systems using stone filters, when the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Some cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the dugged stone as fill material and put new stone around the inlet.

Applications

- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Wastes

Implementation Requirements

- Capital Costs
- Maintenance
- Training
- Subsidiary for Slopes > 5%

Legend

- Significant Impact
- Medium Impact
- Low Impact
- Unknown or Questionable Impact

Fe=0.67-0.75
S=4

Stabilized Construction Entrance

DESCRIPTION
A stabilized construction entrance consists of a pad consisting of gravel, crushed stone, recycled concrete or other rock like material. The top of geotextile filter cloth is fastened to the wash down and removal of sediment and other debris from construction equipment prior to exiting the construction site. For added effectiveness, a wash rack area can be incorporated into the design to further reduce sediment tracking. For long term projects, catch basins or other type of permanent catch system can be used in conjunction with a wash rack. This directly addresses the problem of silt and mud deposition in roadways used for construction site access.

PRIMARY USE
Stabilized construction entrances are used primarily for sites in which significant truck traffic occurs on a daily basis. It reduces the need to remove sediment from streets. If used properly, it also directs the majority of traffic to a single location, reducing the number and quantity of disturbed areas on the site and providing protection for other structural controls through traffic control.

APPLICATIONS
Stabilized construction entrances are a required part of the erosion control plan for all site developments larger than 5 acres and a recommended practice for all construction sites. It is not suitable for long, linear projects. If possible, small entrances should be incorporated into small lot construction due to the large percentage of disturbed area on the site and the high potential for off-site tracking of silt and mud.

DESIGN CRITERIA

- Stabilized construction entrances are to be constructed such that drainage across the entrance is directed to a controlled, stabilized outlet on site with provisions for storage, proper filtration and removal of wash water.
- The entrance must be properly graded so that storm water is not allowed to leave the site and enter roadways.
- Minimum width of entrance shall be 15 feet, but in no case shall the width be less than that of the entry way to be used.
- Minimum depth of entrance shall be 8 inches for the entire length of the control.
- Minimum dimensions for entrances of track areas less than 1 acre shall be an average lot depth of 100 feet with a minimum entrance width of 15 feet and a minimum entrance depth of 20 feet.

LIMITATIONS
Selection of the construction entrance location is critical in that to be effective, it must be used exclusively.

Stabilized entrances are neither expensive considering that it must be installed in conjunction with one or more other sediment control techniques, but it may be cost effective compared to labor intensive street cleaning.

MAINTENANCE REQUIREMENTS
Inspections should be made on a regular basis and after large storm events in order to ascertain whether or not sediment and pollution are being effectively detained on site.

When sediment has substantially clogged the void area between the rocks, the aggregate mat must be washed down or replaced.

Periodic re-grading and top dressing with additional stone must be done to keep the efficiency of the entrance from diminishing.

Applications

- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Wastes

Implementation Requirements

- Capital Costs
- Maintenance
- Training
- Subsidiary for Slopes > 5%

Legend

- Significant Impact
- Medium Impact
- Low Impact
- Unknown or Questionable Impact

Fe=N/A
S=9

Concrete Waste Management

DESCRIPTION
Concrete waste at construction sites comes in two forms: 1) excess fresh concrete including truck and equipment washings, and 2) concrete dust and concrete debris resulting from demolition. Both forms have the potential to impact water quality through storm water runoff contact with the waste.

PRIMARY USE
Concrete waste is present at most construction sites. This BMP should be utilized at sites in which concrete waste is present.

APPLICATIONS
A number of water quality parameters can be affected by introduction of concrete - especially fresh concrete. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of both cement and aggregate dust are also generated from both fresh and demolded concrete waste.

Current Unacceptable Waste Concrete Disposal Practices

- Dumping in vacant areas on the job-site.
- Illegal dumping off-site.
- Dumping into ditches or drainage facilities.

Recommended Disposal Practices

- Avoid unacceptable disposal practices listed above.
- Develop pre-determined, safe concrete disposal areas.
- Provide a washout area with a minimum of 1 cubic foot of containment area volume for every 10 cubic yards of concrete poured.
- New dump waste concrete billy or without property owners knowledge and consent.
- Treat runoff from storage areas through the use of structural controls as required.

Education

- Drivers and equipment operators should be instructed on proper disposal and equipment washing practices (see above).
- Supervisors must be made aware of the potential environmental consequences of improperly handled concrete waste.

Enforcement

- The construction site manager or foreman must ensure that employees and equipment operators follow proper procedures for concrete disposal and equipment washing.
- Employees violating disposal or equipment cleaning directives must be re-educated or disciplined if necessary.

Demolition Practices

- Monitor weather and wind direction to ensure concrete dust is not entering drainage structures and surface waters.
- Supervisors must be made aware of the potential environmental consequences of improperly handled concrete waste.

Requirements for

- Use pre-determined disposal sites for waste concrete.
- Prohibit dumping waste concrete anywhere but pre-determined areas.
- Educate drivers and operators on proper disposal and equipment cleaning procedures.
- Educate employees on proper disposal and equipment cleaning procedures.
- Minimal cost impact for training and monitoring.
- Concrete disposal cost depends on availability and distance to viable disposal areas.
- Additional costs involved in equipment washing and disposal.

LIMITATIONS
This concrete waste management program is one part of a comprehensive construction site waste management program.

Applications

- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Construction Wastes

Implementation Requirements

- Capital Costs
- Maintenance
- Training
- Subsidiary for Slopes > 5%

Legend

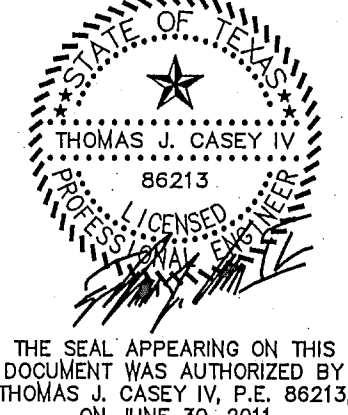
- Significant Impact
- Medium Impact
- Low Impact
- Unknown or Questionable Impact

W-3

GLENN ENGINEERING
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TRINITY CHRISTIAN ACADEMY
PARKING ADDITIONS

SWPPP DETAILS SHEET 1



Issue Dates:

- 1 Revised Bidding & HC Parking May 2, 2011
- 2 Re-Bid May 11, 2011
- 3 Town Comments, June 7, 2011
- 4 Town Comments #2, Removed Loop Road June 30, 2011

Scale: AS NOTED

Drawn By: TJC

Checked By: CMA

Project No.: 10 - 599,150

Sheet 8

of 13

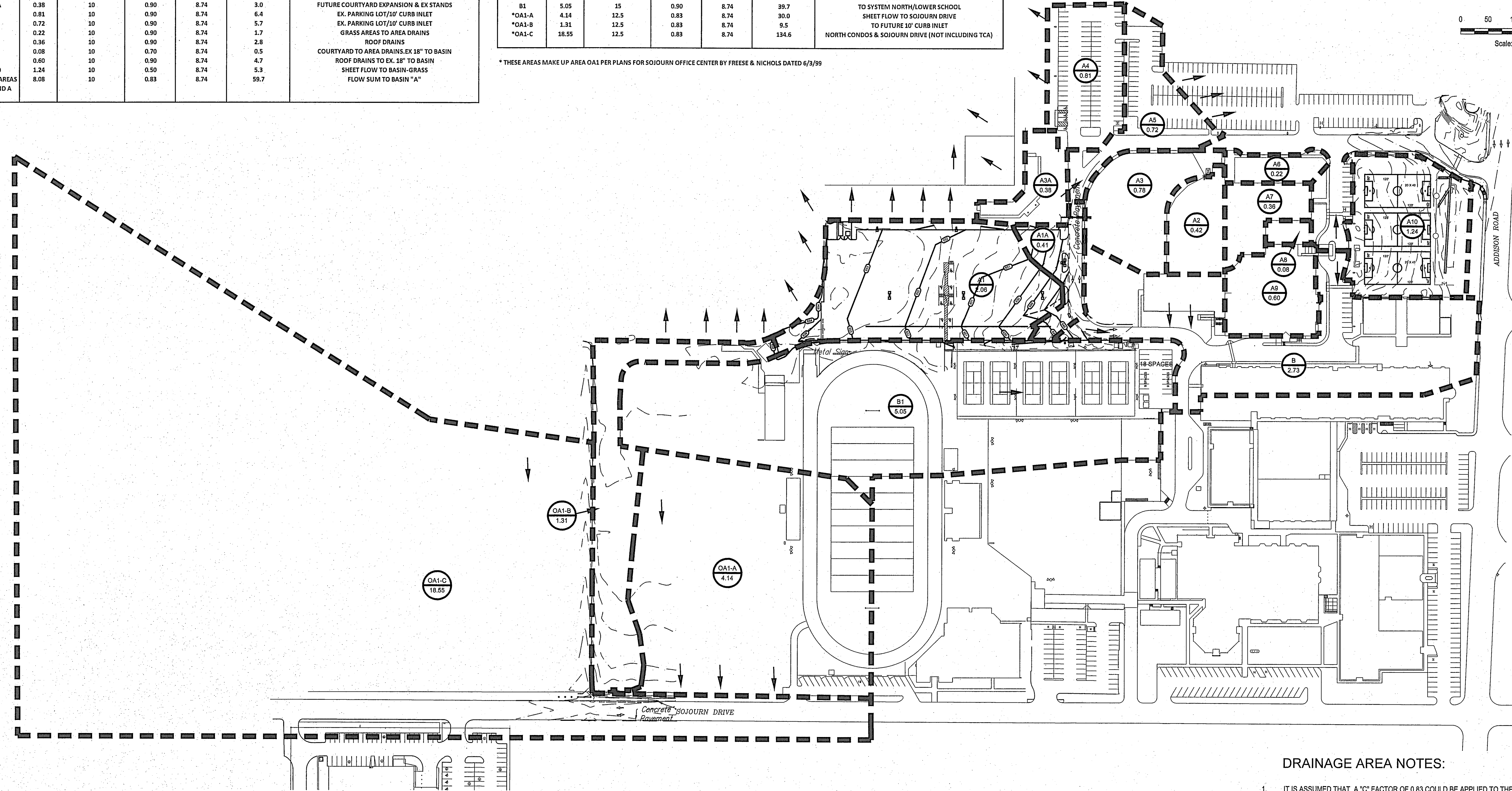
SWPPP DETAILS
SCALE: AS SHOWN

LEAST ONCE A WEEK OR WITHIN 24 HOURS OF ANY STORM EVENT OR 0.5 INCHES OR GREATER OF RAIN IS NECESSARY IT WILL BE DONE AT THE EARLIEST PRACTICABLE DATE BUT WITHIN 48 HOURS.

RUNOFF CALCULATIONS TO POND A (JUNE 2010)						
AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION MINUTES	RUNOFF COEFFICIENT "C"	INTENSITY "1.00" (INCHES/HR)	DESIGN FLOW "Q.100" (CFS)	REMARKS
A1	2.47	10	0.90	8.74	19.4	NEW PARKING LOT - 2 CURB INLETS BUILDING/ROOF DRAINS FUTURE BUILDING EXPANSION FUTURE COURTYARD EXPANSION & EX STANDS EX. PARKING LOT/10' CURB INLET EX. PARKING LOT/10' CURB INLET GRASS AREAS TO AREA DRAINS ROOF DRAINS COURTYARD TO AREA DRAINS EX. 18" TO BASIN ROOF DRAINS TO EX. 18" TO BASIN SHEET FLOW TO BASIN-GRASS FLOW SUM TO BASIN "A"
A2	0.42	10	0.90	8.74	3.3	
A3	0.78	10	0.90	8.74	6.1	
A3A	0.38	10	0.90	8.74	3.0	
A4	0.81	10	0.90	8.74	6.4	
A5	0.72	10	0.90	8.74	5.7	
A6	0.22	10	0.90	8.74	1.7	
A7	0.36	10	0.90	8.74	2.8	
A8	0.08	10	0.70	8.74	0.5	
A9	0.60	10	0.90	8.74	4.7	
A10	1.24	10	0.50	8.74	5.3	
SUM OF AREAS TO POND A	8.08	10	0.83	8.74	59.7	

NEW RUNOFF CALCULATIONS						
AREA NO.	DRAINAGE AREA (ACRES)	TIME OF CONCENTRATION MINUTES	RUNOFF COEFFICIENT "C"	INTENSITY "1.00" (INCHES/HR)	DESIGN FLOW "Q.100" (CFS)	REMARKS
A1	2.06	10	0.90	8.74	16.2	TO PROPOSED 10' CURB INLET TO PROPOSED 2-GRATE INLET TO EK. ADDISON ROAD TO SYSTEM NORTH/LOWER SCHOOL SHEET FLOW TO SOJOURN DRIVE TO FUTURE 10' CURB INLET NORTH CONDOS & SOJOURN DRIVE (NOT INCLUDING TCA)
A1A	0.41	10	0.90	8.74	3.2	
B	2.73	15	0.90	8.74	21.5	
B1	5.05	15	0.90	8.74	39.7	
*OA1-A	4.14	12.5	0.83	8.74	30.0	
*OA1-B	1.31	12.5	0.83	8.74	9.5	
*OA1-C	18.55	12.5	0.83	8.74	134.6	

* THESE AREAS MAKE UP AREA OA1 PER PLANS FOR SOJOURN OFFICE CENTER BY FREESE & NICHOLS DATED 6/3/99



INLET CAPACITY CALCULATIONS

Project Description: TRINITY CHRISTIAN ACADEMY

Project No TCA
Date: 6/7/2011

By: TJC
Checked By: TJC:

manning's n = 0.013

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
INLET No.	C	A	Q	ROAD- WAY	STREET S	Sx (ft./ft.)	a. (in.)	Gutter or Grate Width (ft.)	S'w	Sw	Eo	Se	y (ft.)	Spread T (ft.)	V (ft./sec.)	Vo (ft./sec.)	Inlet Type	Inlet L (ft.)	HEAD (ft.)	AREA (ft.)	CAP. (c.f.s.)	Q1 Flow	% Interp.	C	A	Inlet or Line to	A By-Pass (acre)	Inlet By-Pass to	By-Pass Tc (min.)
OA1-B	0.83	1.31	9.5	NA	SUMP	0.02	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	SMP	10	0.5	NA	10.61	9.50	100.0	0.83	1.31	LINE "OA"	0	NA	10
A1	0.90	2.06	16.2	NA	SUMP	0.02	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	SMP	10	0.7	NA	17.56	16.20	100.0	0.90	2.06	BASIN A	0	NA	10
A1A	0.90	0.41	3.2	NA	SUMP	0.02	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	SMPGR	10	0.2	2.5	5.39	3.20	100.0	0.90	0.41	BASIN A	0	NA	10

DRAINAGE AREA NOTES:

- IT IS ASSUMED THAT A "C" FACTOR OF 0.83 COULD BE APPLIED TO THE ENTIRE AREA OA1-B (THIS WOULD SEEM TO BE A REASONABLE ASSUMPTION SINCE THE TOWN OF ADDISON DRAINAGE CRITERIA MANUAL OF MARCH 1990, INDICATES A RUNOFF COEFFICIENT RANGE OF 0.70 TO 0.85). THE AFFOREMENTIONED ASSUMPTION WOULD ALLOW A RUNOFF COEFFICIENT OF 0.83 TO BE APPLIED TO THE REMAINING OA1-A AREA OF 0.83. OUR ESTIMATE IS THAT AREA OA1-A IN THE PROPOSED CONDITION CONTAINS APPROXIMATELY 80,600 ± S.F. (1.39 ACRES) OF IMPERVIOUS AREA. THIS WOULD MEAN AN C FACTOR OF 0.53 WOULD SEEM APPROPRIATE FOR THIS DRAINAGE AREA, AND WOULD NOT REQUIRE DETENTION (C = 0.53 = ((1.39 x 0.90 + 0.40 x 4.06) / 5.45)).
- DRAINAGE AREA A1 WAS ACCOUNTED FOR IN POND "A" AS DESIGNATED IN THE PLANS BY GLENN ENGINEERING DATED JUNE 23, 2010. "DRAINAGE & DRIVE IMPROVEMENTS NEAR THE UPPER SCHOOL" FOR TRINITY CHRISTIAN ACADEMY.
- DRAINAGE AREA B1, WITH AN AREA OF 5.05 ACRES DOES NOT EXCEED THE COMBINED AREAS OF AREAS 3 AND 4 (4.5 AND 1.7 RESPECTIVELY, TOTALING 6.2 ACRES) AS SHOWN ON THE "DRAINAGE AREA MAP" FOR TRINITY CHRISTIAN ACADEMY DATED JUNE, 1986. WE WOULD ALSO NOTE THAT NO IMPERVIOUS AREA IS BEING PROPOSED TO BE ADDED TO THIS DRAINAGE AREA AT THIS TIME.

W E

0 50 100 200
Scale: 1"=100'

GLENN ENGINEERING
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IRVING, TEXAS 75062

TRINITY CHRISTIAN ACADEMY
PARKING ADDITIONS

DRAINAGE AREA
MAP

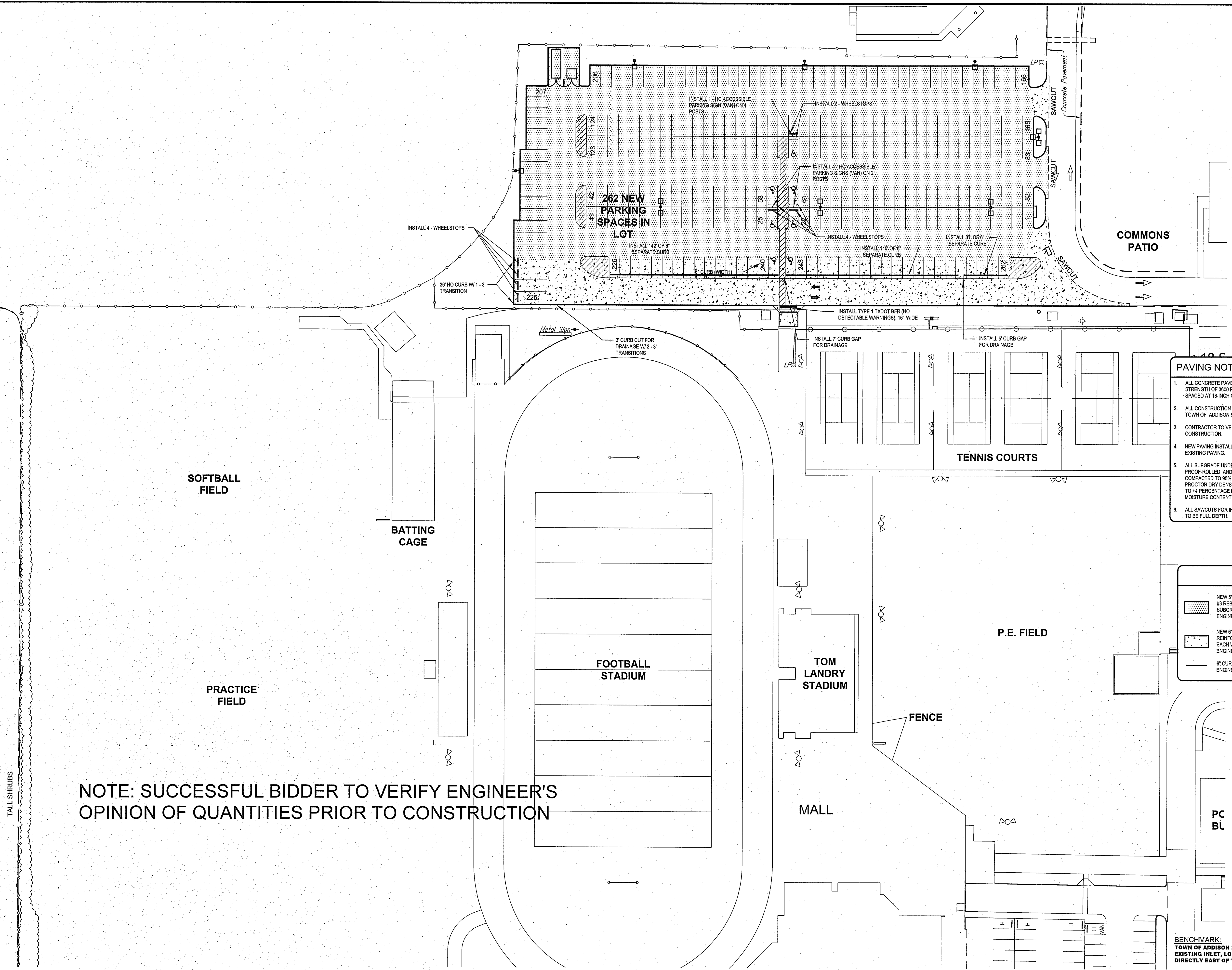
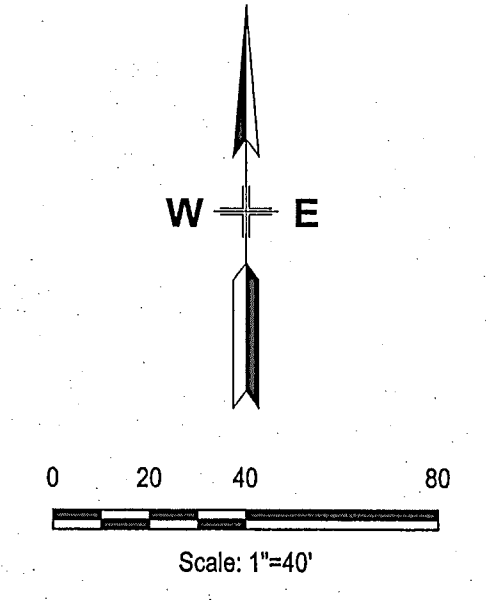
Issue Dates:
Review: Bid March 7, 2011
1 Revised Grading & HC Parking May 2, 2011
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Construction:
Scale: AS NOTED

Drawn By: TJC
Checked By: CMA

Project No.: 10 - 599.150

Sheet 9
of 13

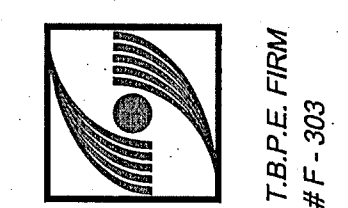


NOTE: SUCCESSFUL BIDDER TO VERIFY ENGINEER'S OPINION OF QUANTITIES PRIOR TO CONSTRUCTION

- PAVING NOTES**
1. ALL CONCRETE PAVEMENT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3600 PSI AT 28 DAYS WITH NO 3 REINFORCING BARS SPACED AT 18-INCH O.C.E.W. MINIMUM.
 2. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF ADDISON STANDARD DETAILS AND SPECIFICATIONS.
 3. CONTRACTOR TO VERIFY EXISTING PAVEMENT ELEVATIONS PRIOR TO CONSTRUCTION.
 4. NEW PAVING INSTALLED SHALL "FLUSH-OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
 5. ALL SUBGRADE UNDER PAVEMENT SHALL BE SHOULD BE PROOF-ROLLED AND THE UPPER 6 INCHES OF THE FINAL SUBGRADE COMPACTED TO 95% - 100% OF THE MATERIAL'S MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D-698), AT A MOISTURE CONTENT OF 0 TO +4 PERCENTAGE POINTS OF STANDARD PROCTOR OPTIMUM MOISTURE CONTENT.
 6. ALL SAWCUTS FOR INSTALLATION OF NEW CONCRETE CURB SECTIONS TO BE FULL DEPTH.

- NEW 5" CONCRETE PAVEMENT REINFORCED WITH #3 REBARS ON 18" CENTERS EACH WAY ON SUBGRADE COMPACTED TO 95% ENGINEER'S OPINION OF QUANTITY = 7,993 ± S.Y.
- NEW 6" FIRELANE-CONCRETE PAVEMENT REINFORCED WITH #3 REBARS ON 18" CENTERS EACH WAY ON SUBGRADE COMPACTED TO 95% ENGINEER'S OPINION OF QUANTITY = 2,142 ± S.Y.
- 6" CURB ENGINEER'S OPINION OF QUANTITY = 1,333 ± L.F.

GLENN ENGINEERING

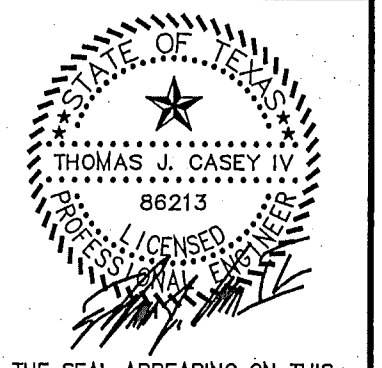


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TRINITY CHRISTIAN ACADEMY

PARKING ADDITIONS

PAVING PLAN



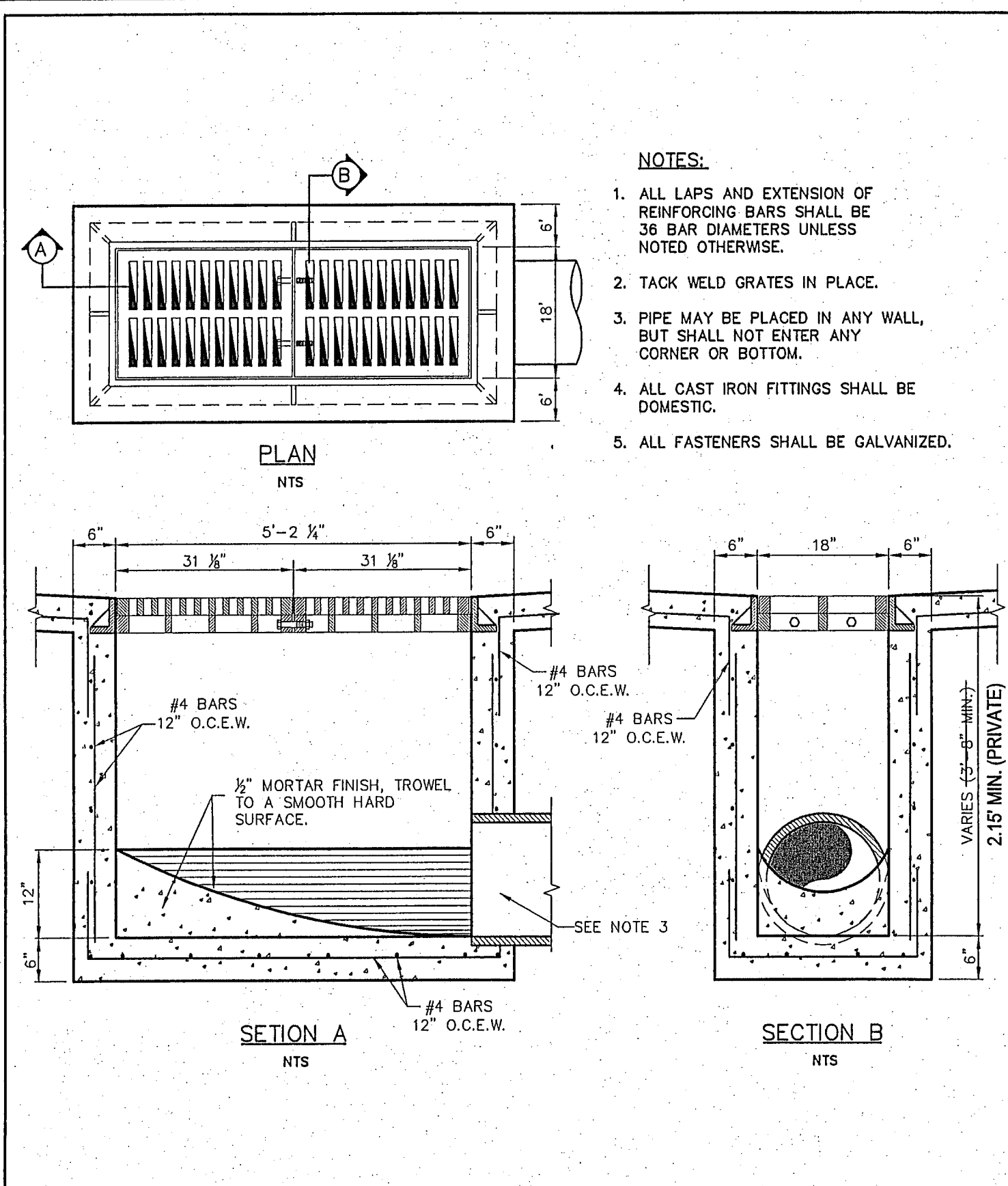
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY THOMAS J. CASEY IV, P.E. 88213, ON JUNE 30, 2011

- Issue Dates:
1. Review: Bid March 7, 2011
 2. Revised Grading & HC Parking May 2, 2011
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Construction:
Scale: AS NOTED
Drawn By: TJC
Checked By: CMA
Project No.: 10-599-150

Sheet **10** of 13

BENCHMARK:
TOWN OF ADDISON BENCHMARK 6, BRASS DISC SET ON TOP OF EXISTING INLET, LOCATED ON THE EAST SIDE OF ADDISON ROAD, DIRECTLY EAST OF THE LOWER SCHOOL PLAYGROUNDS.

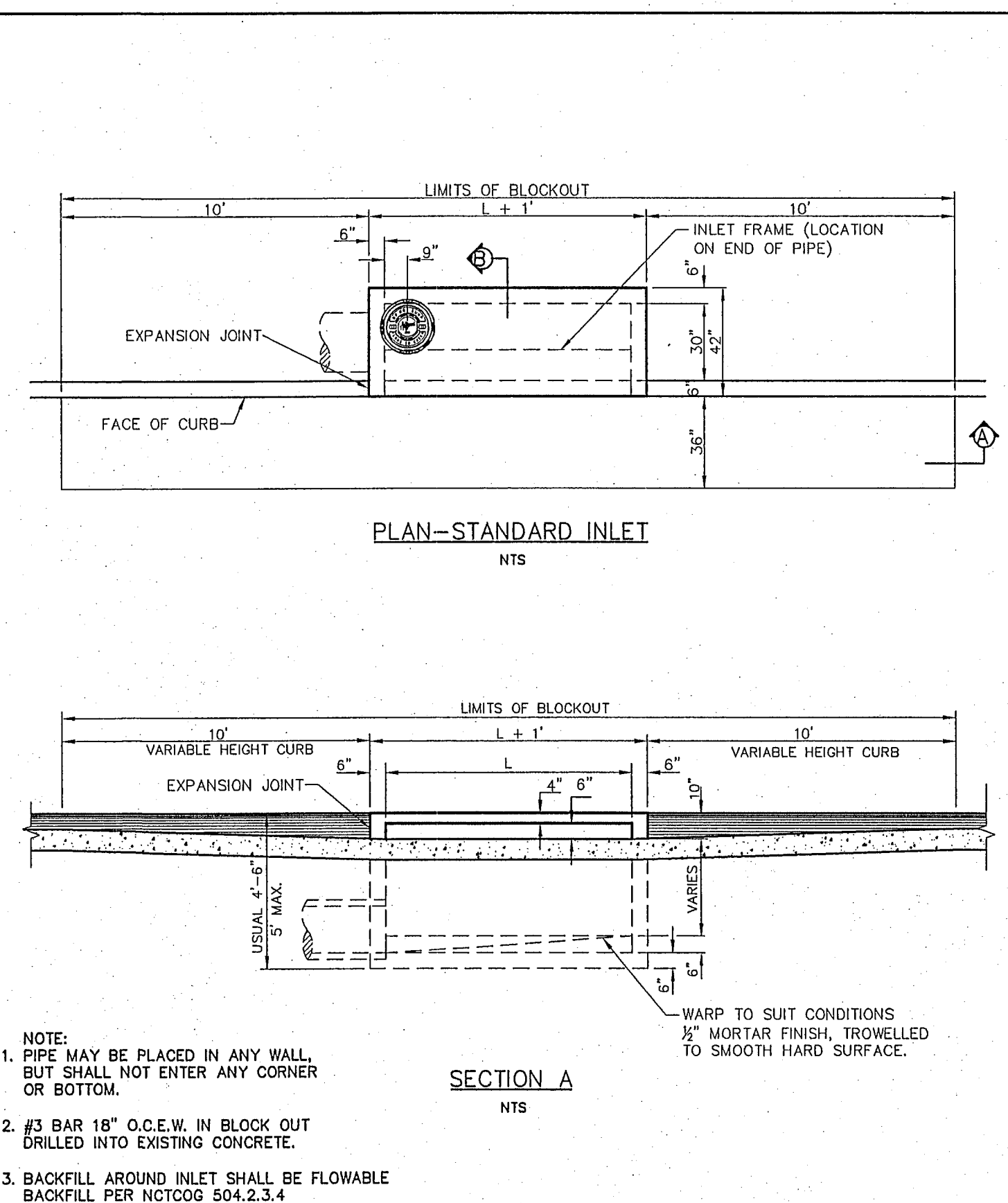


Addison!
PUBLIC WORKS DEPARTMENT

TWO GRATE INLET

STANDARD CONSTRUCTION DETAILS
STORM DRAINAGE

DATE: AUGUST, 2010 REV DATE: SHEET: SD-030

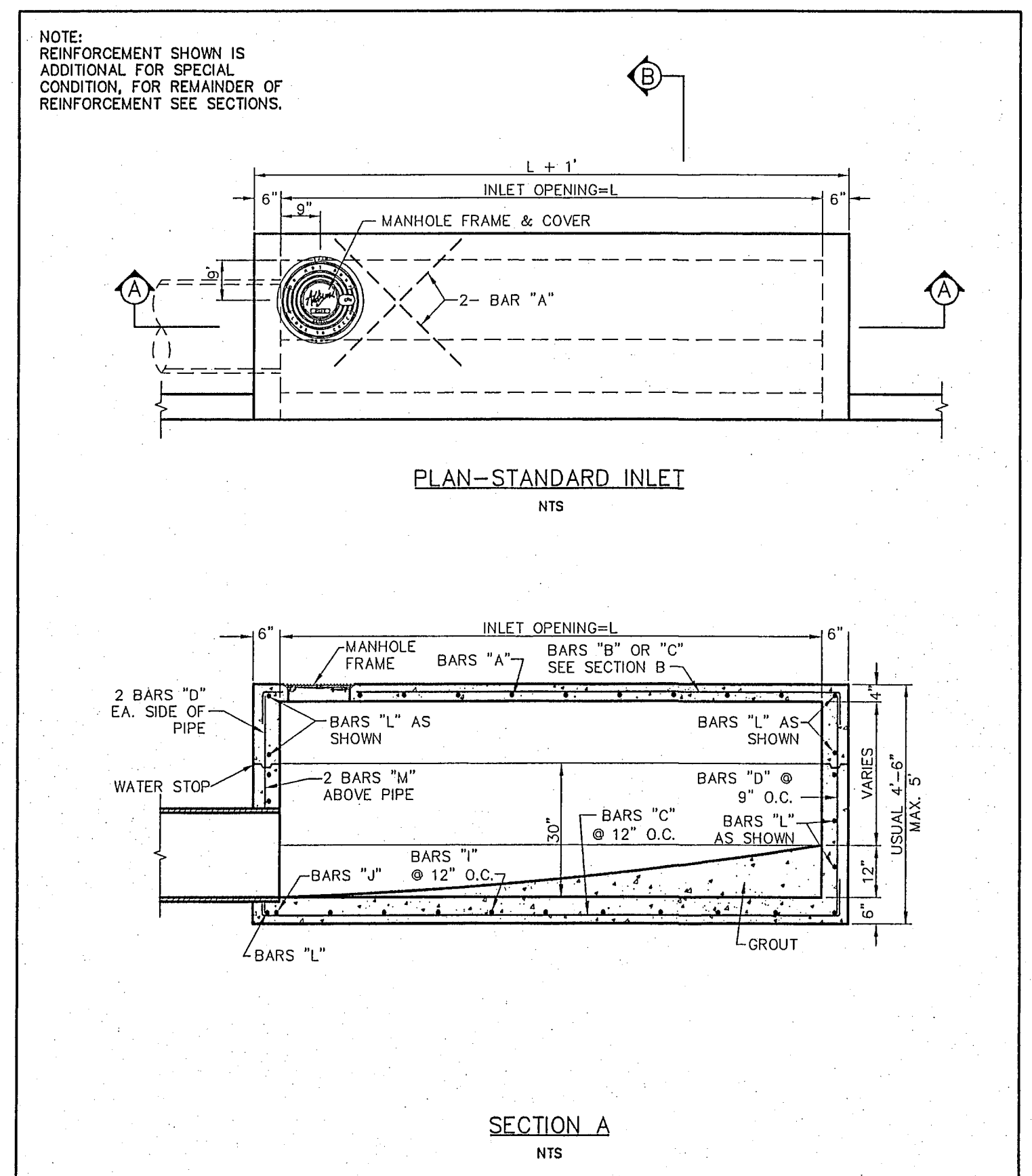


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PUBLIC WORKS DEPARTMENT

STANDARD CURB INLET

STANDARD CONSTRUCTION DETAILS
STORM DRAINAGE

DATE: AUGUST, 2010 REV DATE: SHEET: SD-010

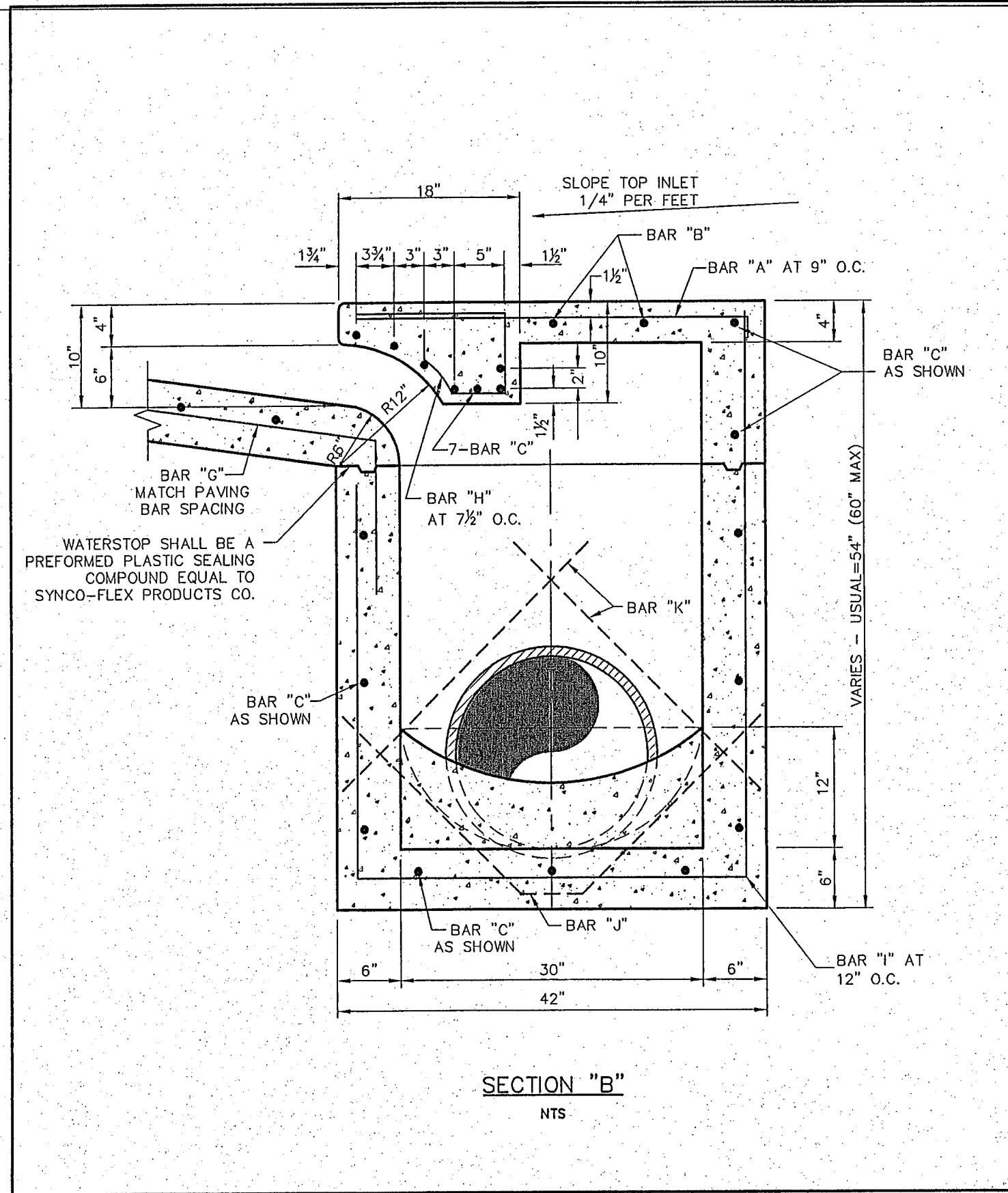


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PUBLIC WORKS DEPARTMENT

STANDARD CURB INLET 4, 6, 8 & 10 FOOT INLETS

STANDARD CONSTRUCTION DETAILS
STORM DRAINAGE

DATE: AUGUST, 2010 REV DATE: SHEET: SD-012



Addison!
PUBLIC WORKS DEPARTMENT

TYPICAL SECTION "B" STANDARD & RECESSED CURB INLETS (4, 6, 8 & 10 FOOT INLETS)

STANDARD CONSTRUCTION DETAILS
STORM DRAINAGE

DATE: AUGUST, 2010 REV DATE: SHEET: SD-013

REINFORCING STEEL SCHEDULE DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLET

INLET LENGTH	BAR TYPE	BAR DIA. (1/2")	NO REQ'D	BAR DIMENSIONS		
				A	B	C
4'	A	3	6	3'-2"	0'-3"	-
	B	3	2	2'-10"	-	-
	C	4	18	4'-8"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	3	4	2'-0"	1'-3"	-
6'	A	3	7	-	-	-
	B	3	2	3'-0"	-	-
	C	4	18	6'-8"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	3	4	2'-0"	1'-3"	-
8'	A	3	11	-	-	-
	B	3	2	3'-0"	-	-
	C	4	18	8'-8"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	3	4	2'-0"	1'-3"	-
10'	A	3	15	-	-	-
	B	3	2	3'-0"	-	-
	C	4	18	10'-8"	0'-6"	-
	D	4	9	4'-8"	-	-
	E	3	4	2'-0"	1'-3"	-

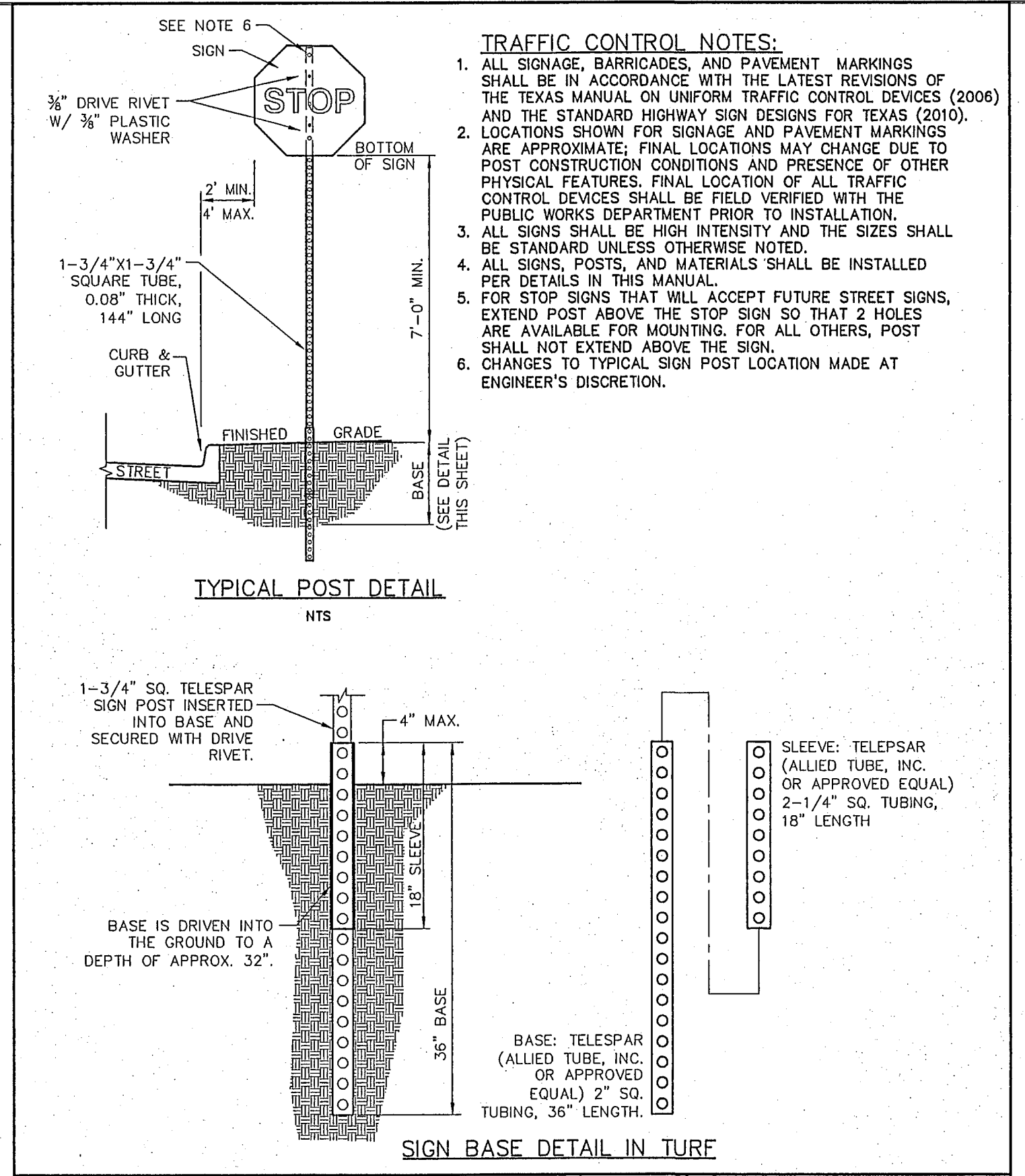
* SEE DIAGRAM FOR DIMENSIONS
** FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE

Addison!
PUBLIC WORKS DEPARTMENT

REINFORCING STEEL SCHEDULE 4, 6, 8 & 10 FOOT INLETS

STANDARD CONSTRUCTION DETAILS
STORM DRAINAGE

DATE: AUGUST, 2010 REV DATE: SHEET: SD-014



Addison!
PUBLIC WORKS DEPARTMENT

SIGN POST IN TURF DETAIL

STANDARD CONSTRUCTION DETAILS
TRAFFIC

DATE: AUGUST, 2010 REV DATE: SHEET: SD-015

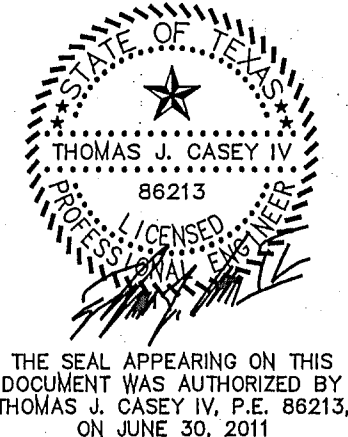
GLENN ENGINEERING
PHONE 972-717-5151
FAX 972-717-2176
105 DECKER COURT-SUITE 910
IRVING, TEXAS 75062

T.B.P.E. FIRM
F - 303

TRINITY CHRISTIAN ACADEMY

PARKING ADDITIONS

SITE DETAILS



Issue Dates:

Review: Bid March 7, 2011
1 Revised Grading & HC Parking May 2, 2011
2 Re-Bid May 11, 2011
3 Town Comments, June 7, 2011
4 Town Comments #2, Removed Loop Road June 30, 2011

Construction:

Scale: AS NOTED

Drawn By: TJC

Checked By: CMA

Project No.: 10-599.150

Sheet **11A** of 13

December 2003

Inlet Protection

MAINTENANCE REQUIREMENTS
Inlet protection should be inspected regularly (at least as often as required by the TPDES Construction General Permit, Appendix A). When the filter is used and the fabric becomes clogged, it should be cleaned or, if necessary, replaced. Also, sediment should be removed when it reaches approximately one-half the height of the inlet protection device. If a sump is used, sediment should be removed when the volume of the basin is reduced by 50%.

For systems using filter stone, when the filter stone becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of stone at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill material and put new stone around the inlet.

SPECIFICATION
Specifications for construction of this item may be found in the Standard Specifications for Public Works Construction - North Central Texas Council of Governments, Section 201.15 Inlet Protection.

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Silt Fence

Stone overflow structures or other outlet control devices shall be installed at all low points along the fence or spaced at approximately 200 feet if there is no apparent low point.

Filter stone for overflow structure shall be 1-1/2" washed stone containing no fines. Angular shaped stone is preferable to rounded shapes.

Silt fence fabric must meet the following minimum criteria:

- Tensile Strength, ASTM D4832 Test Method for Grab Breaking Load and Elongation of Geotextiles, 80-lb.
- Puncture Rating, ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geotextiles, and Related Products, 20-lb.
- Matrix Burst Rating, ASTM D5708 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Claypans Bursting Strength Tester Method, 200 psi.
- Apparent Opening Size, ASTM D5708 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Stone No. 70 (max) to No. 100 (min).
- Ultraviolet Resistance, ASTM D2486, Minimum 70 percent.

Fence posts shall be galvanized steel and may be T-section or L-section, 1.3 pounds per linear foot minimum, and 4 feet in length minimum. Wood posts may be used depending on anticipated length of service and provided they are 4 feet in length minimum and have a nominal cross section of 2 inches by 4 inches for posts 2 inches by 2 inches for standards.

Silt fence shall be supported by galvanized steel wire fence fabric as follows:

- 1/4" x 4" mesh wire, 1/4" x 4" minimum 12 gauge wire fence fabric.
- Hog wire, 12 gauge wire, small openings installed at bottom of silt fence.
- Standard 2" x 2" chain link fence fabric.
- Other welded or woven steel fabric consisting of equal or smaller spacing as that listed herein and appropriate edge wire to provide support.

A 6 inch wide trench to be 24 inches deep at the toe of the fence to allow the fabric to be laid below the surface and backfilled with compacted earth or gravel to prevent bypass of runoff under the fence. Silt fence shall consist of geotextile fabric supported by wire mesh netting or other backing attached between either wooden or metal posts with the lower edge of the fabric securely embedded in the soil. The fabric is typically located downstream of disturbed areas to intercept runoff in the form of sheet flow. A silt fence provides both filtration and time for sediment settling by reducing the velocity of the runoff.

PRIMARY USE
Silt fence is normally used as perimeter control downstream of disturbed areas. It is only feasible for non-concentrated, sheet flow conditions. If it becomes necessary to place a silt fence where concentrated flow may be experienced (e.g. where two silt fences join at an angle, or across minor channels or gullies), it will be necessary to reinforce the silt fence at that area by a rock berm or sand bag berm, or other structural measures that will support the silt fence.

APPLICATIONS
Silt fence is an economical means to treat overland, non-concentrated flows for all types of projects. Silt fences are used as perimeter control devices for both site developers and linear (roadway) type projects. They are most effective with coarse to silty soil types. Due to the potential of clogging and limited effectiveness, silt fences should be used with caution in areas that have predominantly clay soil types. In this latter instance a soils engineer or soil scientist should confirm the suitability of silt fence for that application.

DESIGN CRITERIA

- Fence are to be constructed along a line of constant elevation (along a contour line) where possible.
- Maximum drainage area shall be 0.25 acres per 100 linear feet of all fence.
- Maximum flow to any 20 foot section of all fence shall be 1 CFS.
- Maximum distance of flow to silt fence shall be 200 feet or less. If the slope exceeds 10 percent the flow distance shall be less than 50 feet.
- Maximum slope adjacent to the fence shall be 2:1.
- If 50% or less soil, by weight, passes the U.S. Standard sieve No. 200; if not, the apparent opening size (A.O.S.) is to remain 85% of the soil.
- If 65% or more of soil, by weight, passes the U.S. Standard sieve No. 200, all fences shall not be used unless the soil mass is evaluated and deemed suitable by a soil scientist or geotechnical engineer concerning the erodibility of the soil mass, dispersive characteristics, and the potential grain size characteristics of the material that is likely to be eroded.

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December 2003

Inlet Protection

DESIGN CRITERIA

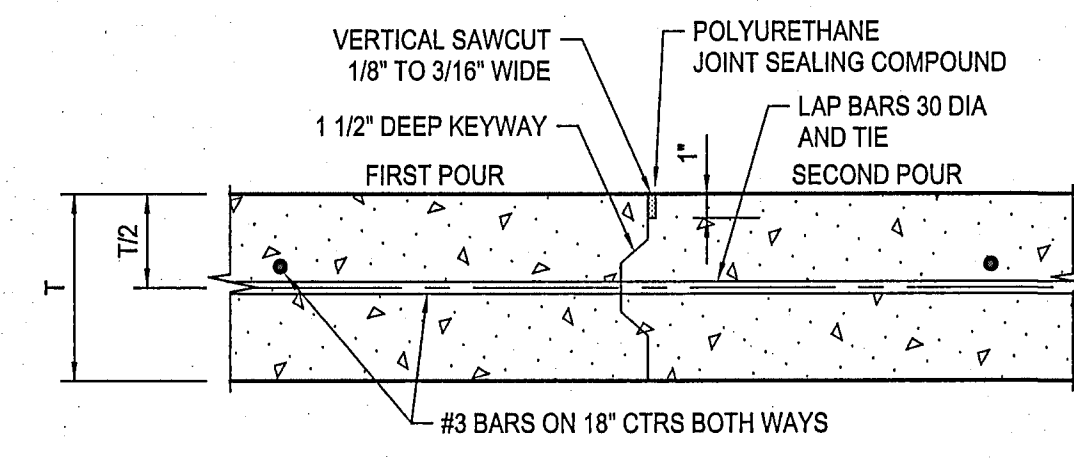
- Special caution must be exercised when installing inlet protection on publicly traveled streets or in developed areas. Ensure that inlet protection is properly designed, installed and maintained to avoid flooding of the roadway or adjacent properties and structures.
- Filter fabric protection shall be designed and maintained to a minimum similar to all fences.
- Where applicable, filter fabric, posts, and wire backing shall meet the material requirements specified in BMP Fact Sheet S-1, Silt Fence.
- Filter gravel shall be 1/2 inch (Block and Gravel Protection) or 1-1/2 to 2 inch (Elevated Inlet Protection) washed stone containing no fines. Angular shaped stone is preferable to rounded shapes.
- Concrete blocks shall be standard 8" x 8" x 16" concrete masonry units.
- Maximum depth of flow shall be eight (8) inches or less.
- Positive drainage is critical in the design of inlet protection. If overflow is not provided for the inlet, excess flows shall be routed through established swales, ditches, or other watercourses to minimize damage due to flooding.
- Filter Barrier Protection
Silt fence shall consist of nylon geotextile supported by wire mesh, 1/4" x 1/4" and galvanized steel posts set a minimum of 1 foot depth and spaced not more than 6 feet on center. A 6 inch wide trench to be cut 6 inches deep at the toe of the fence to allow the fabric to be laid below the surface and backfilled with compacted earth or gravel. This entrenchment prevents any bypass of runoff under the fence.
- Block and Gravel Protection (Curb and Drop Inlets)
Concrete blocks shall be placed on their sides in a single row around the perimeter of the inlet, with ends abutting. Openings in the blocks should face outward, not upward. 1/2" x 1/2" wire mesh shall be placed over the outside face of the blocks covering the holes. Filter stone shall then be placed against the wire mesh to the top of the blocks with the base of the stone being a minimum of 18 inches from the blocks. Alternatively, when the stone is in a concrete (gravel, etc.) the filter stone may be placed in appropriately sized geotextile fabric bags. Periodically, when the stone filter becomes clogged, the stone must be removed and cleaned in a proper manner or replaced with new stone and placed back against the wire mesh.
- Elevated Inlet Protection
An elevated inlet protection shall be sized to provide a storage volume of between 1800 and 3000 cubic feet per acre of disturbed area. The top shall have a minimum depth of one foot and a maximum depth of 2 feet as measured from the top of the inlet and shall have a slope of 2:1 or better. Heavy holes are to be installed in the top to allow for the complete emptying of the trap. When the storage capacity of the inlet protection has been reduced by one-half, the inlet shall be removed and replaced as a proper manner.
- Inlet inserts are commercially available to remove sediment, constituents (pollutants) adsorbed to sediment, and grease. Maintenance is required to remove sediment and debris that could clog the filters. Inlet inserts must have a bypass function to prevent flooding from clogging or high flow conditions.

LIMITATIONS
Special caution must be exercised when installing inlet protection on publicly traveled streets or in developed areas. Ensure that inlet protection is properly designed, installed and maintained to avoid flooding of the roadway or adjacent properties and structures.

Inlet protection is only viable at low point inlets. Inlets that are on a slope and are elevated protected because storm water will bypass the inlet and continue downstream, causing an overflow condition at inlet downstream.

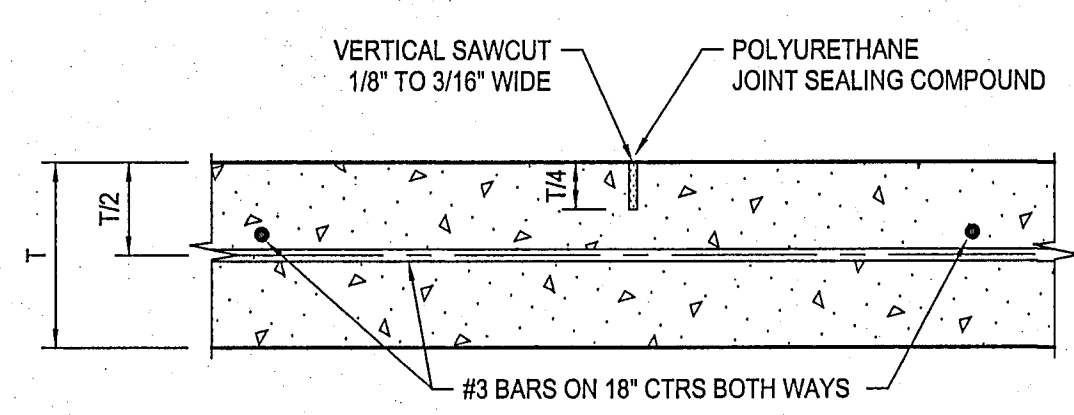
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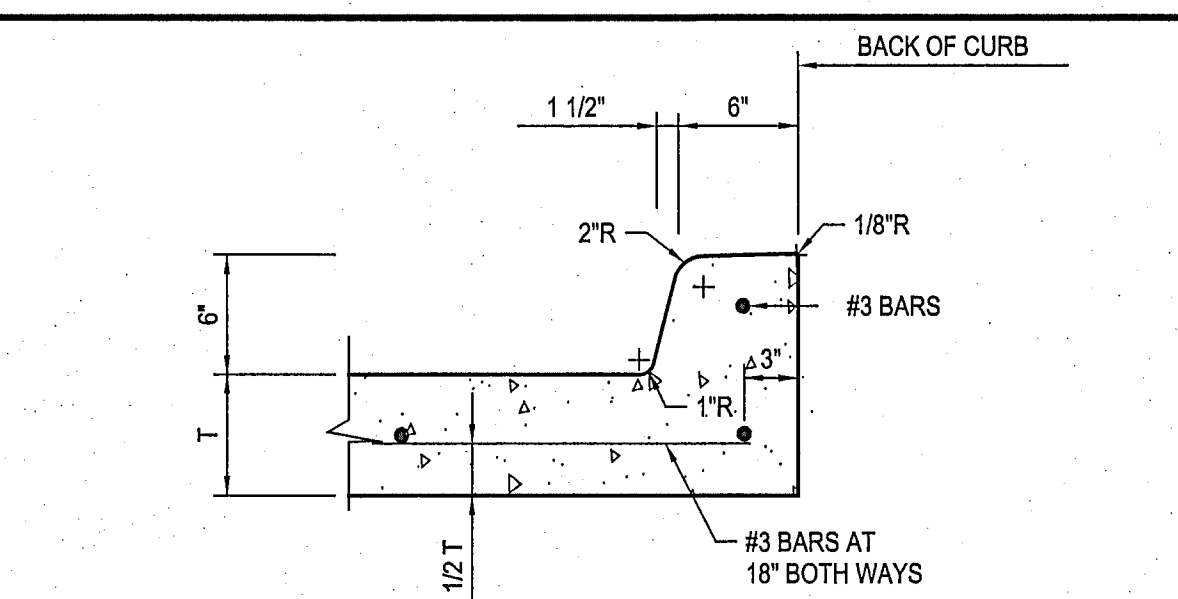
CONSTRUCTION JOINT DETAIL (L)

NTS



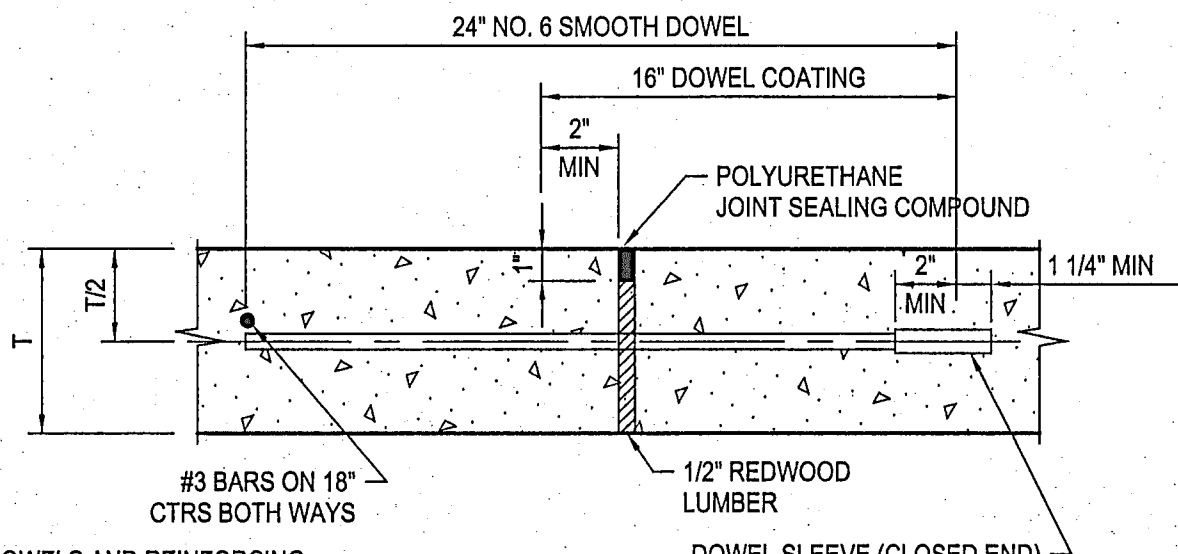
SAWED DUMMY JOINT DETAIL (T)

NTS MAXIMUM SPACING = 15 FEET



INTEGRAL CURB & GUTTER

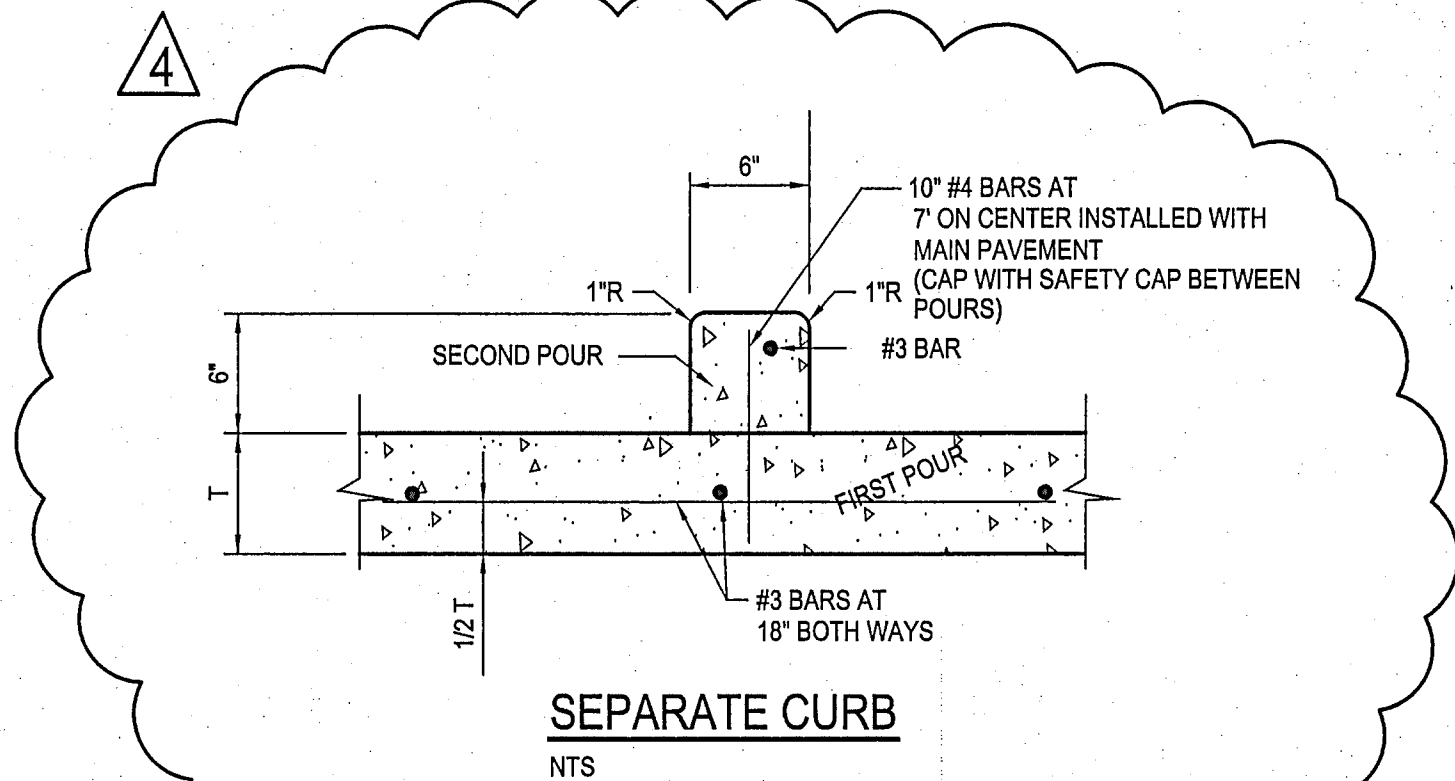
NTS



EXPANSION JOINT DETAIL

NTS MAXIMUM SPACING = 60 FEET

NOTE: DOWELS AND REINFORCING BARS SHALL BE SUPPORTED BY AN APPROVED DEVICE TO FIT DOWEL AND BE SECURED TO BE INSTALLED 2' C-C.



SEPARATE CURB

NTS

December 2003

Silt Fence

DESCRIPTION
A silt fence consists of geotextile fabric supported by wire mesh netting or other backing attached between either wooden or metal posts with the lower edge of the fabric securely embedded in the soil. The fabric is typically located downstream of disturbed areas to intercept runoff in the form of sheet flow. A silt fence provides both filtration and time for sediment settling by reducing the velocity of the runoff.

PRIMARY USE
Silt fence is normally used as perimeter control downstream of disturbed areas. It is only feasible for non-concentrated, sheet flow conditions. If it becomes necessary to place a silt fence where concentrated flow may be experienced (e.g. where two silt fences join at an angle, or across minor channels or gullies), it will be necessary to reinforce the silt fence at that area by a rock berm or sand bag berm, or other structural measures that will support the silt fence.

APPLICATIONS
Silt fence is an economical means to treat overland, non-concentrated flows for all types of projects. Silt fences are used as perimeter control devices for both site developers and linear (roadway) type projects. They are most effective with coarse to silty soil types. Due to the potential of clogging and limited effectiveness, silt fences should be used with caution in areas that have predominantly clay soil types. In this latter instance a soils engineer or soil scientist should confirm the suitability of silt fence for that application.

DESIGN CRITERIA

- Fence are to be constructed along a line of constant elevation (along a contour line) where possible.
- Maximum drainage area shall be 0.25 acres per 100 linear feet of all fence.
- Maximum flow to any 20 foot section of all fence shall be 1 CFS.
- Maximum distance of flow to silt fence shall be 200 feet or less. If the slope exceeds 10 percent the flow distance shall be less than 50 feet.
- Maximum slope adjacent to the fence shall be 2:1.
- If 50% or less soil, by weight, passes the U.S. Standard sieve No. 200; if not, the apparent opening size (A.O.S.) is to remain 85% of the soil.
- If 65% or more of soil, by weight, passes the U.S. Standard sieve No. 200, all fences shall not be used unless the soil mass is evaluated and deemed suitable by a soil scientist or geotechnical engineer concerning the erodibility of the soil mass, dispersive characteristics, and the potential grain size characteristics of the material that is likely to be eroded.

Applications

- Perimeter Control
- Site Protection
- Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- Sediment
- Inorganic Toxic Materials
- Oil & Grease
- Flammable Materials
- Other Construction Wastes

Implementation Requirements

- Capital Costs
- Maintenance
- Training
- Substitutability for Slopes > 5%

Legend

- Significant Impact
- Medium Impact
- Low Impact
- Unknown or Unassessable Impact

F=0.75

S-1

North Central Texas Council of Governments

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December 2003

Inlet Protection - Curb

DESCRIPTION
Inlet protection at a curb consists of concrete blocks placed around the perimeter of the inlet, with ends abutting. Openings in the blocks should face outward, not upward. 1/2" x 1/2" wire mesh shall be placed over the outside face of the blocks covering the holes. Filter stone shall then be placed against the wire mesh to the top of the blocks with the base of the stone being a minimum of 18 inches from the blocks. Alternatively, when the stone is in a concrete (gravel, etc.) the filter stone may be placed in appropriately sized geotextile fabric bags. Periodically, when the stone filter becomes clogged, the stone must be removed and cleaned in a proper manner or replaced with new stone and placed back against the wire mesh.

DESIGN CRITERIA

- Special caution must be exercised when installing inlet protection on publicly traveled streets or in developed areas. Ensure that inlet protection is properly designed, installed and maintained to avoid flooding of the roadway or adjacent properties and structures.
- Filter fabric protection shall be designed and maintained to a minimum similar to all fences.
- Where applicable, filter fabric, posts, and wire backing shall meet the material requirements specified in BMP Fact Sheet S-1, Silt Fence.
- Filter gravel shall be 1/2 inch (Block and Gravel Protection) or 1-1/2 to 2 inch (Elevated Inlet Protection) washed stone containing no fines. Angular shaped stone is preferable to rounded shapes.
- Concrete blocks shall be standard 8" x 8" x 16" concrete masonry units.
- Maximum depth of flow shall be eight (8) inches or less.
- Positive drainage is critical in the design of inlet protection. If overflow is not provided for the inlet, excess flows shall be routed through established swales, ditches, or other watercourses to minimize damage due to flooding.
- Filter Barrier Protection
Silt fence shall consist of nylon geotextile supported by wire mesh, 1/4" x 1/4" and galvanized steel posts set a minimum of 1 foot depth and spaced not more than 6 feet on center. A 6 inch wide trench to be cut 6 inches deep at the toe of the fence to allow the fabric to be laid below the surface and backfilled with compacted earth or gravel. This entrenchment prevents any bypass of runoff under the fence.
- Block and Gravel Protection (Curb and Drop Inlets)
Concrete blocks shall be placed on their sides in a single row around the perimeter of the inlet, with ends abutting. Openings in the blocks should face outward, not upward. 1/2" x 1/2" wire mesh shall be placed over the outside face of the blocks covering the holes. Filter stone shall then be placed against the wire mesh to the top of the blocks with the base of the stone being a minimum of 18 inches from the blocks. Alternatively, when the stone is in a concrete (gravel, etc.) the filter stone may be placed in appropriately sized geotextile fabric bags. Periodically, when the stone filter becomes clogged, the stone must be removed and cleaned in a proper manner or replaced with new stone and placed back against the wire mesh.
- Elevated Inlet Protection
An elevated inlet protection shall be sized to provide a storage volume of between 1800 and 3000 cubic feet per acre of disturbed area. The top shall have a minimum depth of one foot and a maximum depth of 2 feet as measured from the top of the inlet and shall have a slope of 2:1 or better. Heavy holes are to be installed in the top to allow for the complete emptying of the trap. When the storage capacity of the inlet protection has been reduced by one-half, the inlet shall be removed and replaced as a proper manner.
- Inlet inserts are commercially available to remove sediment, constituents (pollutants) adsorbed to sediment, and grease. Maintenance is required to remove sediment and debris that could clog the filters. Inlet inserts must have a bypass function to prevent flooding from clogging or high flow conditions.

LIMITATIONS
Special caution must be exercised when installing inlet protection on publicly traveled streets or in developed areas. Ensure that inlet protection is properly designed, installed and maintained to avoid flooding of the roadway or adjacent properties and structures.

Inlet protection is only viable at low point inlets. Inlets that are on a slope and are elevated protected because storm water will bypass the inlet and continue downstream, causing an overflow condition at inlet downstream.

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3

MANHOLE RIM TO BE SET FLUSH WITH PAVEMENT OR 1" TO 4" ABOVE GRADE IN NON-PAVED AREAS. SEE CAST IRON MANHOLE FRAME & COVER DETAIL.

EXIST. P.W.M.T.

EXIST. GRADE

1/2" NON SHRINK GROUT COATING

NEOPRENE "O-RING" GASKET AND MASTIC

COUPLING WITH O-RING RUBBER GASKET KOR-N-SEAL, OR APPROVED EQUAL

EMBEDMENT AS SPECIFIED BY STANDARD DETAILS.

ROCK FOUNDATION

GEOTEXTILE MATERIAL

REFER TO NCTCOG SPECIFICATION (LATEST EDITION) FOR:

1. CONCRETE CLASS.
2. CONCRETE PIPE MATERIAL.
3. MANHOLE MATERIAL.
4. RUBBER GASKET JOINT.

NOTES:

1. IF FALSE MANHOLE BOTTOMS ARE REQUIRED, THEY SHALL BE CONSTRUCTED, INSTALLED, AND REMOVED PER WASTEWATER MANHOLE FALSE BOTTOM STD. DETAIL.
2. WHERE MANHOLES ARE OUTSIDE OF PAVEMENT, FRAME & COVER SHALL BE CENTERED IN 5" x 5" CONCRETE PAD CLASS 'A' CONCRETE, 4" THICK
3. ALL MANHOLES SHALL PASS VACUUM TEST AS PER NCTCOG SPECIFICATIONS

PRECAST CONCRETE PIPE MANHOLE ALTERNATE "B"

STANDARD CONSTRUCTION DETAILS WASTEWATER

DATE: AUGUST, 2010 REV. DATE: SHEET: 30-WW07

PUBLIC WORKS DEPARTMENT

RESERVED PARKING

VAN ACCESSIBLE

LEGEND AND BORDER: GREEN BACKGROUND; WHITE SYMBOL; WHITE ON BLUE BACKGROUND.

PER CITY REQUIREMENTS

LEGEND AND BORDER: GREEN BACKGROUND; WHITE.

PER CITY REQUIREMENTS

ACCESSIBLE PARKING SIGN DETAILS

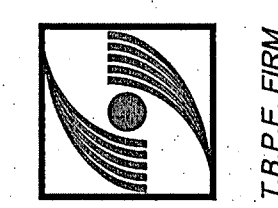
SCALE: NTS

NOTE: MINIMUM 12" OF BARE #6 SDCU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT

LIGHT POLE FOUNDATION

SCALE: NTS

GLENN ENGINEERING



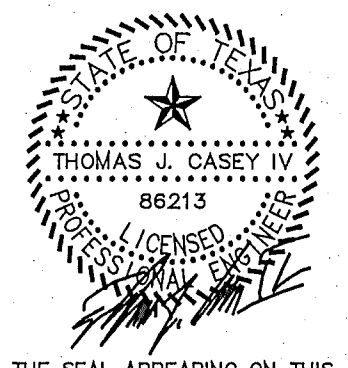
FAX 972-717-2176 IRVING, TEXAS 75062

PHONE 972-717-5151 105 DECKER COURT SUITE 910

T.B.P.E. FIRM # F-303

TRINITY CHRISTIAN ACADEMY
PARKING ADDITIONS

DETAIL SHEET



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY THOMAS J. CASEY IV, P.E. 68213, ON JUNE 30, 2011

Issue Dates:

1. Review: Bid March 7, 2011
2. Revised Grading & HC Parking: May 2, 2011
3. Re-Bid: May 11, 2011
4. Town Comments, June 7, 2011
5. Town Comments #2, Removed Loop Road: June 30, 2011

Construction:

Scale: AS NOTED

Drawn By: TJC

Checked By: CMA

Project No.: 10-599.150

Sheet 11 of 13

