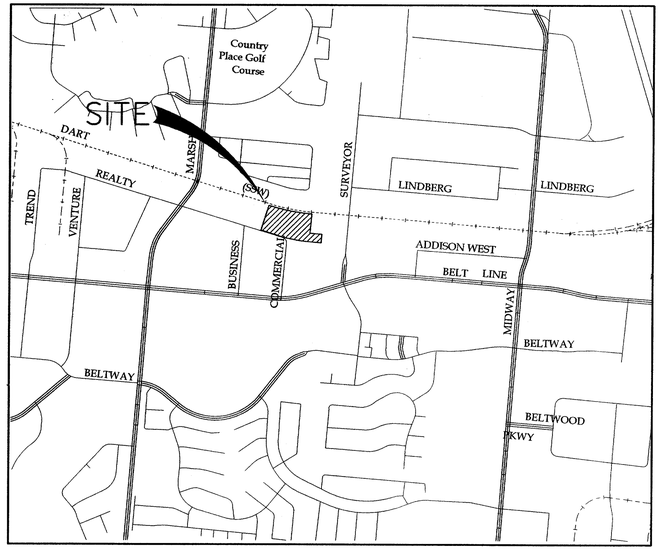
ENGINEERING CONSTRUCTION PLANS
FOR

OSTEOMED CORPORATION

GRADING, PAVING AND DRAINAGE IMPROVEMENTS
THE TOWN OF ADDISON, TEXAS



LOCATION MAP
NOT TO SCALE

OWNER

OSTEOMED CORPORATATION
3750 REALTY ROAD
ADDISON, TX 75001

ENGINEER

HALFF ASSOCIATES, INC.
8616 NORTHWEST PLAZA DR.
DALLAS, TX. 75225
(214) 346-6200
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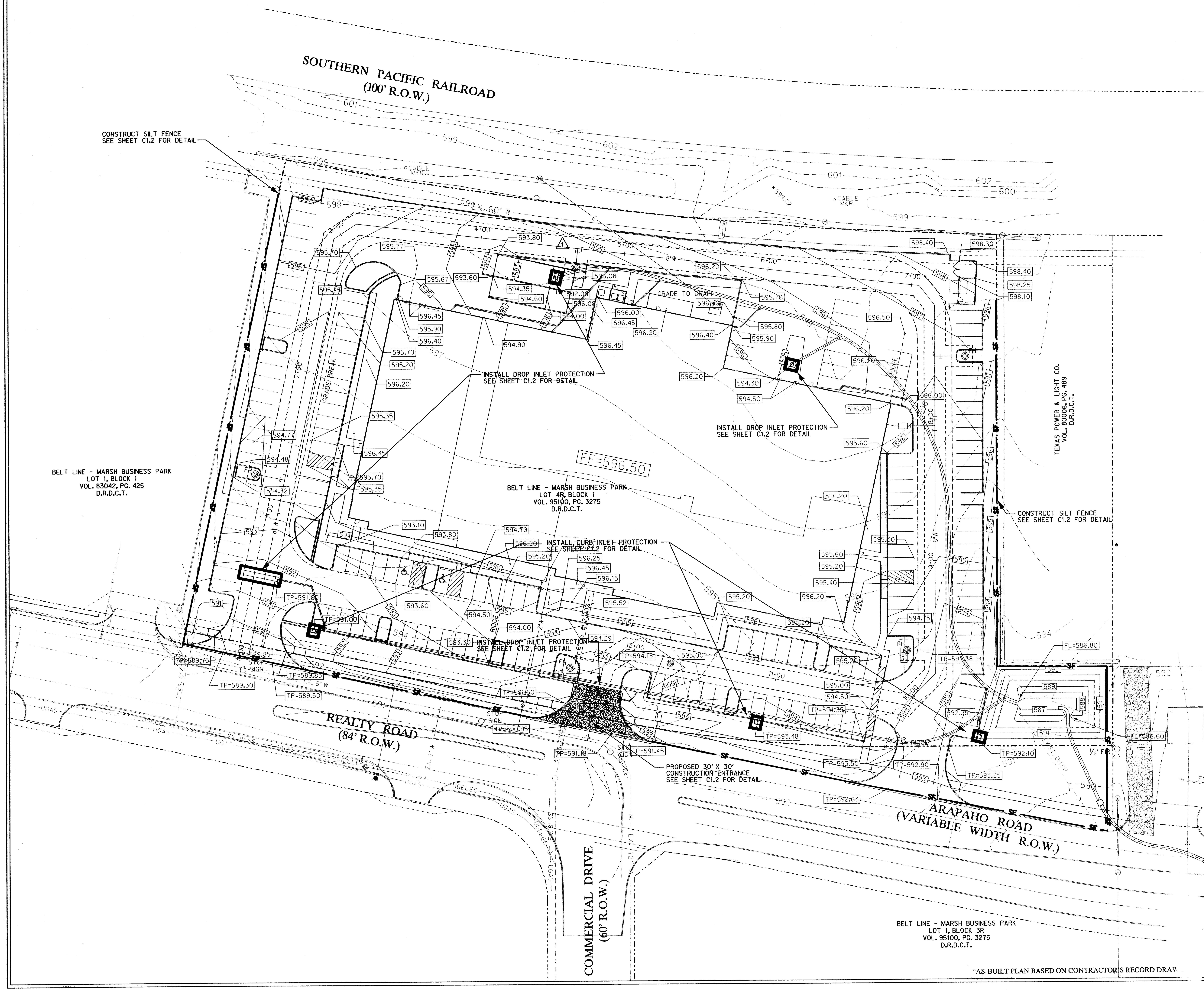
SHEET INDEX

* PREPARED BY SMR
LANDSCAPE ARCHITECTURE

Halff Associates
ENGINEERS . ARCHITECTS . SCIENTISTS . PLANNERS . SURVEYORS
8616 NORTHWEST PLAZA DRIVE

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

AVO 20079 MAY 2002



"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAW

N

0 15 30 45 60 90
SCALE IN FEET

LEGEND

- 8"SS — EXIST. SANITARY SEWER
- 12"W — EXIST. WATER
- RCP — EXIST. STORM SEWER
- OVERHEAD ELECTRIC
- PROPOSED SANITARY SEWER
- 6" W — PROPOSED WATER
- 12" RCP — PROPOSED STORM SEWER
- PROPERTY LINE
- EASEMENT LINE
- SF — PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION

BENCHMARKS:

BM#1 - "□" CUT ON INLET SEE CORNER OF BELTLINE AND SURVEYOR
ELEV= 594.94

BM#2 - "□" CUT ON W. TBC COMMERCIAL DR. @ 2ND FIRE HYDRANT NORTH OF BELTLINE RD.
ELEV= 586.94

OSTEOMED CORPORATION FACILITY
ADDISON, TEXAS

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STATE OF TEXAS — DENNIS J. CHOVAN — 73268 — LICENSED PROFESSIONAL ENGINEER

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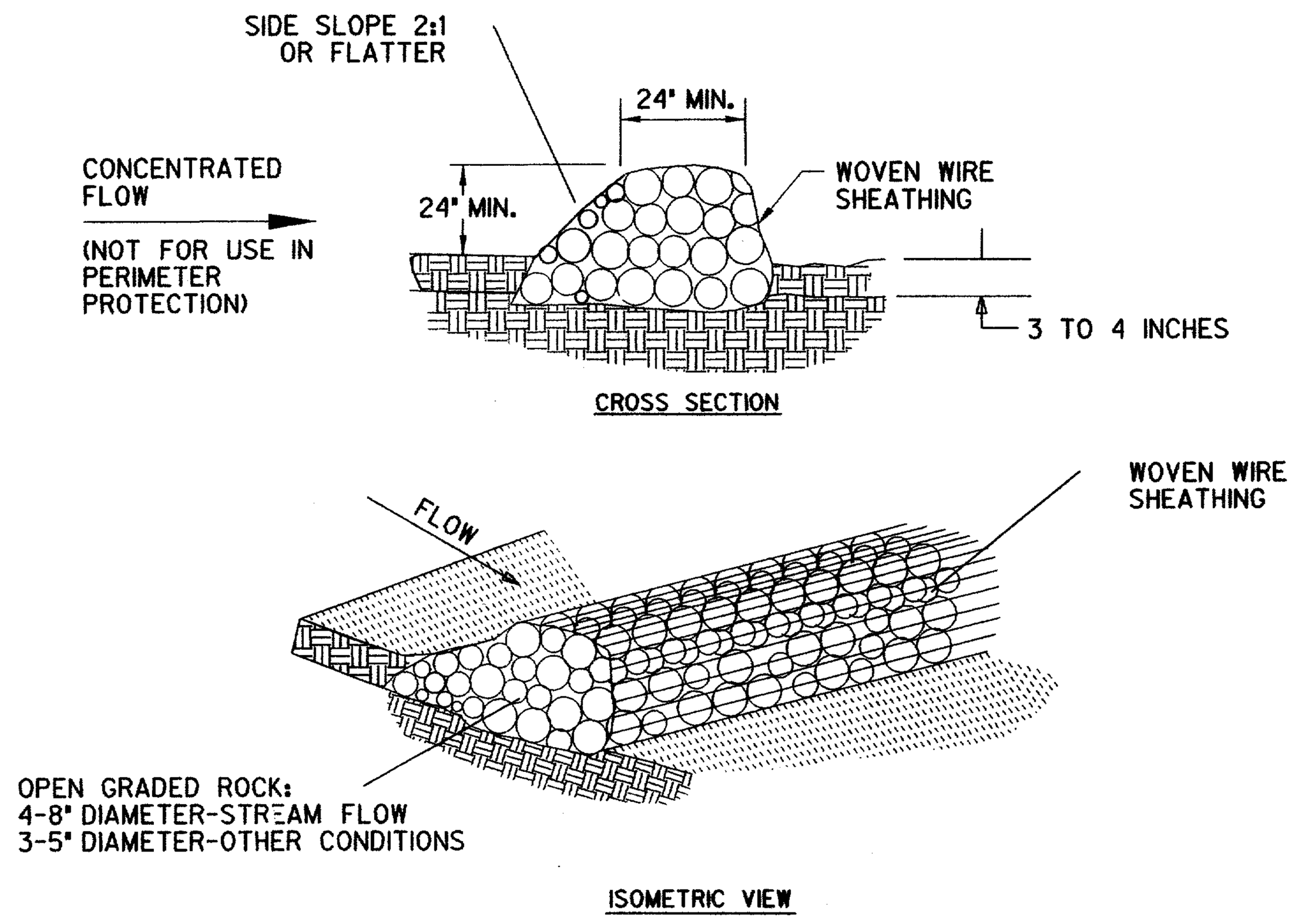
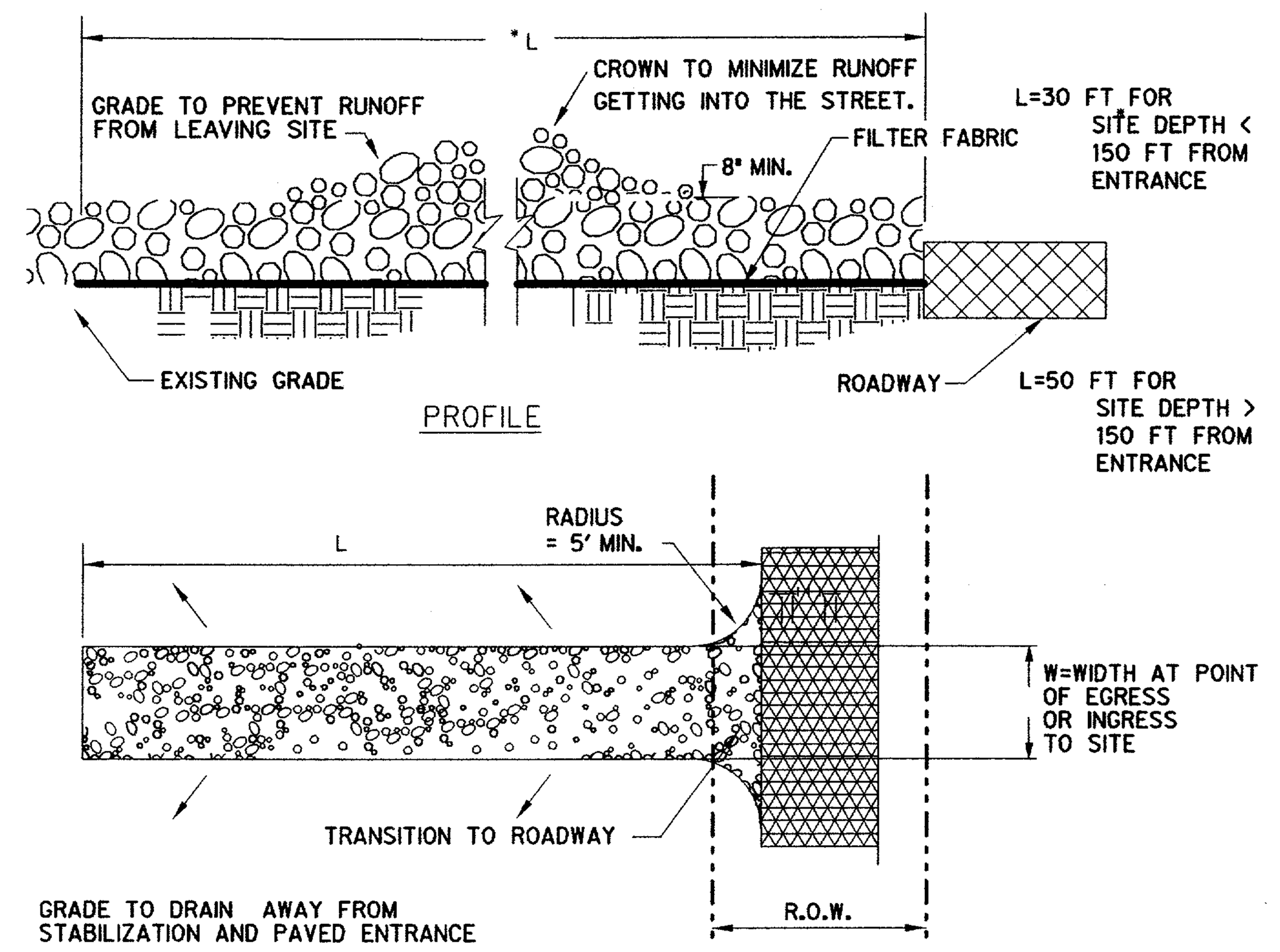
Project No: AVO # 20079
Issued: 05 / 13 / 02

Revisions:

No.	Date	Description
1	05/13/02	INLET RELOCATION
2	5 / 20 / 2002	AS PER SITE CHANGES

Drawn by: DD
Checked by: DJC
Sheet Title
EROSION CONTROL PLAN
C1.1
Sheet Number



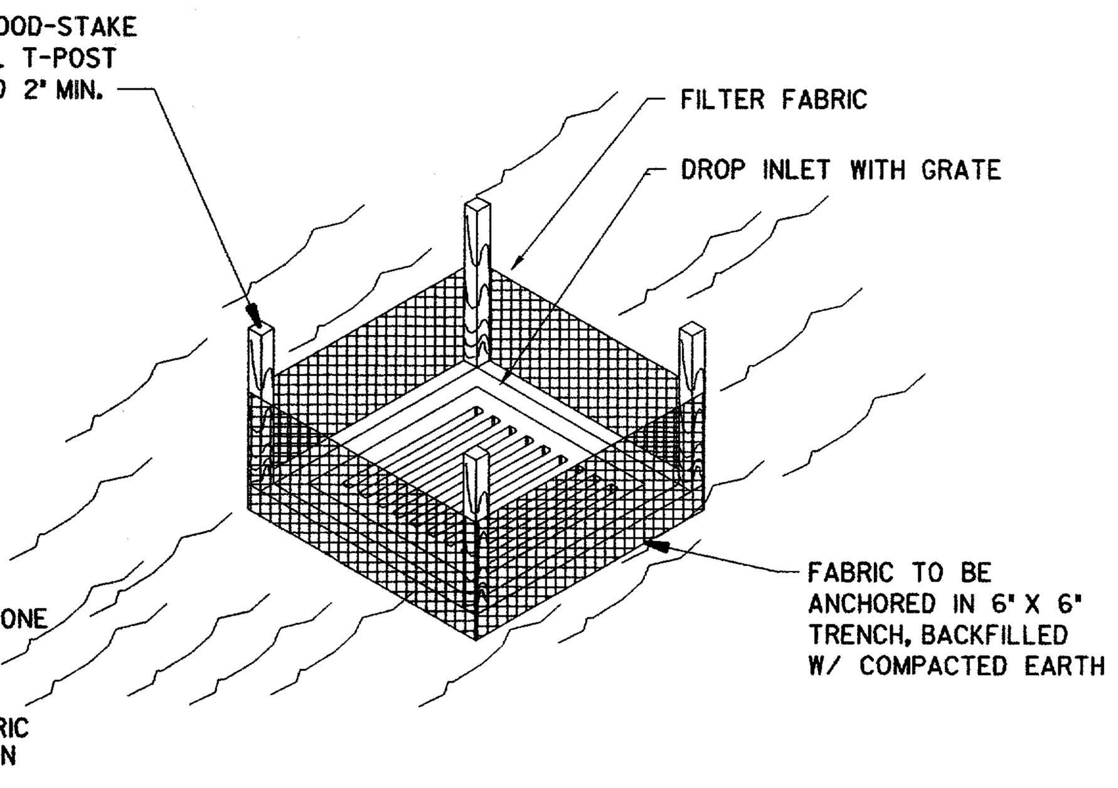


TEMPORARY
CONSTRUCTION ENTRANCE DETAIL
NTS

GENERAL NOTES

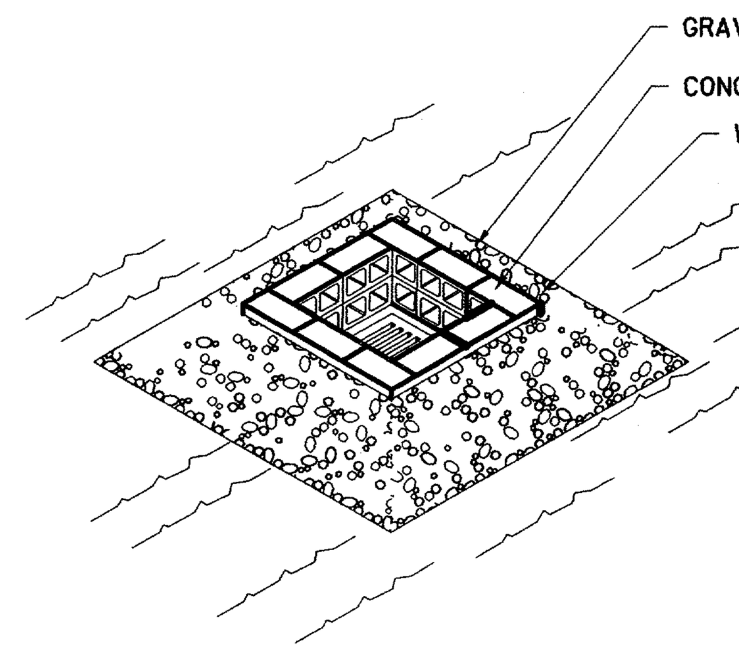
1. IT IS THE INTENT OF THE INFORMATION PROVIDED ON THIS SHEET AND WITHIN THE SPECIFICATIONS TO BE USED AS THE GENERAL GUIDELINES OF THE STORM WATER POLLUTION PREVENTION PLAN FOR THIS PROJECT TO ESTABLISH A MINIMUM BASIS OF COMPLIANCE WITH FEDERAL REGULATIONS.
   THE CONTRACTOR SHALL PREPARE THE STORM WATER POLLUTION PREVENTION PLAN AND BE SOLELY RESPONSIBLE FOR ITS IMPLEMENTATION.
   THE STORM WATER POLLUTION PREVENTION PLAN SHALL MEET THE REQUIREMENTS SET FORTH IN THE ENVIRONMENTAL PROTECTION AGENCY'S (EPA) NPDES GENERAL PERMITS FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITES' PUBLISHED IN THE SEPTEMBER 9, 1992 FEDERAL REGISTER.
2. THE STORM WATER POLLUTION PREVENTION PLAN SHOULD ADDRESS THREE GOALS:
   A) DIVERSION OF UPSLOPE WATER AROUND DISTURBED AREAS OF THE SITE;
   B) LIMIT THE EXPOSURE OF DISTURBED AREAS TO THE SHORTEST DURATION POSSIBLE; AND
   C) REMOVAL OF SEDIMENT FROM STORM WATER BEFORE IT LEAVES THE SITE.
3. THE CONTRACTOR SHALL MAKE THE STORM WATER POLLUTION PREVENTION PLAN AVAILABLE, UPON REQUEST, TO EPA
4. THE CONTRACTOR MUST AMEND PLANS WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE PLAN, OR WHEN THE EXISTING PLAN PROVES INEFFECTIVE. MODIFICATIONS INCLUDING DESIGN AND ALL ADDITIONAL MATERIALS AND WORK SHALL BE ACCOMPLISHED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
5. STABILIZATION MEASURES ARE TO BE INSPECTED AT A MINIMUM OF ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES. REPAIRS AND INADEQUACIES REVEALED BY THE INSPECTION MUST BE IMPLEMENTED WITHIN 7 CALENDAR DAYS FOLLOWING THE INSPECTION.
6. AN INSPECTION REPORT THAT SUMMARIZES INSPECTION ACTIVITIES AND IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE RETAINED AND MADE PART OF THE PLAN.
7. ALL CONTRACTORS AND SUBCONTRACTORS IDENTIFIED IN THE PLAN MUST CERTIFY AS TO AN UNDERSTANDING OF THE NPDES GENERAL PERMIT BEFORE CONDUCTING ANY ACTIVITY IDENTIFIED IN THE POLLUTION PREVENTION PLAN.
8. THE CONTRACTOR SHALL ADOPT APPROPRIATE CONSTRUCTION SITE MANAGEMENT PRACTICES TO PREVENT THE DISCHARGE OF OILS, GREASE, PAINTS, GASOLINE, AND OTHER POLLUTANTS TO STORM WATER. APPROPRIATE PRACTICES CAN INCLUDE:

   DESIGNATING AREAS FOR EQUIPMENT MAINTENANCE AND REPAIR;
   REGULAR COLLECTION OF WASTES;
   CONVENIENTLY LOCATED WASTE RECEPTACLES; AND
   DESIGNATING AND CONTROLLING EQUIPMENT WASHDOWN.
9. THE CONTRACTOR SHALL AMEND OR MODIFY THIS PLAN AS REQUIRED BY CONSTRUCTION MEANS, METHODS AND SEQUENCE. MODIFICATIONS SHALL NOT COMPROMISE THE INTENT OF THE REQUIREMENTS OF THE LAW AND THIS PLAN. MODIFICATIONS SHALL NOT BE BASIS FOR ADDITIONAL COST TO THE OWNER.
10. AREAS OF CONSTRUCTION ELSEWHERE ON THE JOBSITE SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS.
11. BORROW AREAS, IF EXCAVATED, SHALL BE PROTECTED AND STABILIZED UTILIZING THE PLAN DETAILS. ALL WORK SHALL CONFORM TO GOVERNMENTAL REQUIREMENTS AND BECOME PART OF THE STORM WATER POLLUTION PREVENTION PLAN (SWP3). THIS WORK SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
12. ALL NON-PAVED AREAS SHALL BE MULCHED AND SEEDED WITH EROSION PROTECTION IMMEDIATELY UPON COMPLETION OF FINAL GRADING. THIS INCLUDES ALL DITCHES AND EMBANKMENTS. THE CONTRACTOR SHALL MAINTAIN FINAL GRADING AND KEEP SEEDED AREAS WATERED UNTIL FULLY ESTABLISHED AND ACCEPTED BY OWNER.
13. THE CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION EXIT AT ALL TRAFFIC EXIT POINTS PRIOR TO EXITING ONTO ANY PAVED ROADWAY. EXIT SHALL BE CONSTRUCTED AS DETAILED THIS SHEET.
14. THE CONTRACTOR SHALL CONSTRUCT A SILT FENCE (SF) AT ALL LOCATIONS SHOWN ON PLANS. THE SF SHALL BE CONSTRUCTED AS DETAILED THIS SHEET.
15. THE CONTRACTOR SHALL DESIGNATE MATERIAL AND EQUIPMENT STORAGE AREAS MUTUALLY AGREED TO BY OWNER. THE STORAGE AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE AND THE SURFACE STABILIZED WITH A MINIMUM OF 2 INCHES OF CRUSHED ROCK OR GRAVEL. REINFORCED FILTER BARRIER SHALL BE INSTALLED AROUND THE STORAGE AREAS TO PREVENT ANY EROSION FROM LEAVING THE SITE.
16. THIS DRAWING FOR ROUGH GRADING ONLY.
17. THIS IS NOT A STORMWATER POLLUTION PLAN, FOR USE IN PREPARATION OF SWP3 ONLY.

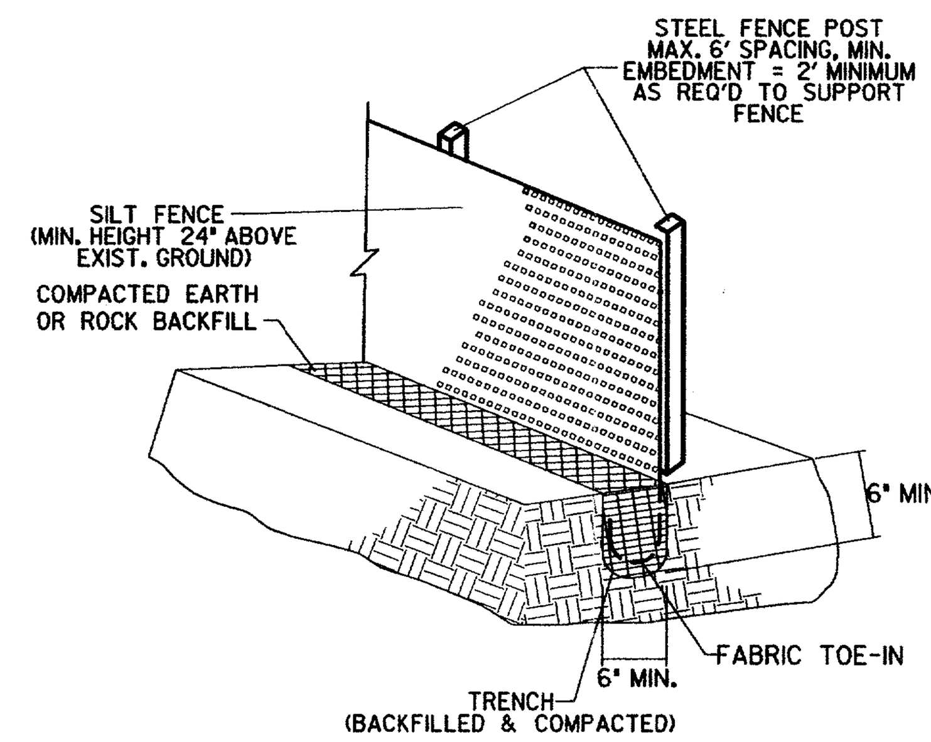


NOTE:
CONCENTRATED DITCH FLOW COMING FROM ONE OR MORE SIDES TOWARD THE DROP INLET MAY REQUIRE A STONE OVERFLOW STRUCTURE TO BE CONSTRUCTED ON ONE SIDE OF THE DROP INLET. HOG WIRE SHOULD BE USED TO SUPPORT THE FILTER FABRIC FOR INSTALLATIONS USED MORE THAN 90 DAYS.

FILTER FABRIC
DROP INLET PROTECTION
NTS

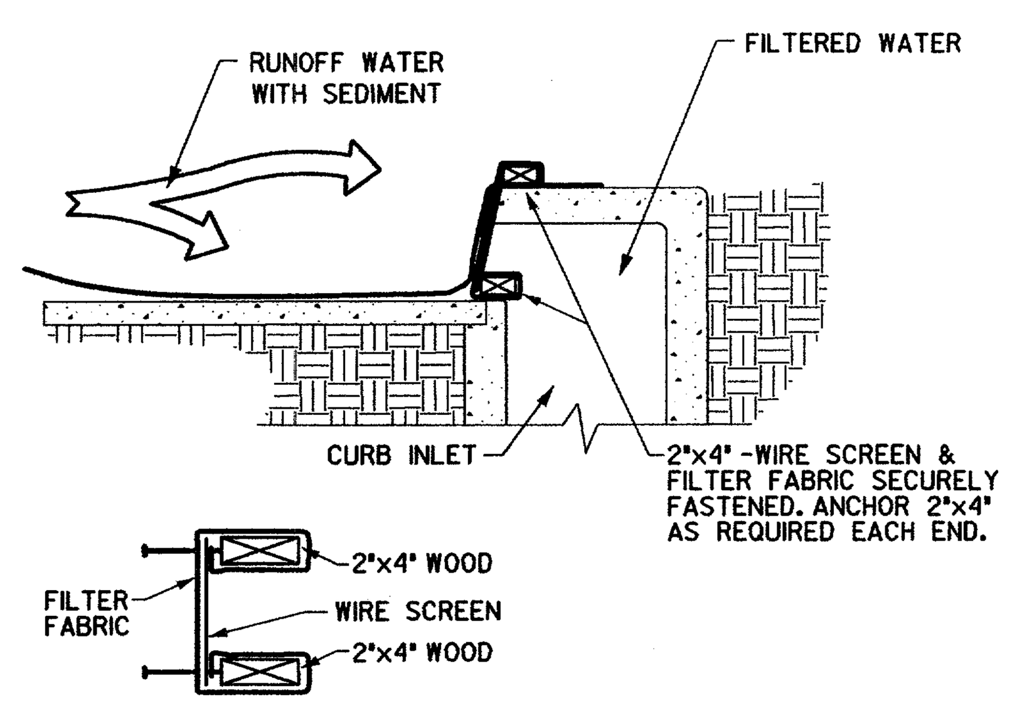


BLOCK AND GRAVEL
DROP INLET PROTECTION
NTS



SILT FENCE GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED WITH A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 6" DOUBLE OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.



FILTER FABRIC CURB INLET PROTECTION
SCALE: N.T.S.

GENERAL NOTES:

1. WOVEN FABRIC SANDBAGS FILLED WITH COARSE SAND (MINIMUM WEIGHT 40 LBS.) MAY BE USED INSTEAD OF STAKES FOR PAVED AREAS. SANDBAGS MAY BE USED OPTIONALLY IN CONJUNCTION WITH STAKES, TO STRENGTHEN THE STABILITY OF HAY BALES IN NON-PAVED AREAS. AT LEAST TWO (2) ROWS OF SAND BAGS SHALL BE UTILIZED FOR A MINIMUM ADDITIONAL HEIGHT OF 12 INCHES.
2. WHEN SILT REACHES A DEPTH OF 6 INCHES, IT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

GENERAL NOTES:

1. WOVEN WIRE SHEATHING SHALL HAVE MAXIMUM OPENING OF ONE (1) INCH AND A MINIMUM WIRE SIZE OF 20 GAUGE AND SHALL BE SECURED WITH SHOAT RINGS.
2. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION PROPERLY.
3. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE BERM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.
4. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

OSTEOMED CORPORATION FACILITY
ADDISON, TEXAS

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Project No: AVO # 20079
Issued: 05 / 13 / 02

Revisions:		
No.	Date	Description

Drawn by: DD
Checked by: DJC
Sheet Title
EROSION CONTROL NOTES AND DETAILS
Sheet Number
C1.2

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 practice lists techniques to minimize the potential of storm water contamination from solid waster 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 practice 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
- Shingle cuttings and waste
- Roofing tar
- Steel (cuttings, nails, rust residue)
- Gypsum board cuttings and waste
- Sheathing cuttings and waste
- Miscellaneous cutting and waste
- Food waste
- Demolition waste

Storage Procedures
- ☐ Wherever 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 waster 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 site 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.
- ☐ General 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 treatment 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
- ☐ 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.
- ☐ Small cost impact for training and monitoring.
- ☐ Minimal overall cost impact.

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

Hazardous Waste Management

DESCRIPTION
The hazardous waste management BMP addresses the problem of storm water polluted with hazardous waste through spills or other forms of contact. The objective of the Management Program is to minimize the potential of stormwater contamination from common construction site hazardous wastes through appropriate recognition, handling, storage and disposal practices.

It is not the intent of this Management Program to supersede or replace normal site assessment and remediation procedures. Significant spills and/or contamination warrant immediate response by trained professionals. Suspected job–site contamination should be immediately reported by regulatory authorities and protective actions taken. The General Permit requires reporting of significant spills to the National Response Center (NRC) at (800) 424–8802.

PRIMARY USE
These management practices along with applicable OSHA and EPA guidelines should be incorporated at all construction sites which use or generate hazardous wastes. Many wastes such as fuel, oil, grease, fertilizer and pesticide are present at most construction sites.

INSTALLATION, APPLICATION AND DISPOSAL CRITERIA
The hazardous waste management techniques presented here are based on proper recognition, handling, and disposal practices by construction workers and supervisors. Key elements of the management program are education, proper disposal practices, as well as provisions for safe storage and disposal. Following are lists describing the targeted materials and recommended procedures:

☐ Targeted Hazardous Waste Materials
- Paints
- Solvents
- Stains
- Wood preservatives
- Cutting oils
- Greases
- Roofing tar
- Pesticides
- Fuels & lube oils
- Lead based paints (Demolition)

Storage Procedures
- ☐ Wherever possible, minimize production of hazardous materials.
- ☐ Minimize generation of hazardous wastes on the job–site.
- ☐ Segregate potentially hazardous waste from non–hazardous construction site debris.
- ☐ Designate a foreman or supervisor to oversee hazardous materials handling procedures.
- ☐ Keep liquid or semi–liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.

- ☐ Store waste materials away from drainage ditches, swales and catch basins.
- ☐ Use containment berms in fueling and maintenance areas and where the potential for spills is high.
- ☐ Ensure that adequate hazardous waste storage volume is available.
- ☐ Ensure that hazardous waste collection containers are conveniently located.
- ☐ Do not allow potentially hazardous materials to accumulate on the ground.
- ☐ Enforce hazardous waste handling and disposal procedures.
- ☐ Clearly mark on all hazardous waste containers which materials are acceptable for the container.

Disposal Procedures
- ☐ Regularly schedule hazardous waste removal to minimize on–site storage.
- ☐ Use only reputable, licensed hazardous waste haulers.

Education
- ☐ Instruct workers in identification of hazardous waste.
- ☐ Educate workers on potential dangers to humans and the environment from hazardous wastes.
- ☐ Instruct workers on safety procedures for common construction site hazardous wastes.
- ☐ Educate all workers on hazardous waste storage and disposal procedres.
- ☐ Have regular meetings to discuss and reinforce identification, handling and disposal procedures (incorporate in regular safety seminars).
- ☐ Establish a continuing education program to indoctrinate new employees.

Quality Assurance
- ☐ Foreman and/or construction supervisor shall monitor on–site hazardous waste storage and disposal procedures.
- ☐ Educate and if necessary, discipline workers who violate procedures.
- ☐ Ensure that the hazardous waste disposal contractor is reputable and licensed.

Requirements
- ☐ Job–site hazardous waste handling and disposal education and awareness program.
- ☐ Commitment by management to implement hazardous waste management practices.
- ☐ Compliance by workers.
- ☐ Sufficient and appropriate hazardous waste storage containers.
- ☐ Timely removal of stored hazardous waste materials.

Costs
- ☐ Possible modest cost impact for additional hazardous storage containers.
- ☐ Small cost impact for training and monitoring.
- ☐ Potential cost impact for hazardous waste collection and disposal by licensed hauler – actual cost depends on type of material and volume.

LIMITATIONS
This practice is not intended to address site–assessments and pre–existing contamination.
Major contamination, large spills and other serious hazardous waste incidents require immediate response from specialists.
Demolition activities and potential pre–existing materials, such as asbestos, are not addressed by this program. Site specific information on plans is necessary.
Contaminated soils are not addressed.
One part of a comprehensive construction site waste management program.

Lime Stabilization BMP

DESCRIPTION
Lime stabilization is used extensively in the North Central Texas region to stabilize pavement subbases for roadways/parking lots and other paved surfaces. Hydrated lime is applied to the soil and mixed through disking and other techniques, then allowed to cure. This practice will reduce the potential for runoff to carry lime offsite, where it may impact aquatic life through changing the pH balance of streams, ponds and other water bodies.

PRIMARY USE
This BMP consists of a series of techniques that should be implemented when lime is required for soil stabilization.

APPLICATIONS
Each of the techniques listed can be used under a variety of conditions. The engineer should determine the applicability of the technique based on site conditions such as available open space, quantity of area to be stabilized, proximity of nearby water courses and other BMP's employed at the site. The use of diversion dikes and interceptor swales (see appropriate fact sheets) to divert runoff away from areas to be stabilized can be used in conjunction with these techniques to reduce the impact of the lime.

DESIGN CRITERIA
- ☐ The contractor shall limit lime operations to that which can be thoroughly mixed and compacted by the end of each work day.
- ☐ No traffic other than water trucks and mixing equipment shall be allowed to pass over the spread lime until after completion of mixing.
- ☐ Areas adjacent and downstream of stabilized areas shall be roughened to intercept lime from runoff and reduce runoff velocity.
- ☐ Geotextile fabrics such as those used for silt fence should not be used to address lime since the grain size of lime is significantly smaller than the equivalent opening size of the fabric.
- ☐ For areas which phasing of lime operations is impractical, use of a curing seal such as Liquid Asphalt, Grade MC–250 or MC–800 applied at a rate of 0.15 gallons per square yard of surface can be used to protect the base.
- ☐ Use of sediment basins with a significant (>36 hour) drawdown time is encouraged for large stabilized areas (see Sediment Basin BMP).

Lime Stabilization BMP

LIMITATIONS
These techniques are part of an overall plan to reduce pollutants from an active construction site. In the case of pollution due to lime, prevention of contamination is the only effective method to address this pollutant. Proper application and mixing along with avoiding applications when there is a significant probability of rain will reduce lime runoff.

MAINTENANCE REQUIREMENTS
None.

Concrete Waste Management

DESCRIPTION
Concrete waste at construction sites comes in two forms; 1) excess fresh concrete mix including truck and equipment washing, 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 demolished concrete waste.

Current Unacceptable Waste Concrete Disposal Practices
- ☐ Dumping in vacant areas on the job–site.
- ☐ Illicit dumping off–jobsite.
- ☐ 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 6 cubit feet of containment area volume for every 10 cubic yards of concrete poured.
- ☐ Never dump waste concrete illicitly 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 pre–mix companies 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.
- ☐ Where appropriate, construct sediment traps or other types of sediment detention devices downstream of demolition activities.

Requirements
- ☐ Use pre–determined disposal sites for waste concrete.
- ☐ Prohibit dumping waste concrete anywhere but pre–determined areas.
- ☐ Assign pre–determined truck and equipment washing areas.
- ☐ Educate drivers and operators on proper disposal and equipment cleaning procedures.

Costs
- ☐ Minimal cost impact for training and monitoring.
- ☐ Concrete disposal cost depends on availability and distance to suitable disposal areas.
- ☐ Additional costs involved in equipment washing could be significant.

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

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

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Project No: AVO # 20079
Issued: 05 / 13 / 02

Revisions:

No.	Date	Description

Drawn by: DD
Checked by: DJC
Sheet Title: EROSION CONTROL NOTES
Sheet Number: C1.3

$$$$$FILE$$$$$ $$$DATE$$$ $$$TIME$$$

I. INTRODUCTION

This storm water pollution prevention information has been prepared to assist the contractor in preparing a storm water pollution prevention plan (SWPPP) for construction activities for Lot 4R, Block 1, Belt Line – Marsh Business Park. The information includes elements necessary for compliance with the nationwide general permit for construction activities administered by the Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System (NPDES) program.

The purpose of this information is to provide guidelines for preventing soil and pollutants that originate on the site from flowing into natural surface water bodies. The contractor's SWPPP shall terminate as soon as completed construction area is finally stabilized as defined in Part VII of this document.

According to Clayton Napier from the United States Department of the Interior Fish and Wildlife Service, there are two species indigenous to Denton County that should be noted. The black–capped vireo and the interior least tern are federally listed as endangered and threatened, respectively.

The nationwide general permit for construction activities provides for each of the following types of non–storm water discharges, which are anticipated at this project.

1. Water used to wash vehicles or control dust.
2. Potable water sources, such as flushing new water distribution pipes.

A Storm Water Pollution Prevention Plan must be implemented and accommodate the different stages of development and comply with all known local and state sanitary, septic and erosion/sedimentation requirements.

The storm water management controls included on this sheet focus on providing control of pollutant discharges with practical approaches that utilize readily available techniques, expertise, materials and equipment.

II. SITE EVALUATION AND DESIGN

SITE INFORMATION
This project is being constructed on material consisting of CH clay and CL calcareous clay. This material overlies the Austin Chalk Formation, which consists of gray, hard, chalky limestone interbedded with thinner beds of calcareous shale, according to the Geotechnical Investigation prepared by Reed Engineering Group. Since information was not available on quality of runoff from the site, information regarding quality is not included. The name of the receiving body of water for the site is Rawhide Creek.

SITE PLAN DESIGN
Site grading was designed to match grades on the adjacent streets, while trying to match the amount of fill to the amount of cut on the site. Once the grades connecting the site to the streets were determined, grades over the site area, as well as the finished floor of the future building pads, were determined by trying to minimize the amount total cut and fill required to achieve the desired grades. Visual inspection found no evidence of wetlands at this site. Storm water runoff will leave the site in an underground, reinforced concrete pipe storm sewer system. All slopes on site were designed to be no greater than a four to one to protect the stability of the slopes. Silt fences were designed to be constructed on the down slope boundaries of the site to eliminate the loss of as much erodible soil as possible.

CONSTRUCTION ACTIVITY
The planned project, also known as Osteomed, consists of a future office/manufacturing building. The soil disturbing activities which will be taking place during the current phase of construction of this facility are: clearing, excavation, stockpiling, rough grading, drainage utility installation, and seeding and planting.

POLLUTION PREVENTION SITE MAP
The Contractor shall prepare an Erosion Control Plan. This plan shall show the areas of soil that will be disturbed during construction, as well as the mechanisms that will be used to combat erosion. Filter fabric will be used at proposed and existing curb inlets to keep sediment from entering the storm sewer system. The silt fence around the site, as previously mentioned, will keep runoff from the site from carrying soil away. Most drainage will leave the site in the underground storm sewer system and discharge into the existing natural channel to the northwest. Some areas will drain to the existing adjacent city streets where runoff will be collected in the public inlet and storm sewer systems.

III. SITE ASSESSMENT

The area to be disturbed covers an area of approximately 4.3 acres. The drainage areas can be seen on sheet C2.1 in the engineering site plan package. The runoff coefficient for the developed site has been determined to be 0.90 as per the Town of Addison "Drainage Criteria Manual".

IV. CONTROL DESIGN

EROSION AND SEDIMENT CONTROLS
The EPA requires that areas of the construction site that were disturbed in the past but will not be redisturbed for 21 days or more be stabilized by the 14th day after the last disturbance. Temporary seeding/permanent seeding/mulching should be used to stabilize these disturbed areas on site.

A silt fence, as previously mentioned, should be constructed. This device is described in detail on sheet C1.2 in this set. Lime stabilization may also be used to prevent erosion.

OTHER CONTROLS
It is the responsibility of the operator to identify and prevent contamination of non–storm water discharges using controls that may or may not be given in this set. All solid construction site waste materials will be collected in containers. The containers will be emptied periodically and trucked away from the site. Methods of concrete waste management, solid waste management, and hazardous waste management can be found on sheet C1.3 in this set.

A stabilized construction entrance and vehicle washing racks will be installed to alleviate tracking of site soil off the site. This construction entrance described on sheet C1.2 in this set.

INSPECTION AND MAINTENANCE OF CONTROLS
Each control element should be inspected once every seven days, using the inspection form similar to the one on this sheet. Always inspect each element after rain storms greater than 0.5 inches in depth.

If the silt fence becomes clogged, it should be cleaned. If it is impossible to clean, it should be removed and replaced. Soil should not be allowed to collect to above one half of the height of the fence.

The void areas in the aggregate in the construction entrance should not be filled with sediment. If this is the case, the aggregate must be washed or replaced. Regrading and top dressing with additional stone will keep the entrance from becoming inefficient.

The filter fabric designed to surround each inlet must be inspected for signs of deterioration. Sediment should be removed from behind fabric if it reaches a depth of six inches.

SEQUENCE OF MAJOR ACTIVITIES

Phase I – site grading
Silt fence to be installed and stabilized construction entrance to be constructed.
Inlet protection to be installed on all existing inlets

Phase II – site storm drainage and utility installation
Entrance, inlet protection, and silt fence to be maintained.

STATE AND LOCAL REQUIREMENTS
There are no known state and local requirements which would interfere with or change this storm water pollution prevention information.

V. CERTIFICATION AND NOTIFICATION

CERTIFY THE POLLUTION PREVENTION PLAN
A copy of a certification statement, to be signed by the owner and all contractors and subcontractors responsible for implementing measures in the Pollution Prevention Plan appears on this sheet. This form should be duplicated as needed.

NOTICE OF INTENT
A notice of intent should be submitted to EPA's central processing center postmarked within 48 hours of beginning construction. A NOI form can be obtained from the EPA. The address to send the completed NOI form is:

Storm Water Notice of Intent (4203)
USEPA
401 M. Street, SW
Washington, DC 20460

VI. CONSTRUCTION AND IMPLEMENTATION

IMPLEMENT CONTROLS
Controls shall be implemented according to procedures listed in the Best Management Practices (BMP) sheets published by the North Central Texas Council of Governments (NCTCOG) on sheet C1.3 in this set.

INSPECT AND MAINTAIN CONTROLS
Based on the results of an inspection, as described above, any necessary modification to the control elements in this plan will be implemented within seven (7) calendar days. The Inspection Reports will be kept on file as part of the Storm Water Pollution Prevention Plan for at least three years from the date that the site is finally stabilized. The Inspection Report will state whether the site was in compliance or identify any incidents of non–compliance. Each report shall be signed, dated, and contain a certification statement as described in accordance with part VI.G. of the NPDES General Permit.

It is the responsibility of the Operator to maintain effective pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more controls than are shown on the Plan. For example, localized concentrations of surface runoff or unusually steep areas could require additional silt fence, or other structural controls. Assessing the need for, and implementing additional controls will be a continuing aspect of the SWPPP until a section has achieved final stabilization.

The SWPPP intends to control water–borne and liquid pollutant discharges by some combination of interception, filtration and containment. Parties implementing the SWPPP must remain alert to the need to periodically refine and update the SWPPP in order to accomplish the intended goals.

MAINTAIN RECORDS OF CONSTRUCTION ACTIVITIES
The operator should keep records of:
–Dates when major grading activities occur in a particular area
–Dates when construction activities cease in an area, temporarily or permanently
–Dates when an area is stabilized, temporarily or permanently

UPDATE/CHANGE PLAN
The SWPPP must accurately reflect site features and operations. When necessary, the SWPPP must be changed to reflect actual conditions. The operator is responsible for changing the SWPPP if it is observed that pollutant discharge from the site is not being minimized.

RELEASES OF REPORTABLE QUANTITIES
EPA has issued regulations found in 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, that define what Reportable Quantity (RQ) levels are for spills of oil and hazardous substances. In the case of an RQ release during construction, the following steps must be taken:
–Notify the National Response Center immediately at (800) 424–8802
–Submit a written description of the release to the EPA Regional office providing the date and circumstances of the release and steps to be taken to prevent another release
–Modify the pollution prevention plan to include the above information

PLAN LOCATION AND ACCESS
A copy of the Pollution Prevention Plan must be kept available at the construction site from beginning to final stabilization. All records and reports required by the permit, and all data used to complete the NOI must be retained for 3 years after the completion of site stabilization. These plans must be made available upon request to the Director, and/or the State or local agency who is approving erosion and sediment control plans, or storm water management plans. If site storm water runoff is discharged into a municipal separate storm sewer system, the plans must be made available upon request to the municipal operator of the system.

VII. FINAL STABILIZATION/NOTICE OF TERMINATION

The notice of termination (NOT) will be submitted after final stabilization of the project. Final stabilization occurs when there is a uniform perennial vegetative cover of 70% over the area of the site, or equivalent measures such as rip rap for the areas of the site not covered by permanent structures or pavement. The NOT states that construction activities are complete, the site is stabilized, and no longer has a discharge associated with an industrial or construction activity covered under the permit. Once the permit has been terminated, permittees are relieved of their responsibility. This notice should be sent to the same address listed for the Notice of Intent.

NAME OF OWNER:
OSTEOMED CORPORATION

ADDRESS:
3750 REALTY ROAD
ADDISON, Texas 75001–4311

TELEPHONE NUMBER:
(972) 241–3401

The representative of the owner for the above named construction site must be identified and must sign the following certification statement.

Certification Statement:

"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."

Name: ______________________ Date: ______________________

Title: ______________________

CONTRACTOR/SUBCONTRACTOR CERTIFICATION

Name of Contractor or Subcontractor: ______________________

Address: ______________________

____

Telephone Number: ______________________

Type of Construction Service to be Provided: ______________________

____

____

Certification Statement:

"I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination Systems (NPDES) permit that authorizes the storm water discharge associated with industrial activity from the construction site identified as part of this certification:

Name: ______________________ Date: ______________________

Title: ______________________

Inspection Report

DATE:

INSPECTOR: ______________________ TITLE: ______________________

REASON FOR INSPECTION: Weekly 1/2" Rain (Circle One)

PROJECT NAME: ______________________

SITE CONDITIONS:

EROSION AND SEDIMENTATION CONTROLS	IN CONFORMANCE	EFFECTIVE
Inlet Protection	YES /NO /NA	YES /NO
Stabilization	YES /NO /NA	YES /NO
Silt Fence	YES /NO /NA	YES /NO
Other	YES /NO /NA	YES /NO

VIOLATIONS NOTED: ______________________

____

RECOMMENDED REMEDIAL ACTIONS: ______________________

____

COMMENTS:

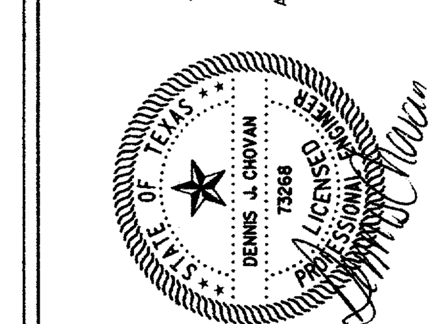
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage 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."

INSPECTOR: ______________________ DATE: ______________________
Signature

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

OSTEOMED CORPORATION FACILITY
ADDISON, TEXAS

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DENNIS J. CHOVAN, P.E. #73268 ON 05-21-02. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF HALFF ASSOCIATES, INC. 8616 NORTHWEST PLAZA DRIVE, DALLAS, TEXAS 75225



Halff Associates, Inc.
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8616 NORTHWEST PLAZA DRIVE
DALLAS, TEXAS 75225
TEL (214) 346-6200
FAX (214) 739-0095

Project No:	AVO # 20079
Issued:	05 /13 /02

Revisions:

No.	Date	Description

Drawn by: DD
Checked by: DJC
Sheet Title: EROSION CONTROL NOTES
Sheet Number: C1.4

$$$$$FILE$$$$$ $$$DATE$$$ $$$TIME$$$

OSTEOMED CORPORATION FACILITY

ADDISON, TEXAS

SOUTHERN PACIFIC RAILROAD
(100' R.O.W.)

REALTY ROAD
(84' R.O.W.)

ARAPAHO ROAD
(VARIABLE WIDTH R.O.W.)

COMMERCIAL DRIVE
(60' R.O.W.)

BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 1
VOL. 83042, PG. 425
D.R.D.C.T.

BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 3R
VOL. 95100, PG. 3275
D.R.D.C.T.

TEXAS POWER & LIGHT CO.
VOL. 80006, PG. 489
D.R.D.C.T.

N

0 15 30 45 60 90
SCALE IN FEET

LEGEND

- 8"SS — EXIST. SANITARY SEWER
- 12"W — EXIST. WATER
- RCP — EXIST. STORM SEWER
- OVERHEAD ELECTRIC
- PROPOSED SANITARY SEWER
- 6" W — PROPOSED WATER
- 12" RCP — PROPOSED STORM SEWER
- PROPERTY LINE
- EASEMENT LINE
- PROPOSED DRAINAGE DIVIDE
- AREA NO. / DA-1 / AC | CFS — PROPOSED DRAINAGE AREA
- AREA(ACRES) — 100 YR DISCHARGE(CFS)

$Q_{100} = C \cdot i_{100} \cdot A$

Q_{100} = (100 YR DISCHARGE) = CFS
C = (RUNOFF COEFFICIENT) = 0.9
i_{100} = (RAINFALL INTENSITY) = 8.74 IN/HR
A = (AREA) = ACRES

Tc= (TIME OF CONCENTRATION) = 10 MIN.

DA-1 0.49 3.85 | DA-2 0.45 3.54 | DA-3 0.32 2.52 | DA-4 0.25 1.97 | DA-5 0.20 1.57 | DA-6 0.31 2.44 | DA-7 0.33 2.60 | DA-8 0.29 2.28 | DA-11 0.55 4.31 | DA-12 0.22 1.70 | DA-13 0.22 1.73 | DA-14 0.27 2.16 | DA-15 0.19 1.53 | DA-16 0.10 0.75 | OFFSITE DA-4 0.18 1.42

BOTTOM AND SIDE SLOPES OF DETENTION POND TO BE PROTECTED BY BERMUDA GRASS WITH EROSION MAT.

PROPOSED DETENTION POND
REQUIRED VOLUME = 3364 FT³
CAPACITY = 5455 FT³
100 YR. WSEL = 590.10
FREEBOARD ELEV. = 591.10
SEE SHEET C5.1 FOR
DETENTION CALCULATIONS

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

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TEL (214) 346-6200
FAX (214) 739-0095

Project No:	AVO # 20079
Issued:	05 / 13 / 02

Revisions:

No.	Date	Description
1	06/13/02	GRADE CHANG AT NORTH SIDE OF BLDG.
2	5 / 20 / 2002	AS PER SITE CHANGES

Drawn by: DD
Checked by: DJC

Sheet Title: DRAINAGE AREA MAP

Sheet Number: C3.1

$$$$$FILE$$$$$ $$$DATE$$$ $$$TIME$$$

OSTEOMED CORPORATION FACILITY

ADDISON, TEXAS

SOUTHERN PACIFIC RAILROAD
(100' R.O.W.)

3/4" FIP
N 10000.34 E 10001.94

CAUTION: EX. 60" WATER LINE

FND MON
N 9945.28 E 10492.90

CONSTRUCT LANDSCAPE WALL SEE DETAIL THIS SHEET
TW= 598.50
BW= 597.50

TW= 599.00
BW= 595.10
GUTTER= 594.60

TW= 599.50
BW= 596.60
GUTTER= 596.10

TW= 599.25
BW= 598.25
GUTTER= 597.75

EX. 60"W

2' FLUME

1' FLUME

GRADE BREAK

GRADE TO DRAIN

4:1 MAX. SLOPE WHERE CONC. PAVEMENT GOES FROM 594.50 TO 596.00 @ 2' HIGH DOCK DOOR

FF=596.50

NOTE: MAXIMUM 2% SLOPE IN ALL HANDICAPPED PARKING AREAS.

NOTE: MAXIMUM 2% SLOPE IN ALL HANDICAPPED PARKING AREAS.

RIDGE

BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 1
VOL. 83042, PG. 425
D.R.D.C.T.

TEXAS POWER & LIGHT CO.
VOL. 80006, PG. 489
D.R.D.C.T.

PROPOSED ROW DEDICATION BY SEPARATE INSTRUMENT

CONTRACTOR TO COORDINATE DRIVEWAY ELEVATIONS WITH PROPOSED ARAPAHO ROAD GRADES

REALTY ROAD
(84' R.O.W.)

STOP SIGN

CONTRACTOR TO COORDINATE DRIVEWAY ELEVATIONS WITH PROPOSED ARAPAHO ROAD GRADES

CONTRACTOR TO COORDINATE DRIVEWAY ELEVATIONS WITH PROPOSED ARAPAHO ROAD GRADES

ARAPAHO ROAD
(VARIABLE WIDTH R.O.W.)

COMMERCIAL DRIVE
(60' R.O.W.)

BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 3R
VOL. 95100, PG. 3275
D.R.D.C.T.

½" FIR
N 9590.75 E 10414.14

½" FIR
N 9530.53 E 10572.00

FL=586.80

FL=586.60

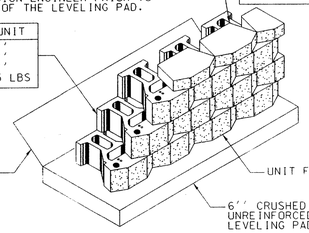
TP=591.60
TP=591.00
TP=589.75
TP=589.85
TP=589.30
TP=589.85
TP=589.50
TP=591.50
TP=591.80
TP=590.95
TP=591.18
TP=591.45
TP=594.15
TP=594.35
TP=593.48
TP=593.50
TP=592.90
TP=592.63
TP=593.38
TP=592.10
TP=593.25

BASE LEVELING PAD NOTES:

1. THE LEVELING PAD IS TO BE CONSTRUCTED OF CRUSHED STONE OR 2,000 PSI± UNREINFORCED CONCRETE.
2. THE BASE FOUNDATION IS TO BE APPROVED BY THE DESIGN ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.

MINI CAP UNIT
WIDTH: 18''
DEPTH: 10''
HEIGHT: 4''
WEIGHT: 45 LBS

STANDARD UNIT
WIDTH: 18''
DEPTH: 21''
HEIGHT: 8''
WEIGHT: 115 LBS



LANDSCAPE WALL DETAIL

N

SCALE IN FEET: 0 15 30 45 60 90

LEGEND

- EXIST. SANITARY SEWER (8"SS)
- EXIST. WATER (12"W)
- EXIST. STORM SEWER (RCP)
- OVERHEAD ELECTRIC
- PROPOSED SANITARY SEWER
- PROPOSED WATER (6" W / 12" RCP)
- PROPOSED STORM SEWER
- PROPERTY LINE
- EASEMENT LINE

BENCHMARKS:

BM#1 - "□" CUT ON INLET SEE CORNER OF BELTLINE AND SURVEYOR
ELEV= 594.94

BM#2 - "□" CUT ON W. TBC COMMERCIAL DR. @ 2ND FIRE HYDRANT NORTH OF BELTLINE RD.
ELEV= 586.94

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

STATE OF TEXAS
ROMAN C. PLUGGE
83073
REGISTERED
PROFESSIONAL ENGINEER

5/14/02

Halff Associates, Inc.
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TEL (214) 346-6200
FAX (214) 739-0095

Project No:	AVO # 20079
Issued:	05 / 13 / 02

Revisions:

No.	Date	Description
1	05/13/02	GRADE CHANGES AT NORTH SIDE OF BLDG.
2	5 / 20 / 2002	AS PER SITE CHANGES
3	5 / 29 / 2002	MOVE H.C. PARKING @ MAIN ENTRANCE OF BLDG.

Drawn by: DD
Checked by: DJC

Sheet Title: GRADING PLAN

Sheet Number: C3.2

$$$$$FILE$$$$ $$$$DATE$$$ $$$TIME$$$

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.

2. ALL EXISTING UTILITIES ARE SHOWN SCHEMATICALLY AND ARE FOR THE CONTRACTOR'S GUIDANCE ONLY. CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATION OF ALL UTILITIES.

3. PAVING IN ALL AUTOMOBILE PARKING AREAS TO BE 5" THICK 3000 PSI CONCRETE W/ #3 BARS @ 18" O.C. EACH WAY, AS SHOWN SHADED.

4. PAVING IN ALL TRUCK COURT AREAS TO BE 6" THICK 3000 PSI CONCRETE W/ #3 BARS @ 18" O.C. EACH WAY.

5. PAVING IN ALL FIRELANE AREAS AND IN TOWN OF ADDISON RIGHT-OF-WAY SHALL BE 6" THICK 3600 PSI CONCRETE.

6. PARKING LOT PAVEMENT MARKING SHALL BE 4" WIDE WHITE PAINTED LINES.

7. FIRELANE MARKING SHALL BE 4" WIDE RED PAINTED LINES AS PER TOWN OF ADDISON STANDARDS

8. PAVEMENT TO BE SAWCUT AT 12' O.C.E.W. UNLESS NOTED OTHERWISE. CONTRACTOR TO SUBMIT LAYOUT OF CONSTRUCTION JOINTS TO ENGINEER PRIOR TO BEGINNING CONSTRUCTION.

9. ALL SAWING OPERATIONS SHOULD BE CONDUCTED AND COMPLETED WITHIN THAT PERIOD OF TIME FROM 5 TO 12 HOURS AFTER THE CONCRETE SLAB IS POURED, INCLUDING THE SEALING OPERATION. THE SAWED GROOVE SHALL BE THOROUGHLY CLEANED FOR THE FULL DEPTH AND WIDTH OF THE JOINT AND FILLED AS PER ITEM 5.8.2.E.2 OF NTCCOG STANDARD SPECIFICATIONS.

10. JOINT SEALING COMPOUND SHALL CONSIST OF HOT POURED RUBBER OR APPROVED EQUAL. THE JOINT SEALING COMPOUND SHALL MELT TO THE PROPER CONSISTENCY FOR POURING AND SHALL SOLIDIFY ON COOLING TO ATMOSPHERIC TEMPERATURES. IT SHALL NOT CRACK OR BREAK WHEN EXPOSED TO LOW TEMPERATURES. THE JOINT SEALING FILLER SHALL BE MELTED IN AN APPROVED OIL-BATCH KETTLE WITH CONTINUOUS MECHANICAL AGITATION. THE KETTLE SHALL BE EQUIPPED WITH TEMPERATURE INDICATORS. THE OWNER SHALL DETERMINE THE OPTIMUM TEMPERATURE FOR PROPER POURING FLUIDITY, AND THE CONTRACTOR SHALL MAINTAIN THE MATERIAL WITHIN CLOSE RANGE OF OPTIMUM TEMPERATURE. AT NO TIME SHALL THE TEMPERATURE EXCEED 450°F (232°C); AND ANY MATERIAL HEATED ABOVE 450°F SHALL BE REJECTED. JOINT SEALING COMPOUND SHALL NOT BE POURED AT ATMOSPHERIC TEMPERATURES BELOW 32°F (0°C) AS PER ITEM 2.2.10.A OF NTCCOG STANDARD SPECIFICATION.

11. REFER TO GEOTECHNICAL INVESTIGATION NO. 8209 FOR THIS SITE PERFORMED BY REED ENGINEERING GROUP, DATED SEPTEMBER, 2001 FOR SPECIFICATIONS ON SUBGRADE PREPARATION UNDER PAVING, CONCRETE, FLATWORK, AND SLABS ON GRADE.

12. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH TOWN OF ADDISON CONSTRUCTION STANDARDS, AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION PREPARED BY NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (LATEST REVISION).

BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 1
VOL. 83042, PG. 425
D.R.D.C.T.

SOUTHERN PACIFIC RAILROAD
(100' R.O.W.)

3/4" FIP
N 10000.34 E 10001.94

21' T.P. & L. EASEMENT
VOL. 80006, PG. 717
D.R.D.C.T.

S 79° 26' 58" E
77.46'

N 9974.458
E 10004.707

N 9979.869
E 10026.160

S 81° 18' 58" E
100.00'

S 83° 04' 58" E
100.00'

S 85° 17' 85" E
100.00'

S 87° 21' 58" E
100.00'

15' CITY OF DALLAS
WATER EASEMENT
VOL. 5306, PG. 329
D.R.D.C.T.

S 89° 12' 58" E
18.59'

FND MON
N 9995.28 E 10492.90

CABLE MKR.

EX. 60' W

INSTALL 2-4" PVC CONDUITS

PROPOSED 24' FIRELANE TO BE STRIPED AS PER TOWN OF ADDISON STD.

N 9903.220
E 10074.726

N 9828.797
E 10418.943

N 9793.613
E 10416.124

TEXAS POWER & LIGHT CO.
VOL. 80006, PG. 489
D.R.D.C.T.

100' T.P. & L. EASEMENT

S 00° 04' 38" W
299.99'

N 12° 12' 01" E
333.87'

352.17'

160'

N 9746.834
E 10040.913

N 9732.738
E 10034.805

INSTALL 2-3" PVC CONDUITS

N 9702.307
E 10175.553

INSTALL 2-3" PVC CONDUITS

N 9667.614
E 10416.124

N 9653.292
E 10411.555

N 9672.411
E 10385.130

N 9675.262
E 10305.813

INSTALL 2-3" PVC CONDUITS

N 9701.76
E 9945.75

INSTALL 2-3" PVC CONDUITS

N 77° 47' 59" W
290.02'

N 9640.202
E 10183.610

REALTY ROAD
(84' R.O.W.)

STOP SIGN

30'R (TYP.)

N 9625.671
E 10249.549

N 9594.547
E 10399.349

N 9612.39
E 10213.01

INSTALL 2-3" PVC CONDUITS

STOP SIGN

Δ= 12° 07' 23"
R= 958.00'
L= 202.70'
CB= N 83° 51' 41" E
CD= 202.32'

N 9590.75
E 10414.07

N 89° 55' 22" W 157.87'

½" FIR

INSTALL 2-3" PVC CONDUITS

S 89° 55' 22" E
80.00'

N 9640.614
E 10482.124

N 9630.30
E 10484.66

N 9595.06
E 10477.34

S 00° 04' 38" W
55.00'

½" FIR
N 9590.53 E 10572.00

N 9590.53
E 10571.94

CONTRACTOR TO COORDINATE DRIVEWAY CONNECTIONS WITH PROPOSED ARAPAHO ROAD PAVING. ANY ADJUSTMENTS TO ALIGNMENT OR GRADE OF DRIVES SHALL BE APPROVED BY TOWN OF ADDISON AND PREFORMED AT THE EXPENSE OF THE DEVELOPER'S CONTRACTOR.

SAWCUT & REMOVE EXIST. CURB AND GUTTER. DOWEL AND EPOXY #4 REBAR AT 24" CENTERS APPROXIMATELY 10" INTO EXISTING PAVEMENT

EXISTING REALTY ROAD CURBLINES TO BE REMOVED AND REPLACED DURING CONSTRUCTION OF ARAPAHO ROAD EXTENSION

PROPOSED 10' TEMPORARY CONSTRUCTION EASEMENT BY SEPARATE INSTRUMENT

SAWCUT & REMOVE EXIST. CURB AND GUTTER. DOWEL AND EPOXY #4 REBAR AT 24" CENTERS APPROXIMATELY 10" INTO EXISTING PAVEMENT

COMMERCIAL DRIVE
(60' R.O.W.)

PROPOSED 5' SIDEWALK TO BE CONSTRUCTED PER TOWN OF ADDISON STANDARDS. SEE DETAIL SHEET C4.2.

CONTRACTOR TO COORDINATE DRIVEWAY CONNECTIONS WITH PROPOSED ARAPAHO ROAD PAVING. ANY ADJUSTMENTS TO ALIGNMENT OR GRADE OF DRIVES SHALL BE APPROVED BY TOWN OF ADDISON AND PREFORMED AT THE EXPENSE OF THE DEVELOPER'S CONTRACTOR.

SAWCUT & REMOVE EXIST. CURB AND GUTTER. DOWEL AND EPOXY #4 REBAR AT 24" CENTERS APPROXIMATELY 10" INTO EXISTING PAVEMENT. ANY ADJUSTMENTS TO ALIGNMENT OR GRADE OF DRIVES SHALL BE APPROVED BY TOWN OF ADDISON AND PREFORMED AT THE EXPENSE OF THE DEVELOPER'S CONTRACTOR.

BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 3R
VOL. 95100, PG. 3275
D.R.D.C.T.

ARAPAHO ROAD
(VARIABLE WIDTH R.O.W.)

PROPOSED HANDICAPPED ACCESS RAMP (TYP.) SEE DETAIL SHEET C4.2.

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

N

SCALE IN FEET 0 15 30 45 60 90

LEGEND

- EXIST. SANITARY SEWER (8"SS)
- EXIST. WATER (12"W)
- EXIST. STORM SEWER (RCP)
- OVERHEAD ELECTRIC
- PROPOSED SANITARY SEWER
- PROPOSED WATER (6" W)
- PROPOSED STORM SEWER (12" RCP)
- PROPERTY LINE
- EASEMENT LINE
- EXPANSION JOINT (E.J.)
- 5" THICK, 3000 PSI PAVEMENT
- 6" THICK, 3000 PSI PAVEMENT

*ALL PAVEMENT WITHIN FIRELANE AND TOWN OF ADDISON RIGHT-OF-WAY SHALL BE 6" THICK, 3600 PSI CONCRETE. ALL OTHER PAVEMENT WITHIN DRIVE WAYS AND TRUCK COURT AREAS SHALL BE 6" THICK, 3000 PSI CONCRETE

BENCHMARKS:

BM#1 - "D" CUT ON INLET SEE CORNER OF BELTLINE AND SURVEYOR
ELEV= 594.94

BM#2 - "□" CUT ON W. TBC COMMERCIAL DR. @ 2ND FIRE HYDRANT NORTH OF BELTLINE RD.
ELEV= 586.94

OSTEOMED CORPORATION FACILITY

ADDISON, TEXAS

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DENNIS J. CHOVAN, P.E. *72368 ON 05-21-02. PURSUANT TO THE TEXAS ENGINEERING PRACTICE ACT, IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS RELEASED BY THE ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT, IS PUNISHABLE BY A FINE UP TO $5,000.00. COPIES OF THIS DOCUMENT ARE ON FILE AT THE OFFICES OF HALFF ASSOCIATES, INC. 8616 NORTHWEST PLAZA DRIVE, DALLAS, TEXAS 75225

DENNIS J. CHOVAN 72368 LICENSED PROFESSIONAL ENGINEER

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Project No:	AVO # 20079
Issued:	05 / 13 / 02

Revisions:

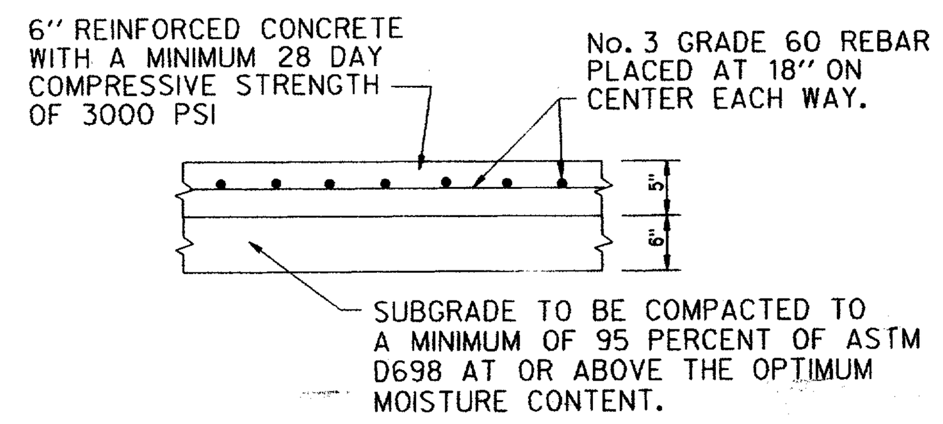
No.	Date	Description
1	05/13/02	MODIFIED NEW SITE PLAN
2	5 / 20 / 2002	AS PER SITE CHANGES

Drawn by: DD
Checked by: DJC

Sheet Title
PAVING & DIMENSION CONTROL PLAN

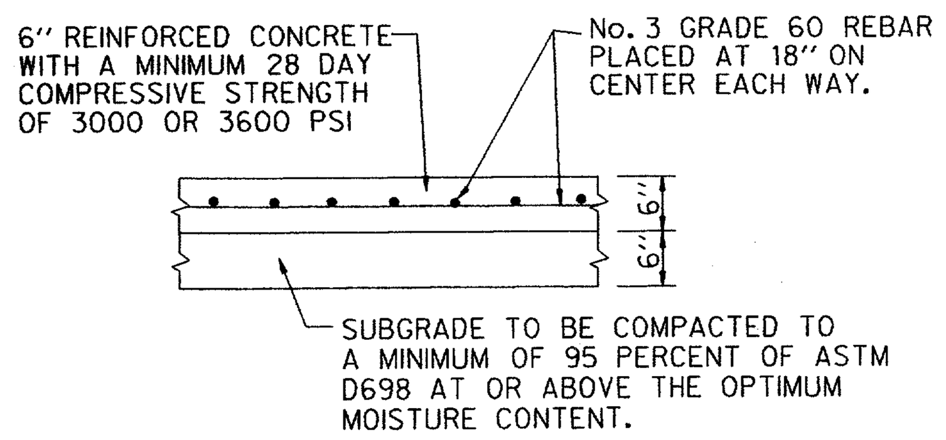
Sheet Number
C4.1

$$$$$FILE$$$$$ $$$DATE$$$ $$$TIME$$$



TYPICAL 5" PAVEMENT SECTION

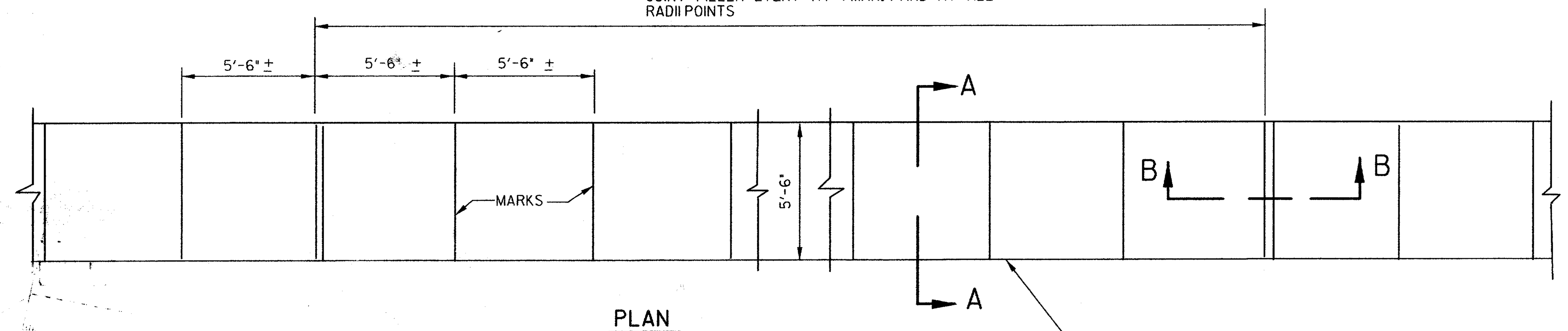
N.T.S.



TYPICAL 6" PAVEMENT SECTION

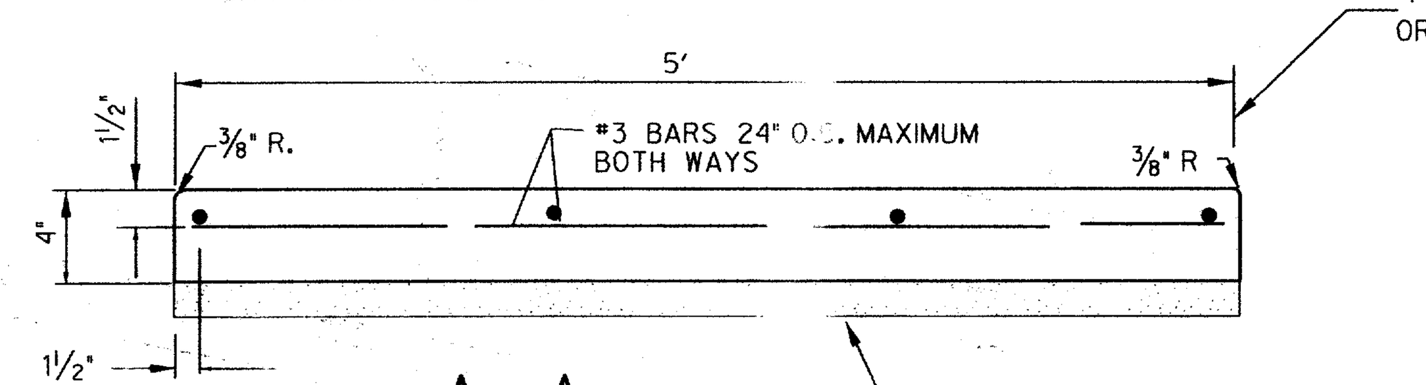
N.T.S.

REINFORCED CONCRETE SIDEWALK

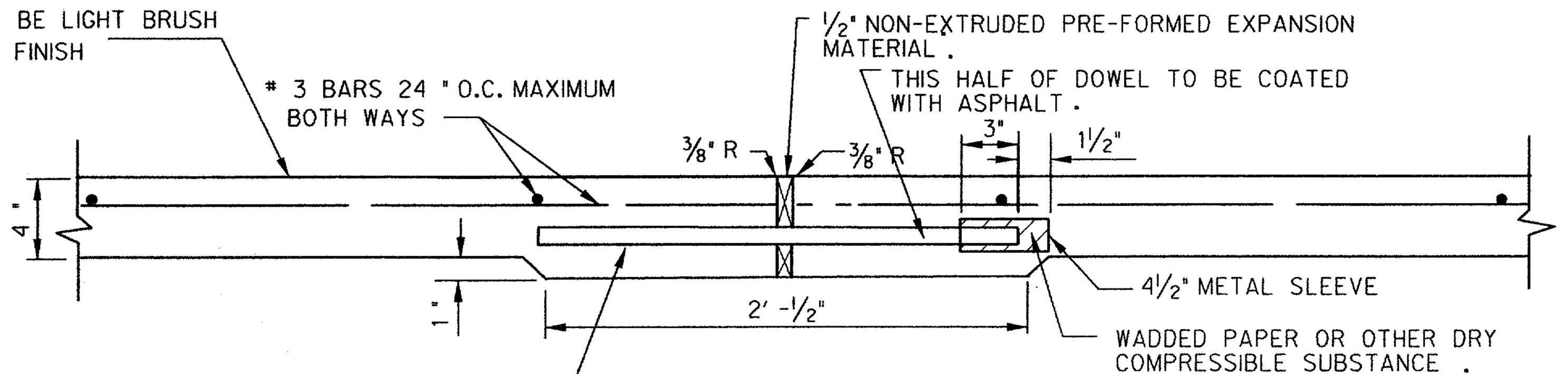


PLAN

THIS SIDEWALK DESIGN IS APPROVED BY THE PARK DEPARTMENT FOR USE ALONG CITY PARK PROPERTY.



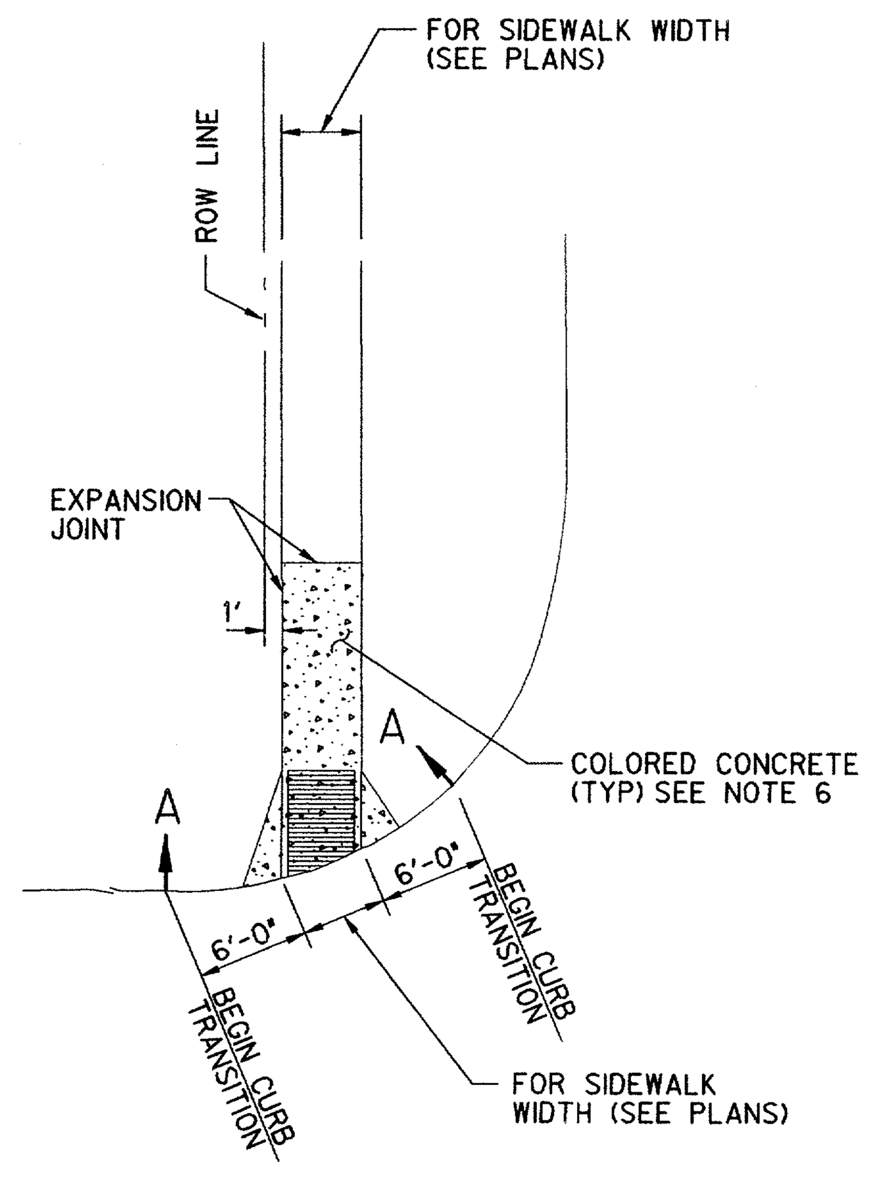
A - A
TYPICAL SECTION



B-B
EXPANSION JOINT DETAIL

NOTE:

1. ALL HONEYCOMB IN BACK OF CURB TO BE TROWEL- PLASTERED BEFORE POURING SIDEWALK
2. LUG MAY BE FORMED BY SHAPING SUBGRADE TO APPROXIMATE DIMENSIONS SHOWN.
3. FOR SIDEWALKS AGAINST EXISTING CURB, KEYWAY SHALL BE REPLACED WITH 6" LONG #3 BARS DRILLED 4" INTO EXISTING BACK CURB AND EPOXY GROUTED ON 24" CENTERS.
4. PAYMENT FOR KEYWAY SUBSIDIARY TO SIDEWALK LUG PAY ITEM.
5. PAYMENT FOR EXCAVATION, BORROW, SUBGRADE STABILIZATION, AND COMPACTION IS SUBSIDIARY TO CONCRETE SIDEWALK PAY ITEM.
6. LIME STABLIIZATION OR SELECT BORROW MATERIAL FOR SUBGRADE IS REQUIRED WHEN SOIL P.I. IS GREATER THAN 18. LIMITS OF SUBGRADE STABILIZATION ARE MINIMUM REQUIRED.
7. BACKFILL FOR SIDEWALK SUBGRADE SHALL BE LIME STABILIZED SOIL OR SELECT BORROW MATERIAL HAVING A P.I. NOT LESS THAN 10 NOR GREATER THAN 18.
8. SIDEWALK BACKFILL AND SUBGRADE SHALL BE COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES TO 95% OF ASTM D698 DENSITY WITH A MOISTURE WITHIN -2% TO -4% OF OPTIMUN MOISTURE.
9. 1/2 " EXPANSION JOINTS SHALL BE PROVIDED AT STREET EXPANSION JOINTS AND AT A MAXIMUM 40 FOOT SPACING IN LINE WITH STREET SAW JOINTS; A TOOL MARKED GROOVE SHALL BE PROVIDED IN LIME WITH INTERMEDIATE STREET SAW JOINTS.



PLAN

CURB RAMP NOTES:

1.DETAILS ON THIS PLAN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF CURBS & SIDEWALKS.

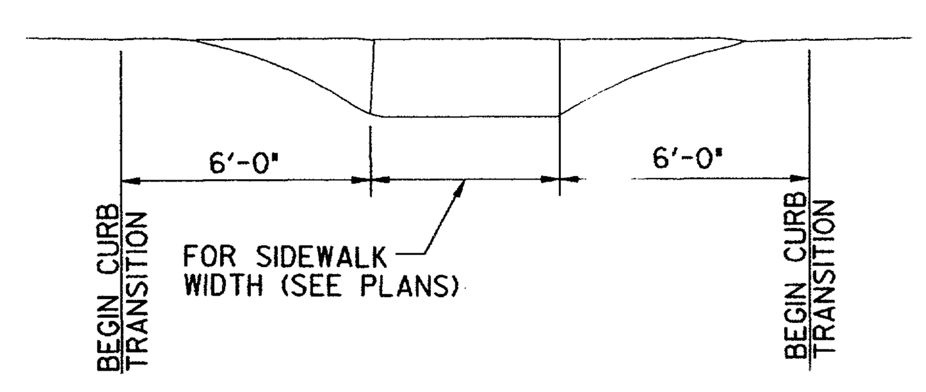
2. RAMPS SHALL BE PROVIDED AT ALL CORNERS OF STREET INTERSECTIONS OR WHERE THERE IS PROPOSED SIDEWALK AND CURB. RAMPS MAY ALSO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

3. GROOVES SHALL BE PROVIDED ON ALL RAMPS.

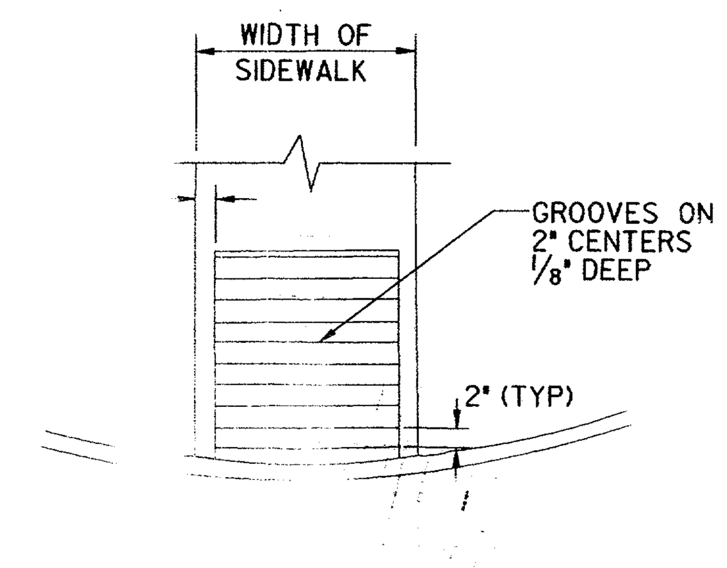
4. A 48" LANDING SHALL BE PROVIDED AT THE TOP OF CURB RAMPS WITH A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.

5. CURB RAMPS SHALL BE LOCATED ENTIRELY WITHIN ANY CROSSWALK MARKINGS.

6. THE FULL WIDTH AND DEPTH OF THE CURB RAMP CONCRETE SHALL BE COLORED WITH LAMBERT COLOR HARDNER, COLOR 219-1096 SUPER IRON BLACK, OR EQUAL. THE CONTRACTOR SHALL FOLLOW THE MANUFACTUER'S RECOMMENDED INSTALLATION PROCEDURE'S AND AN APPLICATION RATE OF 1.35 POUNDS OF COLOR HARDENER PER SQUARE YARD OF CONCRETE



DETAIL A-A



GROOVE DETAIL

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

OSTEOMED CORPORATION FACILITY
ADDISON, TEXAS

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Project No: AVO # 20079
Issued: 05 /13 /02
Drawn by: DD
Checked by: DJC

PAVING & DIMENSION CONTROL DETAILS

C4.2

RUNOFF COLLECTION POINT (INLET OR MANHOLE) UPSTREAM STATION	DOWNSTREAM STATION	DISTANCE BETWEEN COLLECTION POINTS	INCREMENTAL DRAINAGE AREA AREA NUMBER	AREA	TOTAL AREA	RUNOFF COEFFICIENT "C"	INCREMENTAL "CA"	TOTAL "CA"	TIME OF UPSTREAM STATION (MINUTES)	DESIGN STORM FREQUENCY (YEARS)	INTENSITY "I" (IN/HR)	STORM WATER RUNOFF "Q" (CFS)	SELECTED STORM SEWER SIZE	SLOPE OF HYDRAULIC GRADIENT "S" (FT/FT)	VELOCITY IN SEWER BETWEEN COLLECTION POINTS "V" (FPS)	VELOCITY HEAD V22/2g (FT)	HEAD LOSS COEFFICIENT "Kj"	VELOCITY HEAD LOSS @ UPSTREAM STATION KjV2/2g (FT)	FLOW TIME IN SEWER (L/V*60) (MINUTES)	TIME AT DOWNSTREAM STATION (MINUTES)	HYDRAULIC GRADE LINE DOWNSTREAM (1)	HYDRAULIC GRADE LINE UPSTREAM (2)	PROPOSED TOP OF GRATE OR CURB
LINE A																							
63	0	63	Total Area - Detention									28.2	24"	0.015	8.84	1.21	1.25	1.52	0.12	10.12	588.75	589.70	593.15
LINE B																							
507	472	35	DA-2	0.45	0.45	0.9	0.41	0.41	10.0	100	8.74	3.58	24	0.0003	1.14	0.02	0.6	0.01	0.5	10.5	592.06	592.07	592.08
472	434	38	DA-4+DA-5	0.45	0.90	0.9	0.41	0.81	10.5	100	8.61	6.97	24	0.0009	2.21	0.08	0.6	0.05	0.3	10.8	591.99	592.02	595.42
434	362	72	DA-6	0.31	1.21	0.9	0.28	1.09	10.8	100	8.54	9.31	24	0.0017	2.96	0.14	0.6	0.08	0.4	11.2	591.83	591.95	596.42
362	303	59	DA-7	0.33	1.54	0.9	0.30	1.39	11.2	100	8.45	11.75	24	0.0027	3.74	0.22	0.6	0.12	0.3	11.5	591.62	591.78	597.42
303	237	66	DA-3	0.32	1.86	0.9	0.29	1.67	11.5	100	8.39	14.01	24	0.0038	4.46	0.31	0.6	0.19	0.2	11.7	591.32	591.57	598.42
237	10	227	DA-8	0.29	2.15	0.9	0.26	1.94	11.7	100	8.35	16.20	24	0.0051	5.15	0.41	0.6	0.25	0.7	12.4	590.10	591.26	599.42
10	0	10	DA-1 + DA-11-14	1.75	3.90	0.9	1.58	3.51	12.4	100	8.16	28.64	33	0.0029	4.82	0.36	0.6	0.22	0.03	12.4	590.10	590.13	592.00
LINE C																							
493	486	7	DA-14	0.27	0.27	0.9	0.24	0.24	10.0	100	8.74	2.12	18	0.0004	1.20	0.02	0.6	0.01	0.10	10.1	591.80	591.80	591.50
486	265	221	DA-1	0.49	0.76	0.9	0.44	0.68	10.1	100	8.72	5.93	18	0.0032	3.35	0.18	0.6	0.11	1.1	11.2	590.99	591.70	593.50
265	178	87	DA-12	0.22	0.98	0.9	0.20	0.88	11.2	100	8.45	7.44	21	0.0022	3.09	0.15	0.6	0.09	0.5	11.7	590.82	591.01	594.08
178	22	156	DA-13	0.22	1.20	0.9	0.20	1.08	11.7	100	8.33	9.00	21	0.0032	3.74	0.22	0.6	0.13	0.7	12.4	590.28	590.78	592.60
22	0	22	DA-11	0.55	1.75	0.9	0.5	1.58	12.4	100	8.16	12.85	24	0.0032	4.09	0.26	0.6	0.16	0.1	12.5	590.19	590.26	592.60

MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN

MAY 16, 2002

Runoff Coefficient C = [redacted]
Drainage Area - A = [redacted] acres
Time of Concentration - tc = [redacted] minutes
Maximum Outflow Rate - Q = [redacted] cfs

Duration (minutes)	Intensity (inches/hr)	Depth (inches)	Inflow Discharge Q=CIA	Inflow Volume Cu.Ft.	Outflow Duration (minutes)	Outflow Volume Cu.Ft.	Storage Volume Cu.Ft.
5	10.56	0.88	37.7	11,319	17	13,959	(2,640)
10	8.88	1.48	31.7	19,037	22	18,189	848
15	7.56	1.89	27.0	24,311	27	22,419	1,892
20	7.00	2.33	25.0	30,013	32	26,649	3,364
30	5.80	2.90	20.7	37,302	42	35,109	2,193
40	5.00	3.33	17.9	42,876	52	43,569	(693)
50	4.40	3.67	15.7	47,164	62	52,029	(4,865)
60	3.96	3.96	14.1	50,937	72	60,489	(9,552)
70	3.70	4.32	13.2	55,524	82	68,949	(13,425)
80	3.40	4.53	12.1	58,311	92	77,409	(19,098)
90	3.10	4.65	11.1	59,812	102	85,869	(26,057)
120	2.65	5.30	9.5	68,173	132	111,249	(43,076)
180	1.93	5.78	6.9	74,347	192	162,009	(87,662)
360	1.16	6.98	4.2	89,782	372	314,289	(224,507)
720	0.73	8.80	2.6	113,193	732	618,849	(505,656)
1440	0.40	9.55	1.4	122,840	1,452	1,227,969	(1,105,129)

Required Storage Volume: 3,364 cubic feet = 0.08 acre-feet

"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

OSTEOMED CORPORATION FACILITY
ADDISON, TEXAS

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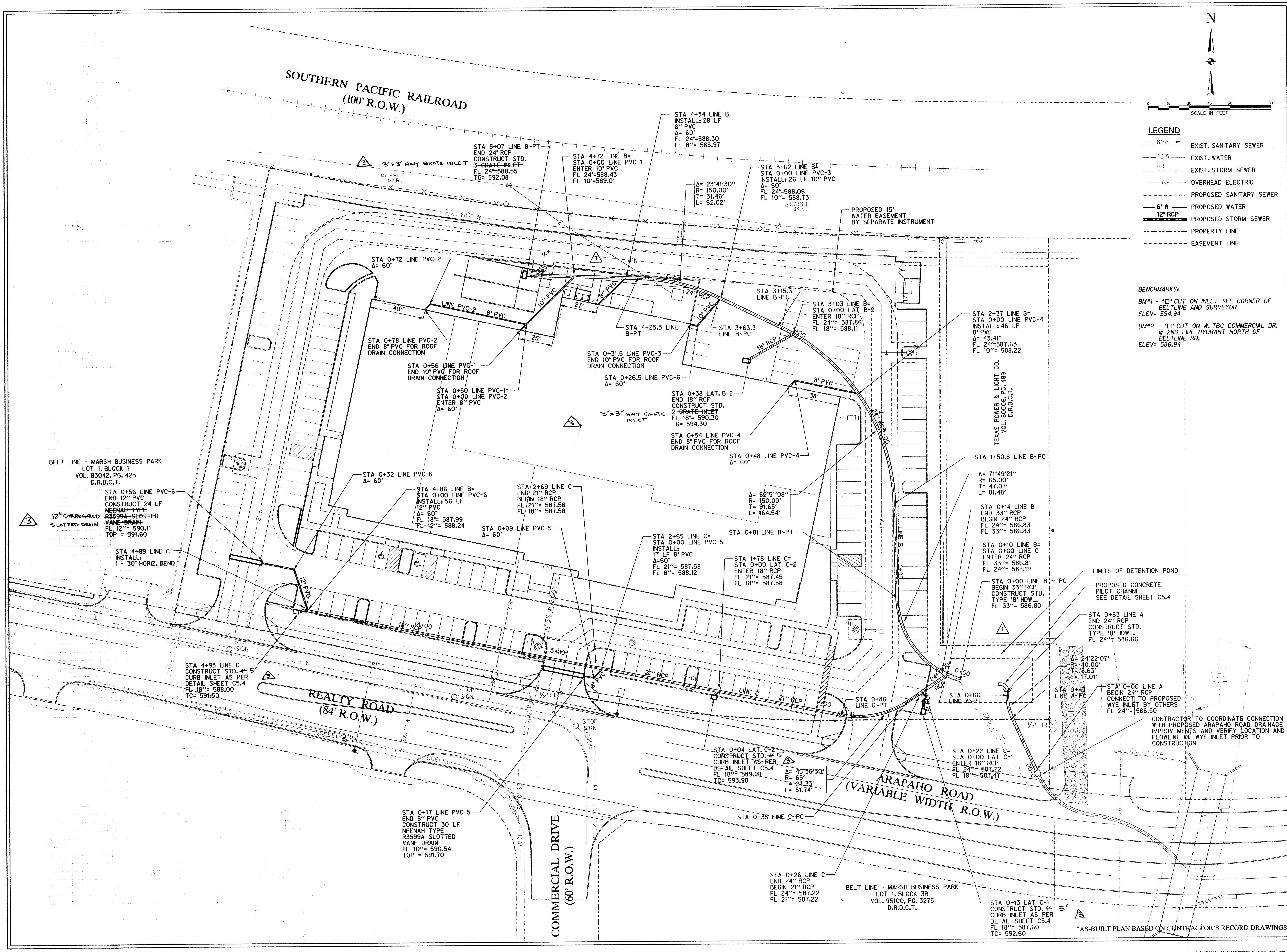
Project No: AVO # 20079
Issued: 05 / 13 / 02

Revisions:		
No.	Date	Description
1	05/13/02	COMPUTATION CHANGE
2	5 / 20 / 2002	AS PER SITE CHANGES

Drawn by: DD
Checked by: DJC
Sheet Title: STORM DRAINAGE CALCULATIONS
Sheet Number: C5.1

$$$$$FILE$$$$$ $$$DATE$$$ $$$TIME$$$



N
SCALE IN FEET
0 15 30 45 60 90
SOUTHERN PACIFIC RAILROAD
(100' R.O.W.)
LEGEND
EXIST. SANITARY SEWER
EXIST. WATER
EXIST. STORM SEWER
OVERHEAD ELECTRIC
PROPOSED SANITARY SEWER
PROPOSED WATER
PROPOSED STORM SEWER
PROPERTY LINE
EASEMENT LINE
BENCHMARKS:
BM#1 - "□" CUT ON INLET SEE CORNER OF BELTLINE AND SURVEYOR ELEV= 594.94
BM#2 - "□" CUT ON W. TBC COMMERCIAL DR. @ 2ND FIRE HYDRANT NORTH OF BELTLINE RD. ELEV= 586.94
STA 5+07 LINE B~PT END 24" RCP CONSTRUCT STD. 3 GRATE INLET FL 24"=588.55 TG= 592.08
3'x3' HWY GRATE INLET
STA 4+72 LINE B= STA 0+00 LINE PVC-1 ENTER 10" PVC FL 24"=588.43 FL 10"=589.01
STA 4+34 LINE B INSTALL: 28 LF 8" PVC Δ= 60° FL 24"=588.30 FL 8"= 588.97
Δ= 23°41'30" R= 150.00' T= 31.46' L= 62.02'
STA 3+62 LINE B= STA 0+00 LINE PVC-3 INSTALL: 26 LF 10" PVC Δ= 60° FL 24"=588.06 FL 10"= 588.73
PROPOSED 15' WATER EASEMENT BY SEPARATE INSTRUMENT
STA 0+72 LINE PVC-2 Δ= 60°
LINE PVC-2 8" PVC
STA 0+78 LINE PVC-2 END 8" PVC FOR ROOF DRAIN CONNECTION
STA 0+56 LINE PVC-1 END 10" PVC FOR ROOF DRAIN CONNECTION
STA 0+50 LINE PVC-1= STA 0+00 LINE PVC-2 ENTER 8" PVC Δ= 60°
STA 4+25.3 LINE B~PT
STA 0+31.5 LINE PVC-3 END 10" PVC FOR ROOF DRAIN CONNECTION
STA 0+26.5 LINE PVC-6 Δ= 60°
STA 3+15.3 LINE B~PT
STA 3+03 LINE B= STA 0+00 LAT B-2 ENTER 18" RCP FL 24"= 587.86 FL 18"= 588.11
STA 3+63.3 LINE B~PC
STA 2+37 LINE B= STA 0+00 LINE PVC-4 INSTALL: 46 LF 8" PVC Δ= 43.41° FL 24"=587.63 FL 10"= 588.22
STA 0+38 LAT. B-2 END 18" RCP CONSTRUCT STD. 2 GRATE INLET FL 18"= 590.30 TG= 594.30
3'x3' HWY GRATE INLET
STA 0+54 LINE PVC-4 END 8" PVC FOR ROOF DRAIN CONNECTION
STA 0+48 LINE PVC-4 Δ= 60°
TEXAS POWER & LIGHT CO. VOL. 80006, PG. 489 D.R.D.C.T.
STA 1+50.8 LINE B~PC
Δ= 71°49'21" R= 65.00' T= 47.07' L= 81.48'
BELT LINE - MARSH BUSINESS PARK LOT 1, BLOCK 1 VOL. 83042, PG. 425 D.R.D.C.T.
STA 0+32 LINE PVC-6 Δ= 60°
STA 0+56 LINE PVC-6 END 12" PVC CONSTRUCT 24 LF NEENAH TYPE R3599A SLOTTED VANE DRAIN FL 12"= 590.11 TOP = 591.60
12" CORRUGATED SLOTTED DRAIN
STA 4+86 LINE B= STA 0+00 LINE PVC-6 INSTALL: 56 LF 12" PVC Δ= 60° FL 18"= 587.99 FL 12"= 588.24
STA 2+69 LINE C END 21" RCP BEGIN 18" RCP FL 21"= 587.58 FL 18"= 587.58
Δ= 62°51'08" R= 150.00' T= 91.65' L= 164.54'
STA 0+14 LINE B END 33" RCP BEGIN 24" RCP FL 24"= 586.83 FL 33"= 586.83
STA 0+09 LINE PVC-5 Δ= 60°
STA 0+81 LINE B~PT
STA 0+10 LINE B= STA 0+00 LINE C ENTER 24" RCP FL 33"= 586.81 FL 24"= 587.19
STA 4+89 LINE C INSTALL: 1 - 30° HORIZ. BEND
STA 2+65 LINE C= STA 0+00 LINE PVC-5 INSTALL: 17 LF 8" PVC Δ=60° FL 21"= 587.58 FL 8"= 588.12
STA 1+78 LINE C= STA 0+00 LAT C-2 ENTER 18" RCP FL 21"= 587.45 FL 18"= 587.58
LIMITS OF DETENTION POND
STA 0+00 LINE B ~ PC BEGIN 33" RCP CONSTRUCT STD. TYPE 'B' HDWL. FL 33"= 586.80
PROPOSED CONCRETE PILOT CHANNEL SEE DETAIL SHEET C5.4
STA 0+63 LINE A END 24" RCP CONSTRUCT STD. TYPE 'B' HDWL. FL 24"= 586.60
STA 4+93 LINE C CONSTRUCT STD. 4' 5' CURB INLET AS PER DETAIL SHEET C5.4 FL 18"= 588.00 TC= 591.50
REALTY ROAD (84' R.O.W.)
STOP SIGN
LINE C 21" RCP
STA 0+86 LINE C~PT
STA 0+60 LINE A~PT
STA 0+43 LINE A~PC
Δ= 24°22'07" R= 40.00' T= 8.63' L= 17.01'
STA 0+00 LINE A BEGIN 24" RCP CONNECT TO PROPOSED WYE INLET BY OTHERS FL 24"= 586.50
CONTRACTOR TO COORDINATE CONNECTION WITH PROPOSED ARAPAHO ROAD DRAINAGE IMPROVEMENTS AND VERIFY LOCATION AND FLOWLINE OF WYE INLET PRIOR TO CONSTRUCTION
STA 0+04 LAT. C-2 CONSTRUCT STD. 4' 5' CURB INLET AS PER DETAIL SHEET C5.4 FL 18"= 589.98 TC= 593.98
Δ= 45°36'50" R= 65' T= 27.33' L= 51.74'
STA 0+22 LINE C= STA 0+00 LAT C-1 ENTER 18" RCP FL 24"= 587.22 FL 18"= 587.47
ARAPAHO ROAD (VARIABLE WIDTH R.O.W.)
STA 0+35 LINE C~PC
STA 0+17 LINE PVC-5 END 8" PVC CONSTRUCT 30 LF NEENAH TYPE R3599A SLOTTED VANE DRAIN FL 10"= 590.54 TOP = 591.70
COMMERCIAL DRIVE (60' R.O.W.)
STA 0+26 LINE C END 24" RCP BEGIN 21" RCP FL 24"= 587.22 FL 21"= 587.22
BELT LINE - MARSH BUSINESS PARK LOT 1, BLOCK 3R VOL. 95100, PG. 3275 D.R.D.C.T.
STA 0+13 LAT C-1 CONSTRUCT STD. 4' 5' CURB INLET AS PER DETAIL SHEET C5.4 FL 18"= 587.60 TC= 592.60
"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

OSTEOMED CORPORATION FACILITY

ADDISON, TEXAS

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Project No: AVO # 20079
Issued: 05/13/02

Revisions:

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1	05/13/02	INLET RELOCATION
2	5/20/2002	AS PER SITE CHANGES
3	11/19/02	"AS BUILT" CHANGES

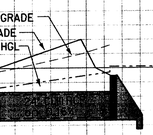
Drawn by: DD
Checked by: DJC

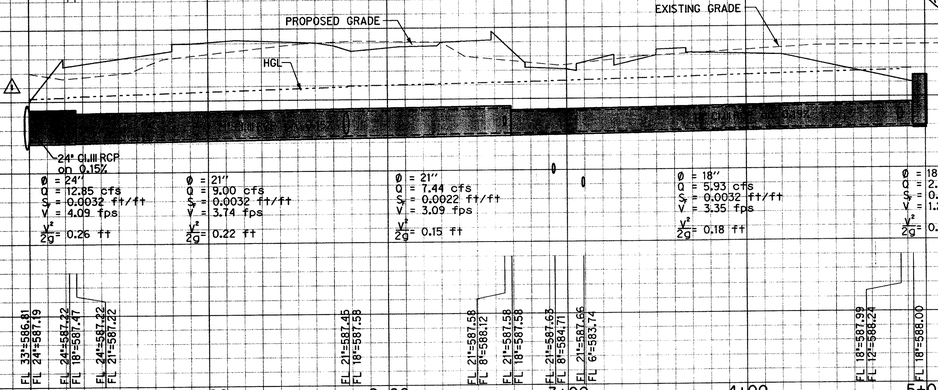
Sheet Title
STORM DRAINAGE PLAN

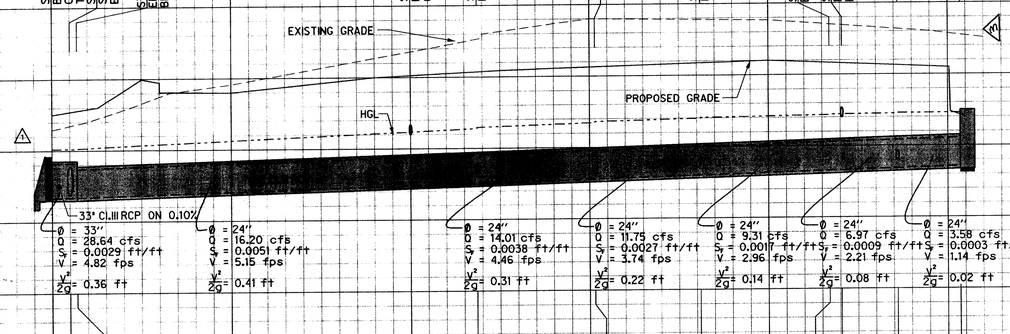
C5.2
Sheet Number

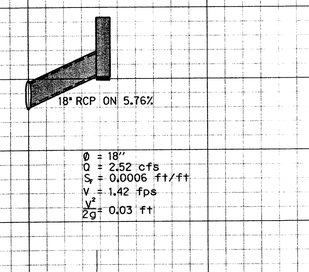
OSTEOMED CORPORATION FACILITY

ADDISON, TEXAS









"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

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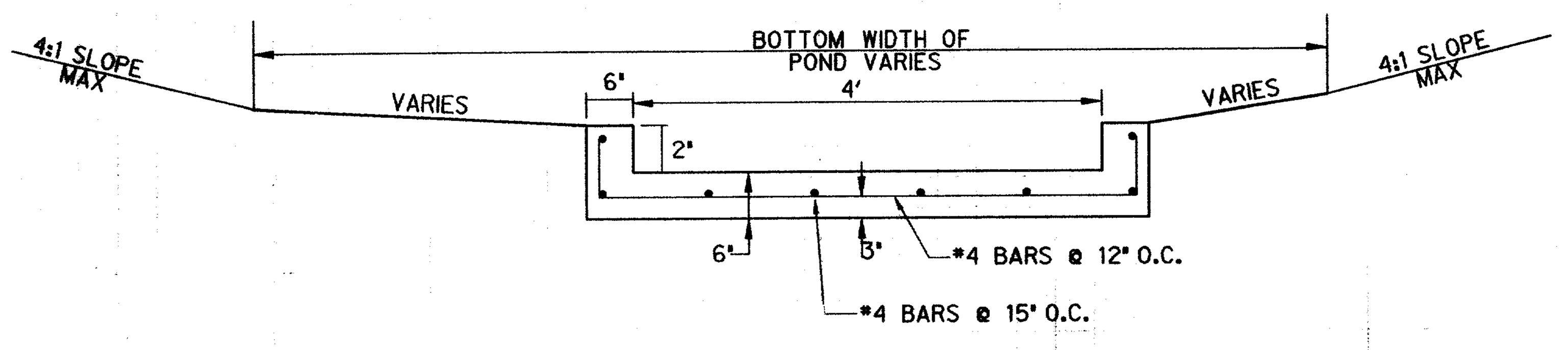
Project No:	AVO # 20079
Issued:	05-13-02

Revisions:		
No.	Date	Description
1	05/13/02	INLET RELOCATION
2	5/20/2002	AS PER SITE CHANGES
3	11/19/02	"AS BUILT" CHANGES

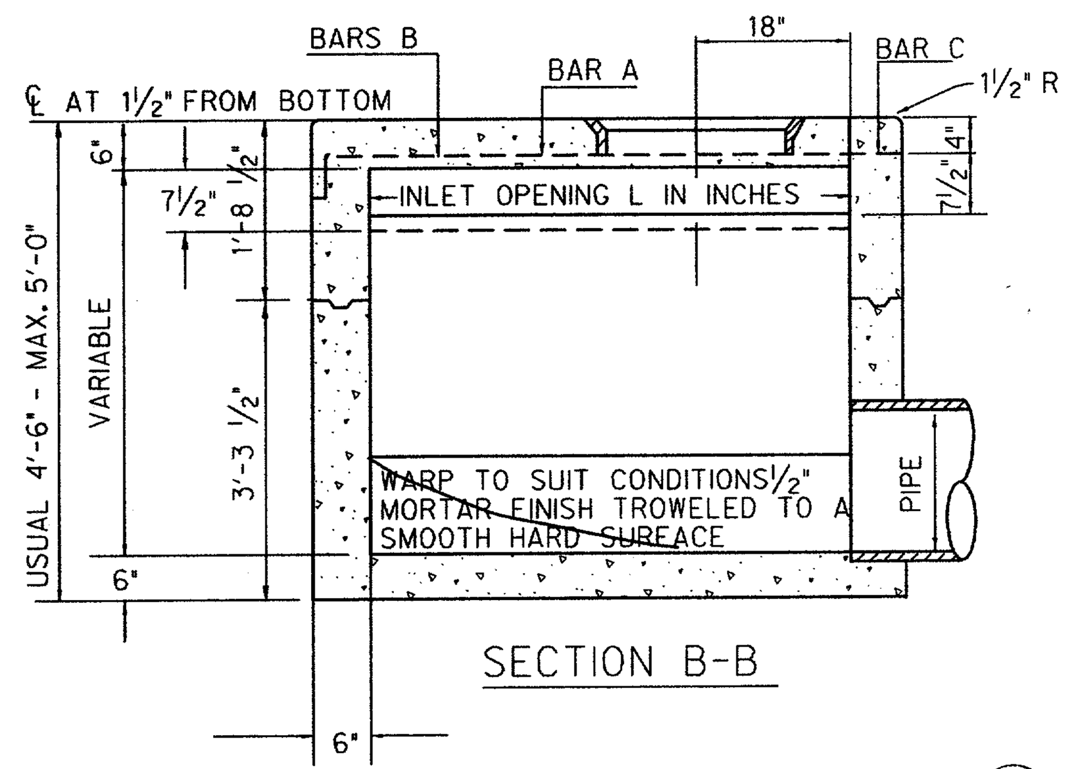
Drawn by: DP
Checked by: DJC

Sheet Title
STORM DRAINAGE PROFILES

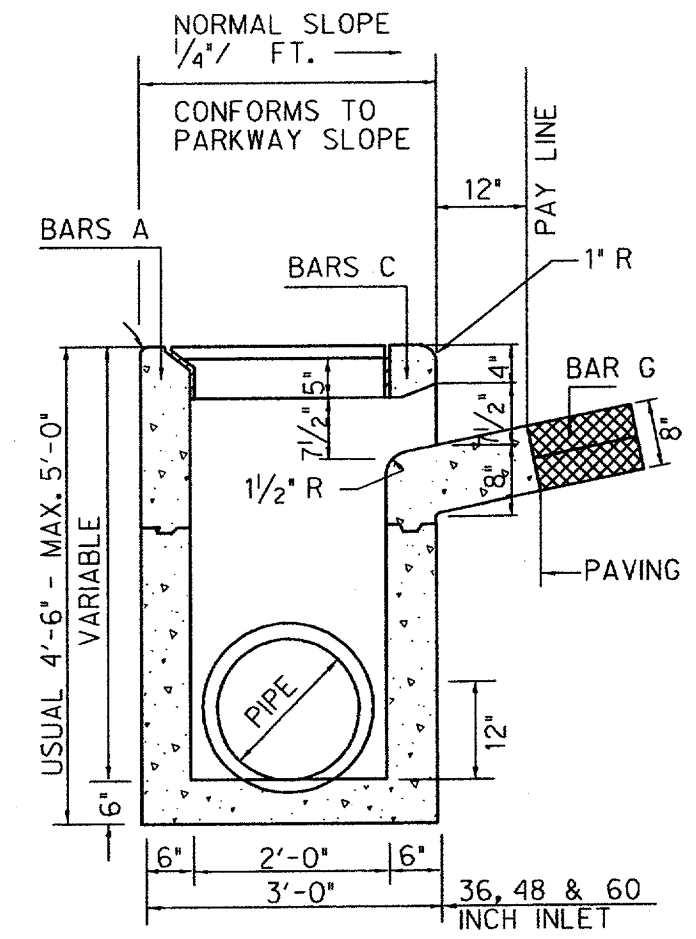
Sheet Number
C5.3



PILOT CHANNEL DETAIL
N.T.S.



SECTION B-B



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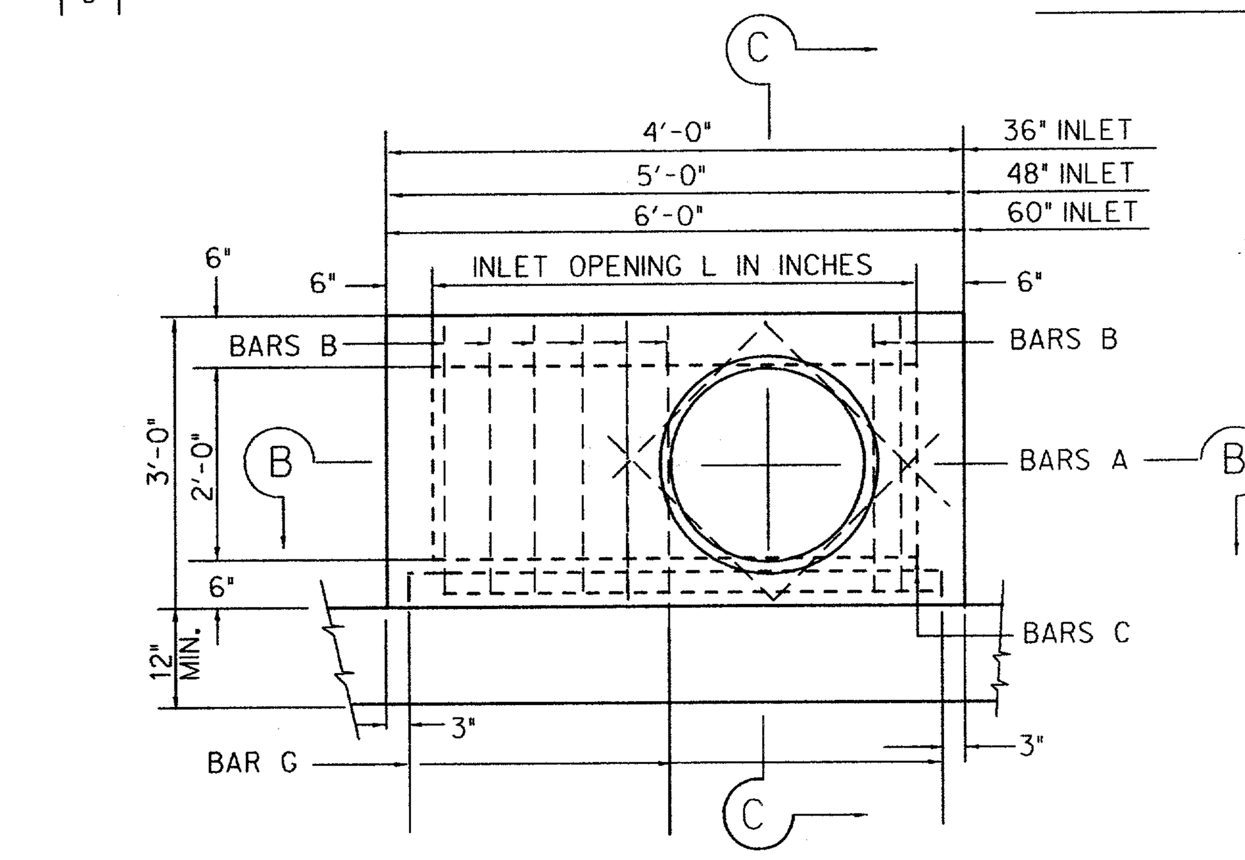
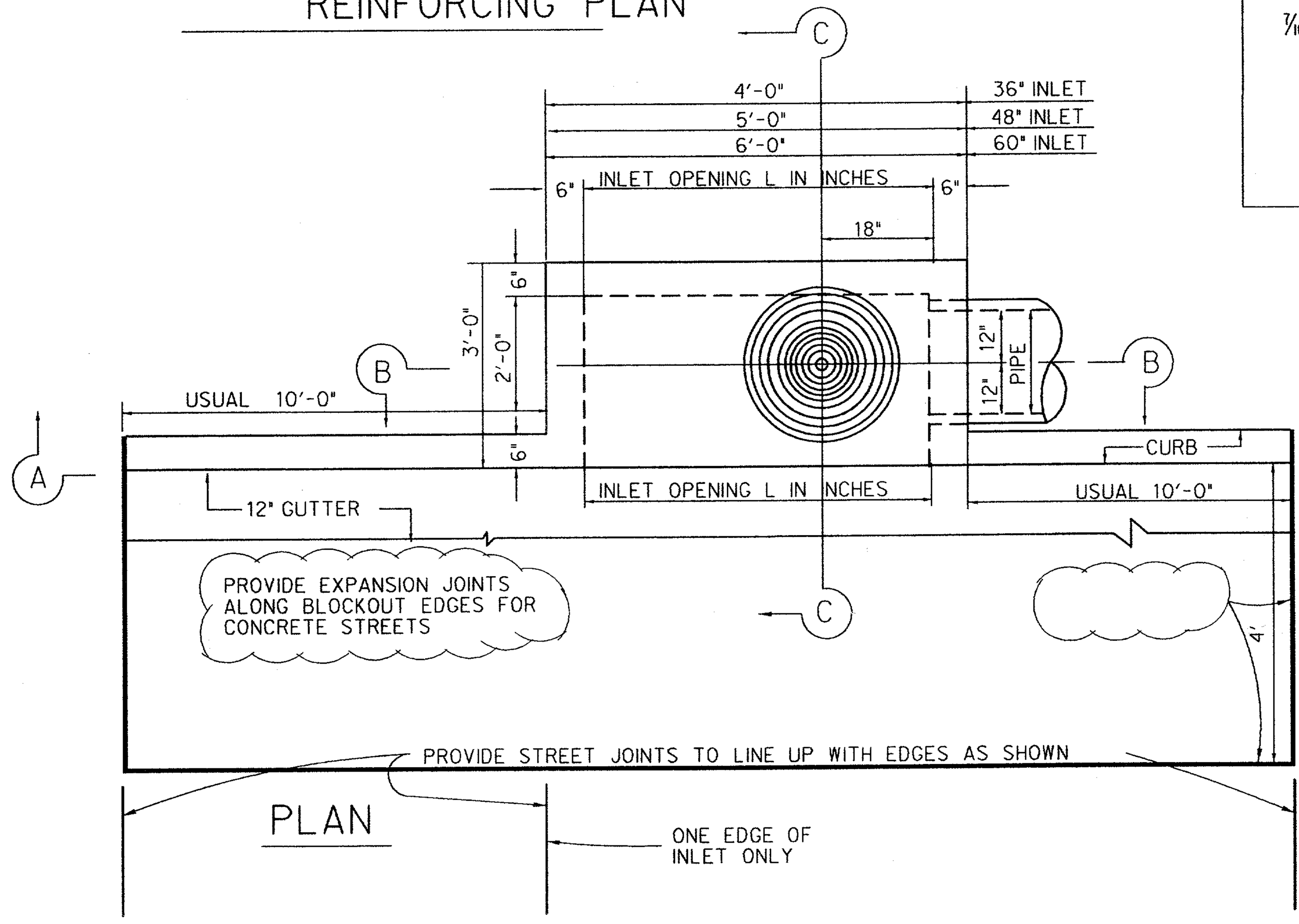
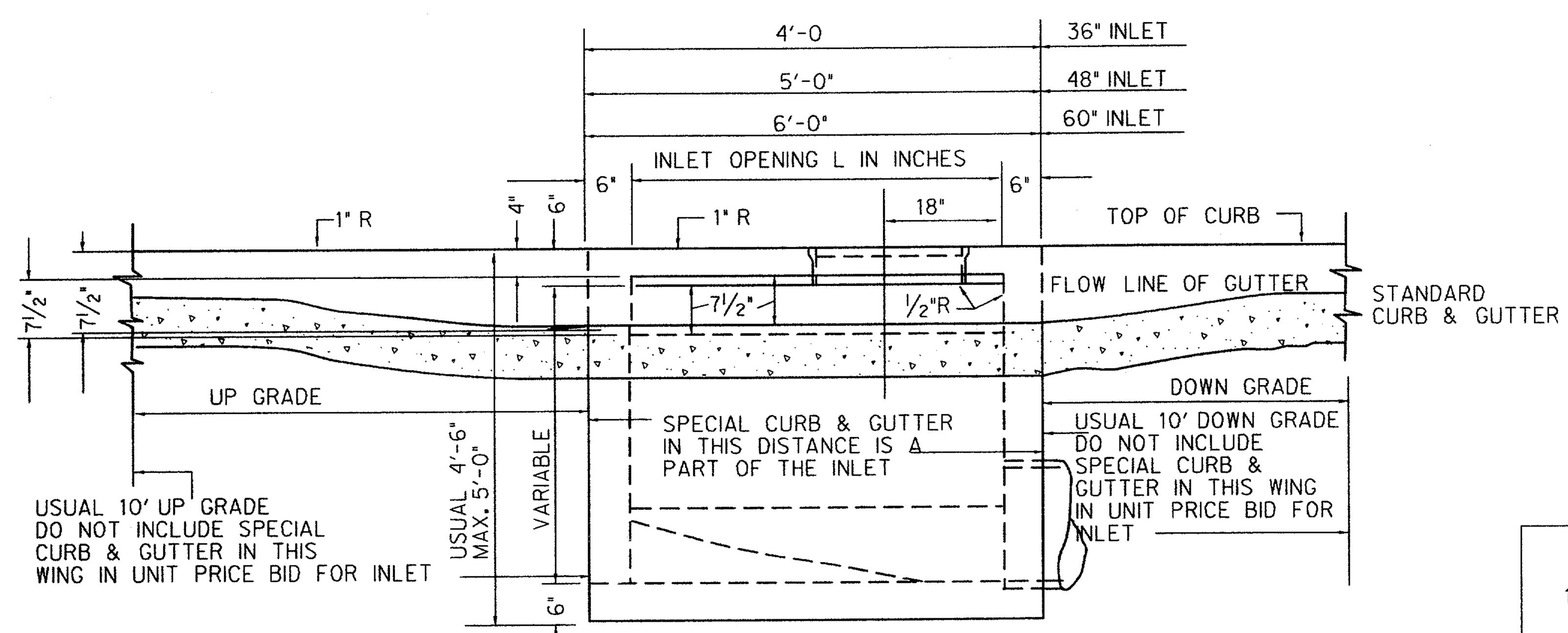


REINFORCING PLAN



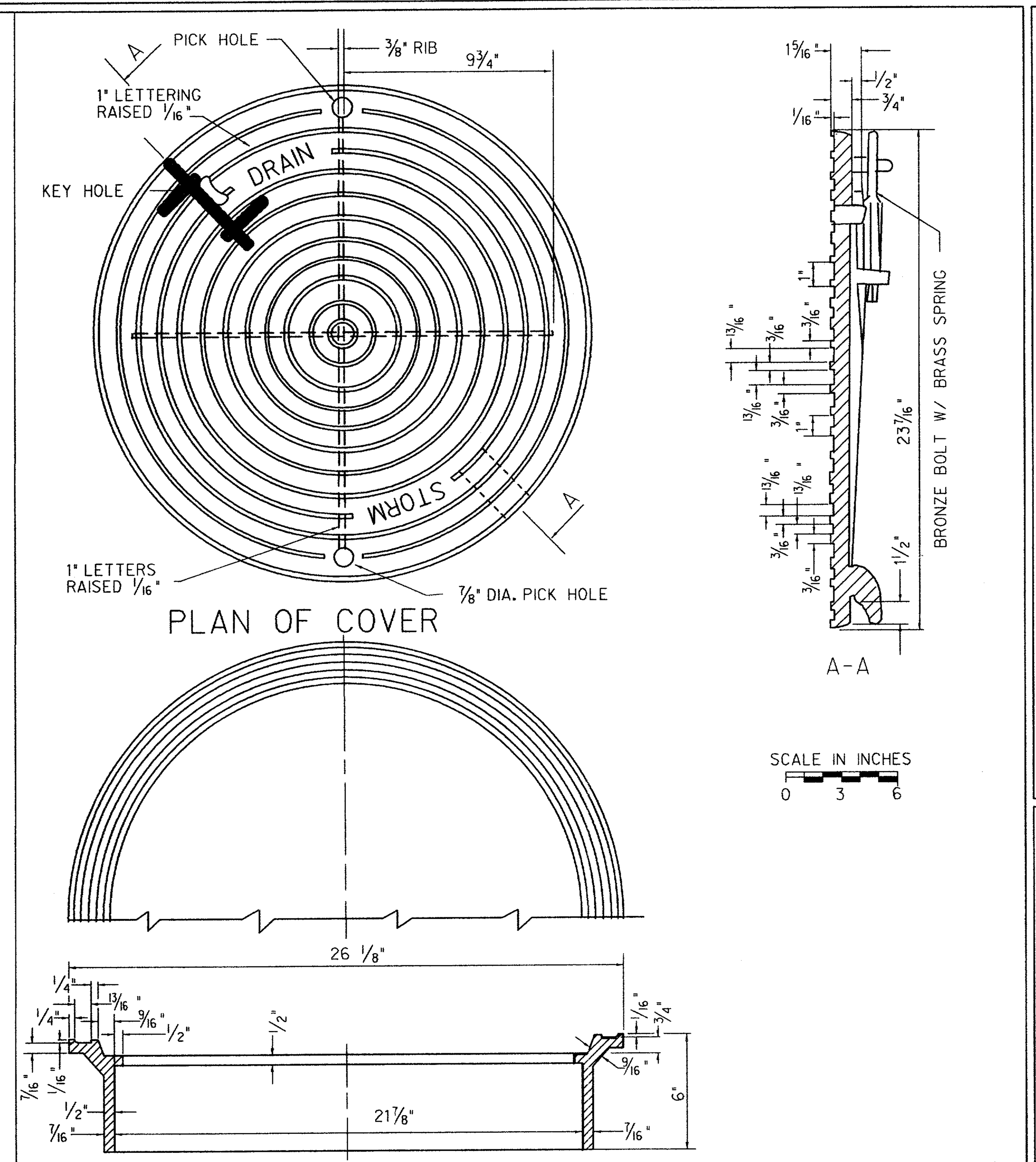
PLAN



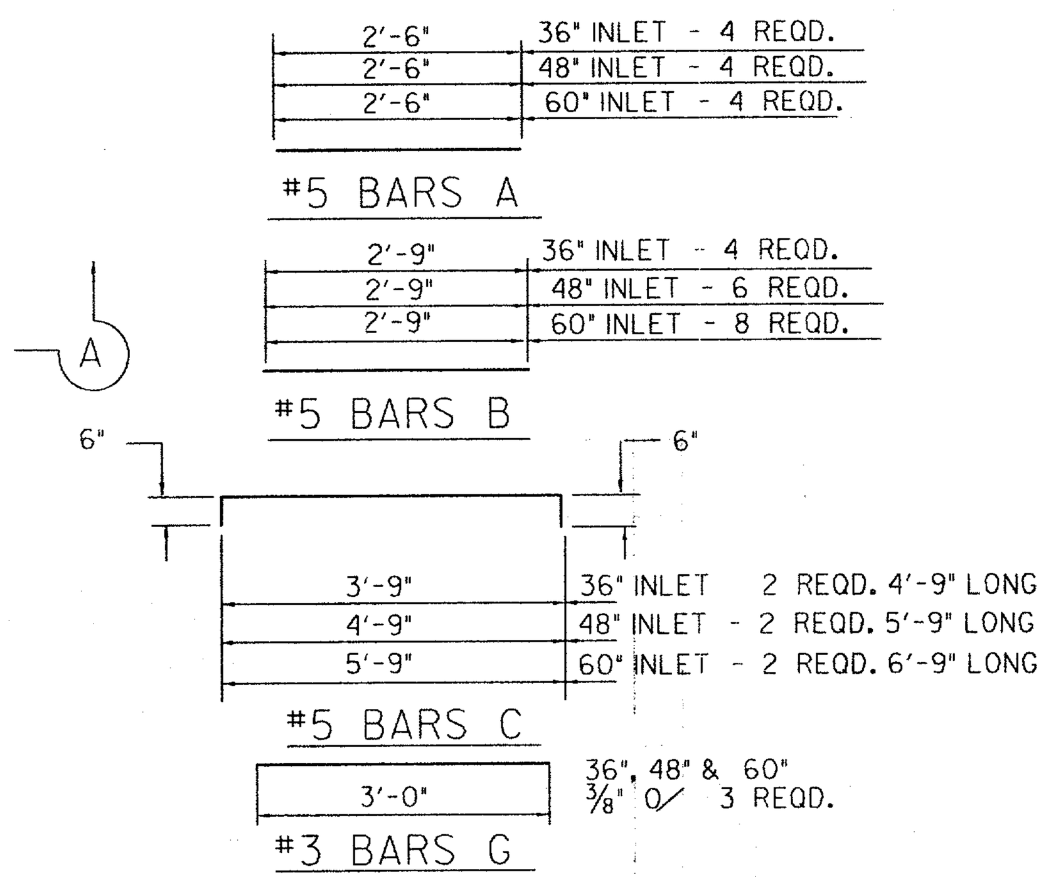
SECTION A-A

CURB INLET DETAILS
36, 48 AND 60 INCH INLETS

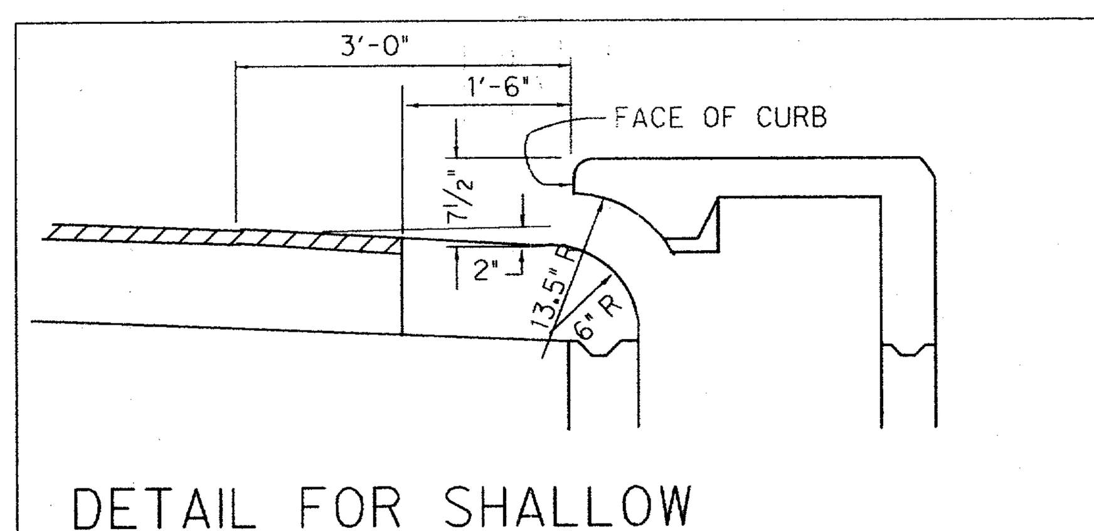
N.T.S.



INLET FRAME AND COVER



REINFORCING STEEL DETAILS NOT TO SCALE



DETAIL FOR SHALLOW DEPRESSION INLETS

NO SCALE

NOTES APPLICABLE TO ALL INLETS:

1. LATERAL PIPE MAY ENTER INLET AT ANY LOCATION.
2. REINFORCEMENT, STRUCTURAL STEEL AND CASTINGS SHALL CONFORM TO THE SPECIFICATIONS.
3. TOP OF INLET SLOPE SHALL CONFORM TO ADJACENT PARKWAY NORMAL 1/4"/ FT. SLOPE.
4. CONCRETE FOR INLET TOPS SHALL BE CLASS HAND FINISH CONCRETE (4500 psi) WHEN USED IN STREETS AND ALLEYS.
5. ALTERNATE CONSTRUCTION. ALTERNATE PRECAST INLETS MAY BE APPROVED ON AN INDIVIDUAL BASIS PRECAST INLETS SHALL BE OF EQUAL OR BETTER STRENGTH MATERIAL, AND WORKMANSHIP AND SHALL MEET THE STANDARD DESIGN CRITERIA OF THE CAST-IN-PLACE INLETS SHOWN IN THESE DETAILS.
6. THE INLET FRAME & COVER SHALL BE AT THE SAME END OF INLET AS PIPE LATERAL.
7. PROVIDE SHEET JOINTS IN INTEGRAL CONCRETE STREET PAVEMENT AS SHOWN.

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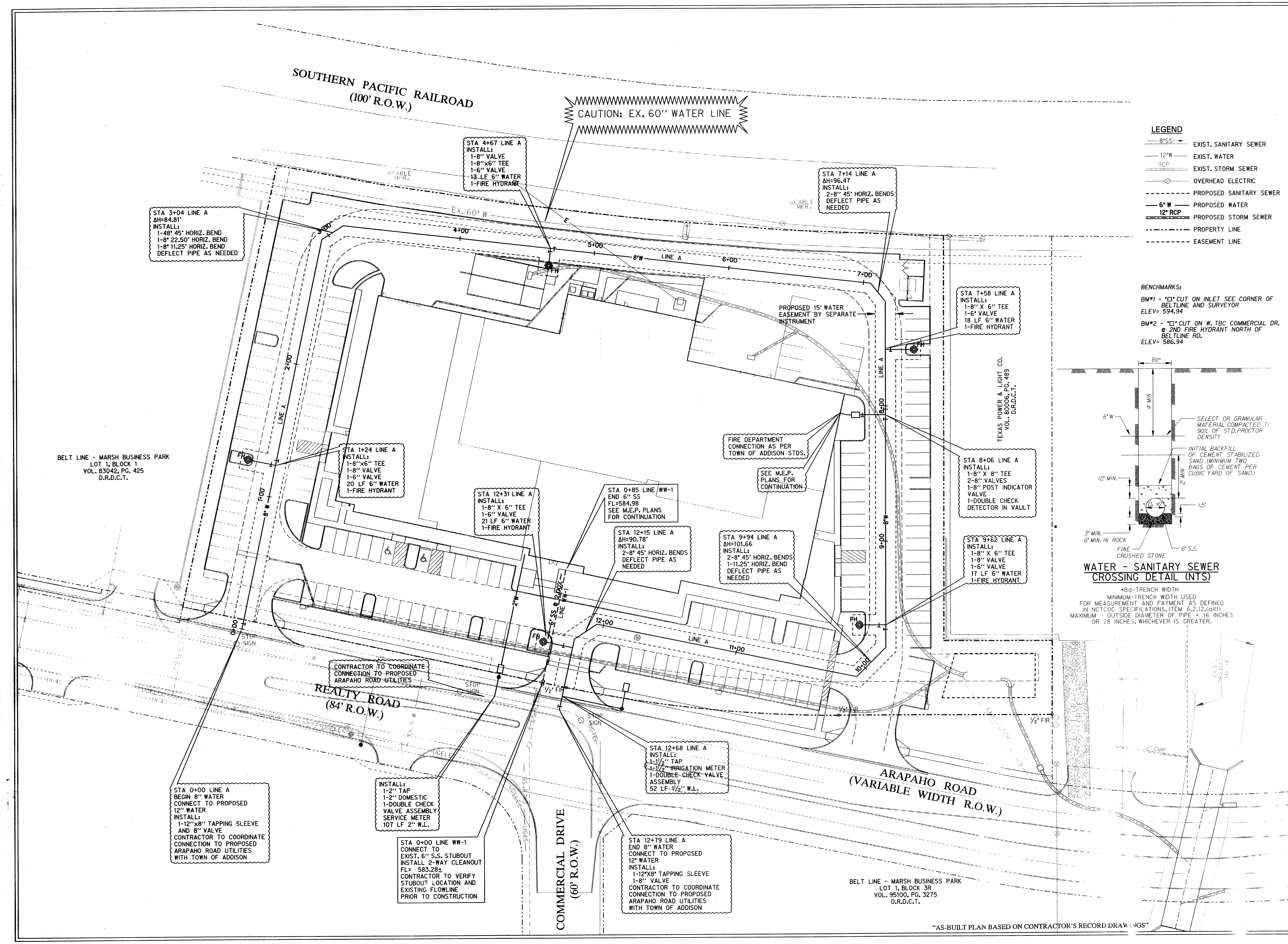
Project No: AVO # 20079
Issued: 05 /13 /02

Revisions:		
No.	Date	Description

Drawn by: DD
Checked by: DJC
Sheet Title
STORM DRAINAGE DETAILS

C5.4
Sheet Number



SOUTHERN PACIFIC RAILROAD
(100' R.O.W.)
CAUTION: EX. 60" WATER LINE
STA 4+67 LINE A
INSTALL:
1-8" VALVE
1-8"x6" TEE
1-6" VALVE
13 LF 6" WATER
1-FIRE HYDRANT
STA 7+14 LINE A
ΔH=96.47
INSTALL:
2-8" 45° HORIZ. BENDS
DEFLECT PIPE AS NEEDED
STA 3+04 LINE A
ΔH=84.81°
INSTALL:
1-48" 45° HORIZ. BEND
1-8" 22.50° HORIZ. BEND
1-8" 11.25° HORIZ. BEND
DEFLECT PIPE AS NEEDED
EX. 60" W
LINE A
PROPOSED 15' WATER EASEMENT BY SEPARATE INSTRUMENT
STA 7+58 LINE A
INSTALL:
1-8" X 6" TEE
1-6" VALVE
18 LF 6" WATER
1-FIRE HYDRANT
TEXAS POWER & LIGHT CO.
VOL. 80006, PG. 489
D.R.D.C.T.
BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 1
VOL. 83042, PG. 425
D.R.D.C.T.
STA 1+24 LINE A
INSTALL:
1-8"x6" TEE
1-8" VALVE
1-6" VALVE
20 LF 6" WATER
1-FIRE HYDRANT
FIRE DEPARTMENT CONNECTION AS PER TOWN OF ADDISON STDS.
SEE M.E.P. PLANS FOR CONTINUATION
STA 8+06 LINE A
INSTALL:
1-8" X 8" TEE
2-8" VALVES
1-8" POST INDICATOR VALVE
1-DOUBLE CHECK DETECTOR IN VAULT
STA 12+31 LINE A
INSTALL:
1-8" X 6" TEE
1-6" VALVE
21 LF 6" WATER
1-FIRE HYDRANT
STA 0+85 LINE WW-1
END 6" SS
FL=584.98
SEE M.E.P. PLANS FOR CONTINUATION
STA 12+15 LINE A
ΔH=90.78°
INSTALL:
2-8" 45° HORIZ. BENDS
DEFLECT PIPE AS NEEDED
STA 9+94 LINE A
ΔH=101.66
INSTALL:
2-8" 45° HORIZ. BENDS
1-11.25° HORIZ. BEND
DEFLECT PIPE AS NEEDED
STA 9+62 LINE A
INSTALL:
1-8" X 6" TEE
1-8" VALVE
1-6" VALVE
17 LF 6" WATER
1-FIRE HYDRANT
CONTRACTOR TO COORDINATE CONNECTION TO PROPOSED ARAPAHO ROAD UTILITIES
REALTY ROAD
(84' R.O.W.)
STA 12+68 LINE A
INSTALL:
1-1½" TAP
1-1½" IRRIGATION METER
1-DOUBLE CHECK VALVE ASSEMBLY
52 LF-1½" W.L.
ARAPAHO ROAD
(VARIABLE WIDTH R.O.W.)
STA 0+00 LINE A
BEGIN 8" WATER
CONNECT TO PROPOSED 12" WATER
INSTALL:
1-12"x8" TAPPING SLEEVE AND 8" VALVE
CONTRACTOR TO COORDINATE CONNECTION TO PROPOSED ARAPAHO ROAD UTILITIES WITH TOWN OF ADDISON
INSTALL:
1-2" TAP
1-2" DOMESTIC
1-DOUBLE CHECK VALVE ASSEMBLY
SERVICE METER
107 LF 2" W.L.
STA 0+00 LINE WW-1
CONNECT TO EXIST. 6" S.S. STUBOUT
INSTALL 2-WAY CLEANOUT
FL= 583.28±
CONTRACTOR TO VERIFY STUBOUT LOCATION AND EXISTING FLOWLINE PRIOR TO CONSTRUCTION
COMMERCIAL DRIVE
(60' R.O.W.)
STA 12+79 LINE A
END 8" WATER
CONNECT TO PROPOSED 12" WATER
INSTALL:
1-12"X8" TAPPING SLEEVE
1-8" VALVE
CONTRACTOR TO COORDINATE CONNECTION TO PROPOSED ARAPAHO ROAD UTILITIES WITH TOWN OF ADDISON
BELT LINE - MARSH BUSINESS PARK
LOT 1, BLOCK 3R
VOL. 95100, PG. 3275
D.R.D.C.T.
LEGEND
EXIST. SANITARY SEWER
EXIST. WATER
EXIST. STORM SEWER
OVERHEAD ELECTRIC
PROPOSED SANITARY SEWER
PROPOSED WATER
PROPOSED STORM SEWER
PROPERTY LINE
EASEMENT LINE
BENCHMARKS:
BM#1 - "□" CUT ON INLET SEE CORNER OF BELTLINE AND SURVEYOR
ELEV= 594.94
BM#2 - "□" CUT ON W. TBC COMMERCIAL DR. @ 2ND FIRE HYDRANT NORTH OF BELTLINE RD.
ELEV= 586.94
SELECT OR GRANULAR MATERIAL COMPACTED TO 90% OF STD.PROCTOR DENSITY
INITIAL BACKFILL OF CEMENT STABILIZED SAND (MINIMUM TWO BAGS OF CEMENT PER CUBIC YARD OF SAND)
FINE CRUSHED STONE
WATER - SANITARY SEWER CROSSING DETAIL (NTS)
*Bd-TRENCH WIDTH
MINIMUM-TRENCH WIDTH USED FOR MEASUREMENT AND PAYMENT AS DEFINED IN NCTCOG SPECIFICATIONS, ITEM 6.2.12.(a)(1)
MAXIMUM - OUTSIDE DIAMETER OF PIPE + 16 INCHES OR 28 INCHES, WHICHEVER IS GREATER.
"AS-BUILT PLAN BASED ON CONTRACTOR'S RECORD DRAWINGS"

OSTEOMED CORPORATION FACILITY

ADDISON, TEXAS

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Project No: AVO 20079
Issued: 05/13/02

Revisions:

No.	Date	Description

Drawn by: DD
Checked by: DJC

Sheet Title: WATER AND WASTEWATER PLAN

Sheet Number: C6.1